

PROJECT HOPE

**Reducing Vitamin A Deficiency in Western
Guatemala: An Extension and Replication Project
in Three Departments--Quetzaltenango, San
Marcos, and Totonicapán**

CS-IX Cooperative Agreement No. FAO-0284-A-00-3037-00

Final Evaluation Report

August 1997

Submitted to:
U.S. Agency for International Development
BHR/PVC
Washington, DC 20037

Submitted by:
The People-to-People Health Foundation, Inc.
(Project HOPE)
Millwood, Virginia 22646
(540) 837-2100
Fax: (540) **837-1813**

External Evaluator: Dr. Roberto Kessler
Project Director: Victor Calderon, MD
Project Manager: Bettina Schwethelm, **PhD**, MPH

ACRONYMS

DIGESA	Ministry of Agriculture Extension
FIS	Social Investment Fund
KPC	Knowledge, Practice, Coverage
MCH	Maternal and Child Health
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOH	Ministry of Health
NGO	Non-Governmental Organization
PVO	Private Voluntary Organization
TBA	Traditional Birth Attendant

TABLE OF CONTENTS

	<u>Page</u>
I. EXECUTIVE SUMMARY	I
II. INTRODUCTION	3
III. OBJECTIVES OF THE EVALUATION	4
IV. EVALUATION METHODOLOGY	4
V. PROJECT ACCOMPLISHMENTS AND LESSONS-LEARNED	5
A. Project Accomplishments by Objectives	5
B. Description of Positive and Negative Effects on the Project	18
C. Financial Analysis	19
D. Lessons-Learned	20
VI. SUSTAINABILITY	23
VII. CONCLUSIONS AND RECOMMENDATIONS	30

APPENDICES

- A. Evaluation Team
- B. Schedule of Field Visits
- C. Interview Guides
- D. Final KPC Survey

I. EXECUTIVE SUMMARY

This Vitamin A/Nutrition Project (CS-IX) is located in the departments of San Marcos, Quetzaltenango, and Totonicapán in Region VI in the Western highlands of Guatemala. These departments encompass a population of 1,421,369 inhabitants with 170, 258, and 256 inhabitants, respectively per km². The departments are 87%, 60.2%, and 89.3% rural and are characterized by high levels of extreme poverty; high infant, child and maternal mortality rates; and high rates of malnutrition and vitamin A deficiency.

The project goal was to reduce infant and child mortality and morbidity related to malnutrition and vitamin A deficiency. Project strategies included education in nutrition and vitamin A, home gardens, vitamin A supplementation, and promotion of home/community gardens.

The implementation of the project was guided by its detailed implementation plan (DIP). Local counterparts were primarily the Ministry of Health (MOH), Ministry of Agriculture Extension (DIGESA), as well as PVOs and NGOs, the Ministry of Education, and community volunteers,

The first objective of the DIP refers to the development of the health information system (HIS). The HIS functions internally in the Project HOPE office and has provided much useful information about project outputs. Of the three departments, only Totonicapán has adopted the HIS in an effort towards developing a Unified Health Information System, under the leadership of the Health Area Council consisting of the MOH, PVOs, and NGOs. The system has been installed in the Health Area Office, and in the offices of several NGOs, and training has been provided. The HIS was also implemented in the **Totonicapán** office of DIGESA, because of the interest of the leadership and information technicians, and it is currently operational. These efforts may serve as a stimulus for the implementation of the HIS in San Marcos and Quetzaltenango.

With respect to vitamin A supplementation activities, more children received one capsule than two capsules. Even though this objective was not achieved in its entirety, there are a number of reasons for this (strikes, lack of community outreach, etc.). However, vitamin A supplementation is now an active strategy of the central MOH, and under increasing decentralization, health areas and districts can order supplements using their own budgets. The favorable attitude toward this interventions in the local MOH staff should promote the continuity of the supplementation activities.

The project was more successful in reaching its target for supplementation of post-par-tum women. Supplementation levels increased steadily every year. TBAs were the primary source for post-partum women for receiving this supplement, and several interesting strategies were pursued by the project to enhance long-term sustainability of this activity.

The training targets of the project were exceeded, and the project made a strong effort to act as trainers-of-trainers, facilitators, supervisors, and motivators of the project activities. In addition to MOH and DIGESA staff, and promoters and TBAs, the project also trained NGO staff and teachers to increase coverage at the community level to the maximum. The involvement of female staff of counterparts, TBAs, and spouses of promoters, as well as the overall emphasis of

the project of working with women and mothers' groups had a strong impact on the participation of women in all project activities.

The project was not able to have 80% of trained promoters establish vegetable gardens: Promoters are usually highly respected and leaders in their communities. As a result, they are in high demand for all sorts of development projects, some of which provide payments or stipends to the promoters. Not all promoters are involved in agriculture, but may be involved in other income-generating activities. Promoters have to allocate a significant amount of their time to provide for their families. And finally, the project decided to emphasize the development of sustainable models (e.g., seed production farms, seed sale of promoters, integrated model farms, etc.) and spent more time with a smaller group of promoters overall. However, even promoters without vegetable gardens were involved in the education activities of the project. Despite the shortfall in this objective, the model gardens were important to the communities to transfer knowledge about cultivating, pest control and organic fertilizers, and the use of vegetables.

Knowledge of mothers about good sources of foods rich in vitamin A increased substantially over the project duration, even though not all of the vegetables consumed were produced in family gardens. Setting up family gardens requires substantial time and investment (garden plot, seeds) that some families may not be interested in making. However, families are generally consuming the vegetables they are producing (with only a small percentage going for sale). In addition, families appear to have become more conscious about the types of food they include in their family diet to assure an increased intake of vitamin A. Education of mothers in food preparation and use of locally available and affordable sources of vitamin A may also have contributed to this positive change in family food consumption patterns.

In addition to addressing the project objectives, HOPE also developed a number of approaches directed at increasing the likelihood of sustainability of various activities and support a more permanent change in behavior, including the following.

- o Having counterpart agencies assume most responsibility for training and community outreach to promote long-term ownership, despite difficulties of staff turnover, strikes, motivation, transport problems, etc.
- o Help community level volunteers organize into cooperatives or interest groups for the purchase of supplies (vitamin A) or seeds that can be sold to the community to reduce cost, discourage paternalism, and increase opportunities for income to the volunteer.
- o Develop integrated farms that increase family food security and make use of left-over vegetables to feed chickens or rabbits, which in turn produce manure to fertilize the vegetable garden.
- o Develop an appreciation in school children for good nutrition, micronutrient needs, and how to plant and care for vegetables. This gives the children an opportunity to share new knowledge with their parents, siblings, and friends, and to develop a taste for vegetables and different types of foods.

II. INTRODUCTION

The project (No. FAO-0284-A-00-3037-00 funded by **USAID** and Project HOPE) is located in the departments of San Marcos, Quetzaltenango, and Totonicapán which are part of Region VI of Guatemala. The population of these three departments exceeds 1.5 million inhabitants. The target population is located in 14 high-risk municipalities of San Marcos, 12 of Quetzaltenango, and 6 in Totonicapán. The majority of the population is of Mayan descent. Illiteracy rates are about 70%. The target population included 171,598 children under 72 months and approximately 43,397 women giving birth per year. The target area encompasses about 1,300 communities, and the project impacted on close to 400 with its local counterparts, i.e., the MOH, MOA, DIGESA, MOE, as well as various NGOs, working in the target area.

The target municipalities in San Marcos and Quetzaltenango were selected originally based on a study of serum retinol levels and family food consumption pattern conducted in 1990 as the baseline for the previous Vitamin A project (CS-VI). High-risk municipalities had a large percentage of children with serum retinol levels of less than 20 mcg/dl, and the majority of families were not consuming foods rich in vitamin A. Another survey of food consumption, knowledge, and supplementation levels was conducted in 1993 in the target districts of Totonicapán, San Marcos and Quetzaltenango, but no information was collected on serum retinol levels. The priority districts of Totonicapán were selected with the Health Area Chief based on low consumption of fruits and vegetables rich in vitamin A, the overall level of poverty, limited agricultural production, and the overall health status of children. Four of the six districts had participated in a CS-VII CS project.

The current project was implemented in September 1993 and ended August 31, 1996 for a duration of 36 months. The project successfully negotiated a 10-month no-cost extension for the department of Totonicapán with **USAID** to strengthen the vitamin A activities and promote sustainability. This external evaluation covers the complete project implementation period, while the final KPC survey, for the most part, focuses on activities conducted through 8/96.

The primary project interventions included nutrition education with a focus on vitamin A, supplementation of children 6 - 71 months and post-partum women with vitamin A, and the development of community and family gardens to increase the access to foods rich in vitamin A. In the process, an HIS was developed to monitor project outputs. Except for those communities that were not reached by counterpart staff, project staff acted as trainers-of-trainers of the counterpart and NGO staff and promoted their outreach, training, and supervision at the community level.

The goal of the project was to reduce high levels of infant and child mortality related to nutritional deficiencies, particularly vitamin A deficiency. A strong emphasis was placed on developing models of sustainability that can be replicated by local counterpart agencies and on promoting active community participation. This strategy also included the involvement of other NGOs and schools to extend community coverage in nutrition, vitamin A, and vegetable gardens. An important factor noted by the final evaluation team was the high participation of women in the various project components.

III. OBJECTIVES OF THE EVALUATION

Determine to what degree project objectives have been accomplished, using as a baseline the information that was available in 1993, as well as the following information:

- Qualitative and quantitative information about the achievement of each of the DIP objectives, as well as the strategies that have been used to achieve these objectives;
- The degree of interinstitutional coordination with the public sector and NGOs which are implementing activities in the same departments and the level of participation of community volunteers;
- The barriers encountered; the level of satisfaction of the communities, staff, and agencies involved in the project; and the sustainability of various activities implemented by the project;
- Assessment of the project impact, replicability, sustainability, lessons-learned; and the risk that project activities end at the termination of the grant; and
- Review of the budget and project expenditures.

IV. EVALUATION METHODOLOGY

The DIP with the baseline survey, authorized changes, the midterm evaluation report and the midterm survey in May 1995, and the final KPC survey were reviewed, as well as other relevant documents and education materials.

A schedule of activities for the time period of June 13-20 provided the opportunity for visits of the evaluation team to participating communities, community committees, women's groups, family and community gardens, counterpart agencies, NGOs, integrated model farms, community-based minimal child health units, rural schools, a radio station, etc. The visits covered the three departments. Questionnaires for interviews and observations of field staff, community groups, extensionists, NGOs, community volunteers, promoters, TBAs, and counterpart staff were developed to document qualitative information and analyze it for this report.

The final evaluation was conducted by an external evaluator with a multidisciplinary team of representatives of counterpart staff from the three departments (MOH, DIGESA), and the participation of the Country Director and the Director of MCH Programs from HOPE Center/USA. The evaluation team reviewed the above materials and exchanged their observations from the site visits to gather the information for this report.

V. PROJECT ACCOMPLISHMENTS AND LESSONS-LEARNED

A. Project Accomplishments by Objectives

The project adjusted some of the DIP objectives in the first Annual Report. In addition, more emphasis was placed on promoting sustainability of the project activities, at the expense of some quantitative project results. However, many of the project objectives were achieved or exceeded, and some were partially achieved.

To achieve its objectives, the project developed a number of strategies, starting with an emphasis on institutional strengthening of the main counterparts (the MOH and DIGESA) and used an education approach whereby the staff of the counterpart institutions would serve as trainers-of-trainers/multipliers of the vitamin A/nutrition messages to the community promoters, volunteers, and TBAs, employing adult participatory education methodologies. Appropriate education materials were developed for all levels, and some of these were validated at the community level. Model schools in each department were included in the education approach to promote consumption of foods rich in vitamin A and good nutrition, as well as school vegetable gardens and to have the pupils bring some of the messages to the students' families, A high level of community participation was observed throughout the final evaluation process.

The following table summarizes the achievements by project objective. Additional comments and detail follow this table.

Table 1. PROJECT ACCOMPLISHMENTS

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 1. Develop an HIS that will provide timely information about project outputs and effects for monitoring and evaluation, be appropriate for decision-making needs of the field office, and provide feedback to donors, counterparts, and the communities.</p>	<p>Project HOPE developed an internal computerized HIS that uses the information from the MOH forms F7 and F8, children's EPI cards, and information from the TBA notebooks. There are additional internal data forms and administrative reports. This information was used by the project field staff to manage materials, supplies, and human resources.</p> <p>DIGESA uses one monthly form for the extensionists which provides information for the community and district level about training activities in vegetable gardens and seed distribution/sale. The HIS operates in the Totonicapan office.</p> <p>With the support of the Health Area Council, most progress was made in the Department of Totonicapan to implement a unified single health information system that would be used by the MOH and the NGO members of the Health Area Council. At the time of the final evaluation, this system was installed in the Totonicapan Health Area and four NGOs, but was not yet in operation.</p>	<p>A functioning computerized system at the Project HOPE office.</p> <p>A systematic HIS installed and ready for use in the Totonicapan Health Area Office. This system will be of assistance to the health area because it can obtain the same type of information from NGOs, other agencies, and communities, and can be used for decision-making by the Health Area Council.</p> <p>DIGESA Totonicapan has an installed system which is operational.</p>	<p>Some progress has been made in creating a viable system that is capable of capturing information about vitamin A activities at the MOH, DIGESA, and NGO level. However, at this point the HIS has only been used fully at the Project HOPE office. The counterpart institutions have not taken full ownership, despite extensive efforts to involve them in the development process. However, at least in Totonicapan, the MOH, DIGESA, and NGOs were able to come to an agreement on what information should be collected by all and how, which is a positive sign and may eventually result in a fully functional system.</p> <p>Several NGOs have asked Project HOPE to help them install this HIS which can capture information about the activities of their volunteers at the community level.</p> <p>Currently, there is no HIS that provides feedback to the community level.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 2. By project end, 60% of children 6-7 I months will have received two vitamin A capsules in the last year.</p>	<p>Health Areas (MOH) adjusted the target population from 178,505 to 171,588 children to be supplemented with vitamin A between 1995-96.</p> <p>Vitamin A capsules were provided to MOH health facilities.</p> <p>MOH staff were trained in the supplementation with vitamin A and in the identification of unsupplemented children.</p> <p>Information about the vitamin A supplementation activities were included in the official MOH HIS.</p> <p>Much emphasis was placed on promoting the consumption of foods rich in vitamin A, as a more sustainable approach to the vitamin A deficiency problem, and much progress was made in this area (see final KPC survey and final evaluation comments).</p>	<p>According to the MOH</p> <p>1993-96 49% of children received one vitamin A supplement and an increase was observed from project onset to end.</p> <p>37% received two capsules in the three departments up to 1995.</p> <p>In 1996, only Tonicapin was given vitamin A capsules from HOPE for a second round and reached a coverage level of 45%.</p> <p>Baseline survey 1993, Quetzaltenango and San Marcos: 28% one capsule, Tonicapin: 2% one capsule; Final Survey 1996, all three departments: 48.3% one capsule; 10.4% two capsules.</p>	<p>The project experienced many problems with the counterpart institution, responsible for the actual implementation of this objective: strikes, changes in plans for immunization campaigns, changes in MOH priorities during emergencies, etc.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 3. By project end, 50% of women in the target area will have received vitamin A immediately post-partum.</p>	<p>TBAs were involved as the key individuals to get vitamin A to post-partum women.</p> <p>Project HOPE developed a simple pictorial form for TBAs to record their supplementation activities.</p> <p>A vitamin A distribution program was set up which resupplied TBAs when they submitted their form indicating the number of post-partum women supplemented.</p> <p>The formation of TBA committees were promoted, as well as the sale of the vitamin A capsules to the post-partum women to assure sustainability of this activity.</p>	<p>Vitamin A supplementation rates of post-partum women increased significantly over the project duration, from 12% in year I to 41% in year 3, and Totonicapán was able to exceed the set objective in the third project year. During the 10-months no-cost extension, 6,842 new mothers received a vitamin A capsule which is equivalent to more than 50% of post-partum women supplemented during this time period.</p> <p>According to the final survey, post-partum women primarily receive the vitamin A supplement from the TBAs and secondarily from the health posts.</p> <p>Hospitals are now also providing vitamin A to post-partum women which shows that the project has been able to instill an awareness about the importance of vitamin A, a lesson-learned in the previous grant.</p>	<p>Even though there are some differences between MOH statistics and survey information, supplementation rates increased significantly from 1995- 1996. If current tendencies continue through 1997, rates are accelerating even more, most of all in Quetzaltenango, but also in Totonicapán.</p> <p>However, further increase in coverage is dependent on the support the health services provide to the organization of the TBAs and capsule distribution.</p>
<p>Objective 4. By project end, all children under six diagnosed with measles at a health facility will receive a vitamin A supplement.</p>	<p>32 professional nurses and 184 auxiliary nurses were trained in the departments in the treatment of children with measles with vitamin A.</p>	<p>No measles cases were reported by the health facilities for the duration of this project.</p>	<p>Since no measles cases were reported, the achievement of this objective cannot be evaluated. However, MOH staff were trained and prepared and had a stock of vitamin A capsules set aside for the treatment of children with measles.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 5a. By project end, 90% of MOH health facility staff and 90% of DIGESA extensionists will have been trained in the importance of vitamin A.</p>	<p>A total of 289 MOM health services staff and 262 staff from DIGESA were trained.</p> <p>The training combined the role of vitamin A, good nutrition, and vegetable gardens, taking into account other components (e.g., organic agriculture and control of pests).</p> <p>The project promoted the integration of the sectors of health, agriculture, and education.</p> <p>Participatory education methodologies were used. Educational materials were developed, and each MOH health facility and DIGESA office received a set.</p>	<p>97% of the staff of the MOH and 98% from DIGESA were trained in the importance of vitamin A and related topics (nutrition, supplementation, home gardens, management of pests, use of organic and non-organic pesticides, organic agriculture, food preparation and storage, etc.). During the final evaluation, it was obvious that project and counterpart staff had a good mastery of these topics.</p> <p>Objective was achieved 100%.</p>	<p>The use of good technical assistance in the preparation of materials and training strategies and the effort placed on a multi-sectoral approach to vitamin A/nutrition are among the major achievements of this project and should be replicated.</p>
<p>Objective 5b. By project end, 50% of all TBAs in the target area will be trained to administer vitamin A to women immediately post-partum.</p>	<p>1,250 TBAs were trained in the three departments.</p> <p>Participatory adult education methodologies were used. TBAs were trained in their local language. TBAs were also trained in nutrition, vegetable gardens, and preparation and conservation of foods rich in vitamin A.</p>	<p>This objective was more than achieved.</p>	<p>To promote sustainability, the project also promoted the organization of TBAs into cooperatives. In Totonacapan, one of these cooperatives is functioning and maintains a store for basic supplies, including vitamin A. In San Marcos and Quetzaltenango, TBAs were organized into committees that promote the supplementation with vitamin A.</p> <p>It is important to note that TBAs also participated in training of food preparation and storage of vegetables rich in vitamin A, which many of them harvest in their own vegetable gardens started under this project.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 5c. By project end, 60% of community promoters will be trained in vegetable gardening.</p>	<p>1,058 promoters were trained in the three departments</p> <p>Good curricula and educational materials were developed and disseminated to the promoters.</p> <p>The following content was emphasized: Vitamin A, good maternal and child nutrition, development of model vegetable gardens, and use of natural methods for pest control</p>	<p>Objective achieved</p>	<p>The community promoters are a great strength of the project. A problem has been that some organizations pay their promoters and that others promote their income generating activities (e.g., sale of vegetable seeds).</p> <p>It is important to note that most of the trained promoters are men and that many have passed on their knowledge to their wives and involve these in their activities. Partly due to this, a large percentage of women have participated in the project activities,</p> <p>A quality assurance project was also conducted by HOPE and IEF involving 60 health promoters to determine their knowledge and effectiveness in transmitting key messages to their communities. The results are positive for the promoters as well as the participating mothers and have provided lessons-learned for new projects.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 5d. By project end, 40% of communities in the target area will have received training in maternal and child nutrition, with an emphasis on the role of vitamin A.</p>	<p>Training provided to 393 communities in three departments.</p> <p>Training of counterpart institutions and NGOs, and volunteers to replicate this training in more communities.</p> <p>Development and use of good educational materials and use of a participatory methodology.</p> <p>Emphasis on interinstitutional coordination.</p> <p>The percentage of communities to be covered was reduced in the first annual report, given the disperseness of villages and the increased emphasis of the project on developing sustainability models.</p> <p>Radio messages in local dialects about the importance of good nutrition and vitamin A.</p> <p>Coordination between seed producers/marketers and agencies promoting vegetable gardens in the target area.</p>	<p>30% of the communities in the target area were actually reached by the training efforts.</p> <p>Consumption of foods rich in vitamin A has increased significantly.</p> <p>More than 80% of mothers know six or more foods rich in vitamin A and are aware of the benefits of vitamin A (final survey).</p>	<p>The objective of reaching this many communities was very ambitious, given the factors of access, very rural dispersed communities and limited counterpart presence in the communities. The project was able to reach that many communities by training counterpart and NGO staff by and promoting vegetable gardens through these collaborating agencies.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 6 By project end, 80% of trained promoters will have established model gardens.</p>	<p>826 promoters were trained in establishing model vegetable gardens and in providing education to the communities.</p> <p>Promoters were motivated to establish gardens through training and by providing them with seeds for sale, using a revolving fund.</p> <p>There was a strong emphasis on involving women.</p> <p>The project was able to gain a good participation of the DIGESA extensionists and MOH staff in training the promoters, coordinating with seed houses, and providing other supplies.</p>	<p>Of the trained promoters, 455 (55%) actually established model gardens.</p>	<p>Promoters are individuals that have to do their daily work to maintain their families. In addition, they are expected to make some time for developing model gardens and sell seeds to their communities to assure the sustainability of gardens in the community</p> <p>Women participated widely in this activities and assisted the promoters in setting up gardens.</p> <p>Some NGOs, namely Caritas, had different policies with seeds. In San Marcos, Caritas is selling seeds and in Totonicapan it gives it away for free. This undermines efforts to promote sustainability in the community.</p>
<p>Objective 7. By project end, 50% of mothers can identify at least six major food sources rich in vitamin A.</p>	<p>Development and use of materials for the community level.</p> <p>Use of participatory education methodologies; development of clear, short, and simple key messages; training of TBAs; and effective use of women's/mothers' groups.</p> <p>Promoters assist families in setting up vegetable gardens, teach them about pest control, and provide follow-up.</p>	<p>59% of mothers know at least one of the major health problems caused by vitamin A deficiency.</p> <p>Women are capable in identifying animal and vegetable sources of vitamin A. .</p>	<p>Participation of women in the target area was very high.</p> <p>New nutrition and dietary habits were established in the target area.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Objective 8. By project end, 30% of families in the target area will grow additional vegetables or herbs rich in vitamin A in a garden or in their corn field.</p>	<p>9,111 families developed vegetable gardens to grow vegetables and herbs rich in vitamin A.</p> <p>There was a strong participation of volunteers, NGOs, and other agencies.</p> <p>The percentage of vegetable seeds that were sold increased in the target area promoting sustainability.</p> <p>Promoters provided follow-up to families in the care of their gardens.</p>	<p>7% of the families in the target area developed gardens.</p> <p>The policy of selling seeds did not reduce the number of families participating, but actually led to gardens that were better cared for.</p> <p>The sale of seeds leads to more sustainability than their donation which is considered paternalistic by the population.</p>	<p>This objective was reduced in the first annual report.</p> <p>The project placed more emphasis on developing sustainable models at the community level and changed the donation of seeds to the sale of seeds and the promotion of seed production in some communities. It also established a system for seed purchase from producers or marketers, established seed outlets in the communities through the participating promoters, and established strong relationships with trained counterparts (DIGESA and NGOs) to link communities with agencies that will be able to provide assistance in developing vegetable gardens in the long-term.</p>
<p>Objective 9. By project end, 50% of children 6 -71 months whose families grow additional vegetables and herbs rich in vitamin A, will consume foods rich in vitamin A at least two times per week.</p>	<p>Training of mothers in the importance of consuming foods rich in vitamin A and in using new recipes to prepare locally available foods rich in vitamins and minerals in their homes.</p> <p>Promoters assisting families to develop gardens by providing training, supervision, and follow-up.</p>	<p>Objective achieved.</p> <p>Baseline survey: Children in San Marcos and Quetzaltenango eat foods rich in vitamin A more than once a week, in Tonicapan, once a week.</p> <p>Based on final survey results, children consume foods rich in vitamin A more than three times per week.</p>	<p>Even though the data in the two surveys were not collected in the same way, it is apparent that the objective was achieved.</p>

OBJECTIVE	ACTIVITIES	RESULTS	COMMENTS
<p>Nutrition objectives:</p> <p>Increase the rate of exclusive breastfeeding during the first 4-6 months of life to 10% above baseline and promote continued breastfeeding for the first two years of life.</p>	<p>Promotion of exclusive breastfeeding with TBAs, MOH staff, and community volunteers.</p> <p>Development of educational materials.</p> <p>Clarification about what is meant with exclusive breastfeeding.</p> <p>Promotion of breastfeeding for the first two years of life.</p>	<p>In the final survey, more than 70% of infants under six months were breastfeeding exclusively.</p> <p>Objective more than achieved.</p>	<p>The definition of exclusive breastfeeding still needs to be strengthened with counterpart staff and volunteers.</p> <p>Good cultural breastfeeding practices need to be strengthened to reduce the potential for the marketing of breastmilk substitutes in the target area. Local weaning foods (atoles) need to be discouraged during the first six months of life. Propaganda of breastmilk substitutes at health centers should be discouraged.</p>
<p>Promote the use of appropriate weaning foods that are both high density and rich in vitamin A and other micro-nutrients.</p>	<p>Training of MOH health services staff, home educators and community volunteers.</p> <p>Development and distribution of educational materials, including recipes for complementary foods.</p> <p>Technical assistance obtained from Conaplan.</p>	<p>Objective achieved.</p> <p>The principal source of vitamin A in the group 6-11 months is milk and the family diet.</p>	<p>The family diet includes good sources of vitamin A.</p> <p>The most common food sources rich in vitamin A are milk, incaparina, bienestarina, and eggs.</p>
<p>By project end, educate 50% of pregnant and lactating women about the importance of good nutrition and foods rich in vitamin A for their own benefit and the health of their infants.</p>	<p>Training of TBAs in good maternal nutrition.</p> <p>Supplementation of post-partum women, counterpart staff, and extensionists.</p> <p>Dissemination of educational materials.</p>	<p>See objective 3.</p>	<p>TBAs were integrated more effectively with the health services and the agricultural extensionists. The follow-up and supervision by MOH nurses in particular improves the quality of services and education provided by the TBAs.</p>

Objective 1. Develop and HIS that will provide timely information about project outputs and effects for monitoring and evaluation, be appropriate for decision-making needs of the field office, and provide feedback to donors, counterparts, and the communities.

A computerized information system has **been** developed that aggregates information obtained from the forms F7 and F8, children's immunization cards, and the TBA booklet and processes it for decision-making purposes. This system currently operates in Project HOPE's office. It has been modified in coordination with the Health Area of Totonicapán for use by its health facilities and NGOs working in the department. This system uses only one monthly statistical form to capture activities promoted by the vitamin A project, but can be expanded to include other community-based activities. The system, is used by staff at the district level and community volunteers, but the MOH still has to assume total ownership of the system. The same is true for the system installed and operating in the DIGESA office in **Totonicapán**. There is a good potential for use of the HIS in Totonicapán, but, because the project ended earlier in San Marcos and Quetzaltenango, success is less likely for the other two departments.

The primary difficulty to achieve this objective was due to the existing vertical structure of the information systems of the counterpart institutions, New systems can only be attached to existing systems, but not integrated. Only after much negotiations, Project HOPE was able to demonstrate the benefit of a Unified Health Information System that would allow the MOH to collect information about community-level activities and about activities of the local NGOs. This delayed opportunities to install the HIS and train counterpart staff in its use.

The development of the system was difficult for several reasons: the HIS should be usable by the counterparts without changing the existing system, and the system should be useful for HOPE, the MOH, **and** DIGESA, but also for other organizations involved in project activities. Unfortunately, the project **did** not seek technical assistance to move along this process. After various attempts, a form was designed for the use of Project HOPE field staff. Then the form was presented to the health areas, DIGESA, and the participating NGOs in the three departments. Even though the process was very slow, the Health Area of Totonicapán responded with much interest when it found out about the benefits of the system. Currently, the system is installed at the DIGESA office and in use; it is installed in the **Totonicapán** Health Area office and four NGO offices, but not yet in active use.

Because the HIS was approved by the Health Area Council of **Totonicapán**, follow-up is being provided to the HIS. The same is true for the NGOs that have committed themselves to strengthening the system to complement their own data collection systems, This way, the Health Area will be able to capture information from all NGOs working in vitamin A related activities and provide them with consistent feedback.

The Health Areas of San Marcos and Quetzaltenango **and** its NGOs should learn from the progress that was made in Totonicapán and coordinate in the implementation of the HIS. Project HOPE has documented the HIS well which should facilitate implementation. The HIS would also strengthen the Integrated Health System (SIAS) which is promoted under the decentralization efforts of the MOH. The SIAS requires an HIS that integrates and manages information collected from health facility staff, as well as from community volunteers.

Project HOPE attempted to achieve this objective through inter-agency coordination and participatory development of the HIS. The Health Area Council of Totonicapán now has the opportunity to use an HIS that can guide its activities and strengthen collaboration with its NGOs by using the same data collection system.

Objective 2. *By project end, 60% of children 6-72 months will have received two vitamin A capsules in the last year.*

Table 2. SUPPLEMENTATION WITH ONE DOSIS OF VITAMIN A (children 6-71 months)

Department	Target Population	Year 93-94	Coverage %	Year 94-95	Coverage %	Year 95-96	Coverage %
Quetzaltenango	64,095	35,502	55	30,810	48	27,860	51
San Marcos	65,783	28,127	43	40,409	61	29,602	45
Totonicapán	48,627	17,094	35	21,782	45	26,326	52
TOTAL	178,505	80,723	45	93,001	52	83,788	49

Table 3. SUPPLEMENTATION WITH TWO VITAMIN A CAPSULES (children 6-71 months)

Department	Target Population	Year 93-94	Coverage %	Year 94-95	Coverage %	Year 95-96	Coverage %
Quetzaltenango	64,095	25,638	40	28,843	45	**	• □
San Marcos	65,783	23,681	36	19,735	30	**	**
Totonicapán	48,627	14,588	30	17,992	37	22,665	45*
TOTAL	178,505	63,907	36	66,570	37	22,665	45

Source: MOH Health Areas. **No capsules provided for a second round.

It can be seen in Table 2 that, except for Totonicapán, coverage levels with one vitamin A capsule remained fairly stable. The actual distribution of the capsules was the responsibility of the MOH health facility staff. The distribution of first capsules is tied to the immunization campaigns which predominantly capture the younger age group. For these campaigns the MOH mobilizes the communities and coordinates with other agencies to achieve high coverage rates.

Table 3 demonstrates that coverage levels with a second dose of vitamin A for Totonicapán increased over the project duration, even though they did not reach the expected 60% coverage levels. Supplementation coverage rates stagnated in the other two departments, and no information for the second capsule is available for 1996, because the project finished in these two departments before a second round was implemented, and because the health areas did not receive a second allotment of vitamin A capsules from Project HOPE. Also, the health areas only

conduct a second vaccination campaign in districts with very low coverage rates, which in effect results in much more limited opportunities to broadly disseminate the second vitamin A capsule. However, in 1996, the MOH began to consider the inclusion of vitamin A at the national level, with the support of UNICEF, and was able to start assisting some of the departments.

To increase access to the communities, Project HOPE tried to motivate the health areas throughout the project to more actively involve volunteers in the distribution of vitamin A. This is only now being considered more seriously with the new MOH decentralization policies (SIAS).

The baseline survey of 1993 does not provide separate information for San Marcos and Quetzaltenango for percent of children supplemented with one vitamin A capsule. The coverage rate at that time was only 28%, because vitamin A was only given out during EPI campaigns, while now capsules are also increasingly distributed during routine services. In Totonicapan, the coverage rate for one capsule was only 2% in 1993.

In 1996, the coverage rate obtained in the final survey for one capsule of vitamin A was 48% in San Marcos and 34% in Quetzaltenango, while rates for the second dose were 24.2% and 11%, respectively. This means that these health areas may have received an allotment of vitamin A for a second round of supplementation. The figures obtained for Totonicapan were 60% for one capsule, and no child supplemented with a second capsule. This is rather strange, since Totonicapan was provided with vitamin A for a second round of supplementation and has reported good second rates. The survey results may be due to the fact that the last ten months of the no-cost extension were not included in the analyses.

One strength of the project is that it created a consciousness about vitamin A in the MOH health facility staff, as well as a perceived need to include vitamin A in the budget. This, for example, was observed for a maternity in a district of Quetzaltenango.

The primary project strategy was to promote ownership on the part of the MOH staff for the supplementation of children under six. HOPE trained MOH staff before supplementation activities and provided data collection forms, which later on were added to the MOH HIS. Project HOPE also promoted the supplementation activities through radio messages for health area-wide immunization campaigns or during more local vaccination activities. Through the efforts of this project, vitamin A supplements began to be integrated with immunization activities. As pointed out earlier, HOPE also promoted the involvement of community volunteers to assist MOH staff in this task.

During the field visits, the evaluation team reviewed the MOH vaccination forms which include the vitamin A supplement. At the community level, the team noted that the promoters and the communities were well aware of this activity. Interviews with the three health area chiefs also showed a great interest on their part to purchase vitamin A and continue the supplementation activities, as they are beginning to assume more control over their budgets at the department and district level.

Objective 3. *By project end, 50% of women in the target area will have received vitamin A immediately post-partum.*

Table 4. SUPPLEMENTATION OF POST-PARTUM WOMEN WITH VITAMIN A

DEPARTMENT	SEPTEMBER 93 - AUGUST 94			SEPTEMBER 94 - AUGUST 95			SEPTEMBER 95 - AUGUST 96			
	# of Post-Partum Women	# Supplemented	%	# of Post-Partum Women	# Supplemented	%	# of Post-Partum Women	# Supplemented	%	
QUETZALTENANGO	16,057			940	6	16,057	2,768	17	5,868	38
SAN MARCOS	14,042			1,256	9	14,042	3,171	27	14,73	30
TOTONICAPAN	13,298		9,631	22	13,298	5,987	45	15,161	8,253	56
TOTAL	43,397	5,159	12	43,397	12,483	29	46,161	18,852	41	

According to the baseline KPC, only 13.8% of post-partum women had received a vitamin A capsule in San Marcos and Quetzaltenango. At midterm, supplementation in the three health areas had increased to 20.1% and by project end to 31%. As can be seen, coverage rates increased at different rates in the three departments. Even though the project had already worked with the TBAs in San Marcos and Quetzaltenango in the previous vitamin A project, coverage rates in these two health areas were affected by strikes of MOH staff who did not provide supervision and follow-up to the TBAs, which also reduced the TBAs' access to vitamin A capsules.

Even though the supplementation rates in San Marcos and Quetzaltenango did not achieve the expected benchmark, some sustainable community-based approaches have evolved. There are 13 TBA committees in San Marcos and five in Quetzaltenango whose members sell the vitamin A supplement to their post-partum women, under the supervision of the MOH district nurses, to assure the necessary funds to restock their vitamin A supplies. A source of vitamin A capsules in Guatemala City has been identified (STARVT, S.A.) where vitamin A capsules could be purchased starting in 1996.

This activity developed very differently in Totonicapan for the following reasons: Under a CS-VII project, HOPE had already begun to strengthen the training, supervision, and follow-up of TBAs in four of the target districts. HOPE had also trained TBA peer supervisors who were responsible for supervising 20 of their peers each and provide supplements to them. This strategy was changed, and now most of the MOH district nurses provide supervision and coordinate this activity with their TBAs. During the first nine months of the 10-months no-cost extension, 6,842 post-partum women were supplemented in the target area in Totonicapan. This corresponds approximately to a yearly coverage rate of 60%. The TBAs receive vitamin A capsules from the health services. The midterm and final KPC survey verified that TBAs are the primary source of vitamin A for post-partum women, which supports the benefit of involving community human resources actively in the program interventions.

A simple TBA reporting system was developed, using a TBA notebook with pictures. The TBAs provide this information to the health facilities with their other activities and, at the same time, receive a new stock of vitamin A capsules.

Objective 4. By project end, all children under six diagnosed with measles at a health facility will receive a vitamin A supplement.

There was a measles epidemic in 1989 with high infant mortality rates which motivated the MOH to improve its surveillance and prevention activities. In both vitamin A projects, MOH staff were trained in the treatment of measles cases with vitamin A, following MOH guidelines, and each health facility has a small stock of vitamin A capsules reserved for this purpose. All staff in the 32 health centers and 88 health posts were trained in this intervention. The final evaluation team was able to verify that the MOH staff had the necessary knowledge and stock of vitamin A, but that no measles cases have been reported since project onset.

TRAINING OBJECTIVES

Objective 5a. *By project end, 90% of MOH health facility staff and 90% of DIGESA extensionists will have been trained in the importance of vitamin A.*

Objective 5b. *By project end, 50% of all TBAs in the target area will be trained to administer vitamin A to women immediately post-partum*

Objective 5c. *By project end, 60% of community promoters will be trained in vegetable gardening.*

Objective 5d. *By project end, 40% of communities in the target area will have received training in maternal and child nutrition, with an emphasis on the role of vitamin A.*

These DIP objectives were more than achieved; 97% of MOH and 98% of DIGESA staff were trained in various aspects of vitamin A. In addition, 100% of the TBAs and 99% of health promoters were trained in nutrition, the importance of vitamin A, and home gardens.

Project HOPE staff acted more like trainers-of-trainers, with MOH and DIGESA staff training promoters and TBAs, and these, in turn, training beneficiaries at the community level. Of course there were some exceptions early on in the project, where HOPE staff provided training in communities not reached by counterpart staff. By project end, the evaluation team was able to observe that training activities were implemented by the MOH, DIGESA, and the NGOs, and that HOPE staff no longer provided direct training to promoters, TBAs, or communities.

There was also a change in the education strategies. In the beginning, the main emphasis was on supplementation and consumption of foods rich in vitamin A. In the second half of the project, HOPE focused more on the mothers' groups as the key to improving the nutritional status of the families, and emphasized the need to have them educated by MOH, DIGESA, and volunteer staff which had been trained in participatory education methodologies. Appropriate materials were used including flip charts, posters, cards, recipe books, most of them validated in the community, and messages were kept clear and simple to improve comprehension by the community volunteers and the families.

The objective of training 50% of the TBAs was also more than achieved in the three departments. Under the new education focus, TBAs were trained in supplementation, but also in the importance of nutrition, the role of vitamin A, in establishing vegetable gardens, and in food conservation, recognizing the TBAs' potential role in educating their clients and serving as a role models. The project's emphasis on developing sustainable community-based approaches led to a proposal written with the TBAs of the district of San Cristóbal Totonicapán that was submitted to the Guatemalan Social Investment Fund (FIS) with the purpose of strengthening the technical and organization skills of the TBAs. Q134,402.70 were received from the FIS and used to give the TBAs additional training in vitamin A and self-management. The TBAs now have a legal cooperative and receive some support from the municipality. This approach was one of the successful new sustainability strategies of the project. The evaluation team met with the TBAs and saw the store their cooperative has set up. The TBAs also serve as a model group that

contributes to the development of their communities. The health center nurse and auxiliary nurse in the district provide assistance and follow-up to help this cooperative to continue to progress,

As mentioned earlier, the fact that the project more than achieved training 60% of the health promoters was very important, given that the project was attempting to educate 55,000 dispersed families in nutrition, the role of vitamin A, and in establishing vegetable gardens. However, not only the quantity of trained promoters, but also the quality of their health education efforts, i.e., how they were transmitting the project messages to the mothers, was important to the project. With IEF, the project implemented a quality assurance study, involving 60 promoters in Totonicapan to assess and improve their knowledge and to verify that messages were transmitted effectively to the mothers. A six-month follow-up was conducted with these promoters, and weaknesses in the training methodology strengthened. The end result was that the promoters made some very positive changes in the use of their teaching techniques, their knowledge, the use of educational materials, and the transmission of messages to the mothers. The results of this study showed that the promoters improved their basic knowledge about nutrition, vitamin A, and home gardens from 52% to 65%; 78% strengthened the basic health messages; 100% used some of the educational materials in their education efforts; and 92.9% used at least one participatory technique. With respect to the knowledge of mothers about the topic, an improvement from 71.86% to 75% was observed. Overall, it appears that the transfer of knowledge is adequate, but can still be improved in future projects.

Because the promoter is an important person in the community, HOPE established community-based minimal child health units in some inaccessible communities in Totonicapan. These units also became focal points for the activities of the project. They provided education and made seeds available for sale to the communities,

Even though the project had not planned to work with schools, this was an additional activity that the evaluation team found to be very successful. For this activity, HOPE signed a letter of understanding with the Regional Office of Education of the Ministry of Education (MOE), and committed to provide nutrition, vitamin A, and home gardening education to students at 20 model schools per department to educate the pupils in the topic and help them become change agents in their families. 66 supervisors and 60 teachers were trained; they received education materials, seeds, and gardening tools. The tools were obtained as a contribution from the Department of Nutrition of the MOH.

According to the HIS, 393 communities were reached by the project activities. This is about 30%, 10% less than planned. To reach these very dispersed communities, Project HOPE coordinated with its counterparts and predominantly played a role of trainer-of-trainers, facilitator, and supervisor. The disperseness of the communities and the fact that the counterpart institutions only reach a fraction of them in their own outreach activities was a barrier to achieving this objective.

Again, the participation of women in the project activities cannot be emphasized enough. Female promoters provided education in the local dialect about maternal and child nutrition needs and established model, family, and community gardens. In other cases, the evaluation team found special strength in promoter couples which were very capable in getting their communities

together and in implementing their training activities jointly,

Objective 6. By project end, 80% of trained promoters will have established model gardens.

Table 5. PROMOTERS TRAINED AND PROMOTERS WITH MODEL GARDENS

DEPARTMENT	PROMOTERS IN THE TARGET AREA	PROMOTERS TRAINED	PROMOTERS WITH MODEL GARDENS	%
QUIJETZALTENANGO.	319	225	145	64 %
SAN MARCOS.	325	260	151	58 %
TOTONICAPAN	427	341	159	46 %
TOTAL	1,071	826	455	55 %

Source: MOH, DIGESA. NGO's

As can be seen in the table, 55% of the trained promoter developed model vegetable gardens. The percentage is somewhat lower in Totonicapan, because the project has worked less time there, and the population is more interested in local crafts than in agriculture.

In the last project year, the number of model promoter gardens increased in all three departments, in Quetzaltenango from 128 to 145, in San Marcos from 132 to 151, and in Totonicapan from 90 to 159, despite the fact that seeds were no longer donated but had to be purchased, to promote the sustainability of gardens. In San Marcos, 55 promoters are selling seeds with assistance from DIGESA and Caritas Diocesana and 13 in Quetzaltenango, with support from DIGESA and the MOH. In Totonicapan, the MOH, DIGESA, and the NGO CDRO serve as intermediaries with the large seed houses for the 52 promoters that sell seeds. The fact that they are also involved in the sale of the seeds has increased the interest of some of the promoters in the gardens.

During the evaluation, the team was able to observe how one NGO sells seeds in one department and gives it away for free in another. This undermines the attempts of HOPE and other agencies to promote community ownership of the gardening activities. Furthermore, some organizations work with the same promoters on other activities in their communities and pay them. This also makes these promoters less available in the project activities.

The fact that vegetables rich in vitamin A are more available at the community level and that the project's target groups consume vegetables rich in vitamin A more often per week, shows that the project has had an impact on reducing the risk for vitamin A deficiency with its community-based strategies.

Objective 7. By project end, 50% of mothers can identify at least six major foods sources rich in vitamin A.

Table 6. FOODS RICH IN VITAMIN A IDENTIFIED BY MOTHERS

FOOD CATEGORY AND # OF FOODS IDENTIFIED	1995	1996
Animal		
2	39.7%	37.4%
3	30.4%	40.3%
Vegetable		
1	41.4%	
2	35.3%	33.2%
3		37.4%
Native Herbs		
2	52.8%	49.3%
3	25.3%	22.5%
Fruits		
1	49.0%	24.4%
2	30.7%	37.0%

Source: HOPE midterm and final KPC survey.

Even though the baseline and the final survey are not easily comparable, in 1993, in San Marcos and Quetzaltenango, 58% of mothers were only able to identify two vegetable sources rich in vitamin A, and in Tonicapán it was only 29%. The table above demonstrates that the number that identified two or three vegetable sources was 70.6% at project end. In addition, a large number of mothers were able to identify 2 - 3 animal sources or native herbs, and one or two fruits. In combining the food groups, 81% of mothers were able to identify six or more foods rich in vitamin A.

Objective 8. By project end, 30% of families in the target area will grow additional vegetables or herbs rich in vitamin A in a garden or in their cornfield

Table 7. COMPARISON OF FAMILIES THAT HAD GARDENS
AT BASELINE AND PROJECT END
1993-1996
(does not include no-cost extension)

DEPARTMENTS	BASELINE # of families with gardens (1993)	FINAL SURVEY # of families with gardens at project end (1996)	Percent of families in target area
QUETZALTENANGO	2,080	2,635	5%
SAN MARCOS	2,906	3,389	7%
TOTONICAPAN	**	3,087	8%
TOTAL	5,815 * *	9,111	7%

Source: MOH, DIGESA and HOPE

The table above demonstrates that most of the new gardens were developed in Totonicapán, where according to the baseline survey only 3% of families had a vegetable garden. The emphasis in San Marcos and Quetzaltenango was more on consolidation and on the development of sustainability strategies (e.g., promote family purchase of vegetable seeds). Despite the fact that during the second half of the project vegetable seeds were no longer given to the families at no costs, the number of gardens in San Marcos and Quetzaltenango increased by 27% and 17%, respectively, after midterm. It is estimated that the vegetable gardens benefit close to 60,000 individuals in the target area.

Objective 9. By project end, 50% of children 6 - 71 months whose families grow additional vegetables and herbs rich in vitamin A, will consume foods rich in vitamin A at least two times per week.

Even though the baseline and final KPC survey are not easily comparable, in 1993, children under six consumed foods rich in vitamin A more than once a week, while those in Totonicapán consumed such foods only about once a week. The final survey found that consumption in both target areas has increased to between 11 - 15 foods rich in vitamin A consumed per week. The gardens have contributed to this changed consumption pattern, since families consume most of their produce. It is likely that the extensive efforts made by the project to develop tasty recipes, particularly for the weaning age, but also to vary the monotonous family diet, has contributed to the increased consumption of foods rich in vitamin A.

NUTRITION OBJECTIVES:

Increase the rate of exclusive breastfeeding during the first 4 - 6 months of life to 10% above baseline and promote continued breastfeeding for the first two years of life

The project used information from the final KPC survey of the CS-VII project in Totonicapán in 1992 as the baseline and assumes that breastfeeding patterns are relatively similar in the three departments. According to the CS survey, 32% of mothers were breastfeeding exclusively during the first four months. According to the national MCH survey in 1995, exclusive breastfeeding decreases rapidly from about 50% for the first four months to 32% for the 4 - 6 month old infants.

According to the final KPC survey, 70% of infants in the target area are being exclusively breastfed. This percentage appears high, but should be correct, since the project attempted to improve the questions that had been asked in the midterm KPC survey, both by adjusting the questions and training the interviewers better.

The project involved most of the MOH, DIGESA, and NGO staff and solicited the assistance of the National Commission for Breastfeeding Promotion (CONAPLAM) and provided training "About the Importance of Exclusive Breastfeeding and Appropriate Complementary Foods." 32 MOH nurses were trained, who in turn provided training to organized groups of 8,604 beneficiaries, 94% of them women. Home educators from 17 DIGESA extension offices also participated in this training, and provided, in turn, education to 1,061 individuals, 85% of them women.

Promote the use of appropriate weaning foods that are both high density and rich in vitamin A and other micronutrients.

The Project HOPE and DIGESA home educators developed recipes with nutritious foods rich in vitamin A that are appropriate for the weaning period. Many of the recipes were printed in the form of simple brochures with pictorial and simple written descriptions for the functionally illiterate or low literate mothers on how to prepare the recipes. Women received these recipes during food demonstration sessions where they learned about preparing these foods. The field visits showed that women make good use of the recipes and are happy to be able to prepare new nutritious meals for their families.

By project end, educate 50% of pregnant and lactating women about the importance of good nutrition and foods rich in vitamin A for their own benefit and the health of their infants.

There is no good baseline information about what the women knew about good nutrition at the beginning of the project. The project has focused on this objective by training counterpart staff and TBAs. The coverage of post-partum women with vitamin A increased substantially over the project duration, primarily due to the strong involvement of TBAs in the project activities. Volunteer extensionists and home educators have taught women about the importance of good nutrition in the home and by providing instruction in food preparation to women's groups, using specially developed recipes of locally available and affordable foods that are rich essential

nutrients, easy to prepare, and that provide a good variation to the monotonous family diet.

B. Description of Positive and Negative Effects of the Project

Positive Effects of the Education Process

The project developed a participatory education methodology for counterpart staff, NGOs, promoters and TBAs that would encourage a better understanding and learning of key messages. Good education materials were developed for all levels and for the radio, and many messages were transmitted in the local dialect.

One of the strengths of the project is that the community education activities are implemented by the community promoters in the local dialect. It was evident during the site visits that these individuals are well able to bring together community members.

Even after the end of the project, promoters and TBAs will continue to be a source of education and information for their communities.

Weaknesses of the Education Process

The counterpart staff do not provide sufficient follow-up to community volunteers because of a lack of resources. Volunteers need this type of follow-up to maintain their motivation and knowledge levels.

It appears that the education activities of at least some of the promoters take quite a bit of time and could be shorter and more frequent. Also, given the number of individuals that attend these meetings, the meeting place should be carefully selected, because the meeting place gets too warm, and the temperature may affect the concentration of those attending.

Promoters could still use further training in using education materials and methodologies more effectively. The quality assurance study with IEF gave HOPE the opportunity to identify some of the weaknesses of the education process and has provided valuable information and lessons-learned for the next project.

Positive Effects of Home Gardens

Women have participated extensively in the home garden activities. They are well motivated by the sessions taught by the promoter. When they cannot obtain seeds otherwise, they purchase them on the market day at the municipal seats. They often prepare and maintain gardens in groups. Most of the women stated that they use their own produce, and that they have learned to prepare new recipes taught by the home educators.

The preparation and conservation of foods rich in vitamin A in novel ways has been an important motivating factor for women to include more foods rich in vitamin A in their family diet.

Weaknesses of the Home Gardens

Because of the limited agricultural extension outreach to the communities, families continue to experience problems with pest control. Some seed varieties sold locally develop very slowly and may not be appropriate for the climate. This is discouraging to the families.

It is important to emphasize that canning of fruits and vegetables is not the only form of conserving foods, and other alternatives should be taught to not only increase family consumption, but also the sale of produce.

Positive Effects of Vitamin A Supplementation

MOH staff and TBAs are well trained and knowledgeable about the importance of vitamin A and correct supplementation procedures.

Weaknesses of Vitamin A Supplementation

Even though the health areas are starting to receive some donated vitamin A capsules from the MOH, these supplies are not regular. For purchases, funding has be allocated first by the health areas, and there are many competing expenses.

Positive Effects of Developing Inter-Agency Agreements

The inter-agency strategic agreements with counterpart institutions have been very important to the project, especially when they were affirmed by serious, even legal commitments by each of the signing counterpart institution and Project HOPE.

Weaknesses of Inter-Agency Agreements

Staff turnover, strikes, and lack of resources greatly affect the ability of the counterparts to fulfill commitments specified in formal agreements and letters of understanding. Despite very concerted attempts to clarify roles and responsibilities and to formalize relationships, the project staff learned that midlevel managers and local staff were not always informed about the content of the working relationship, **and** that agreements do not protect against major political changes resulting in intra-institutional reorganizations.

C. Financial Analysis

The project budget was \$1,250,110 for 36 months. The project received a lo-months no-cost extension for the Department of Totonicapán and a total of \$1,248,187 was expended. About 10.7% of the project budget was spent on headquarters backstopping expenses. The project spent more than anticipated on salaries and transport, but reduced its expenses for consultancies, procurement, and other direct costs, the latter in part due to the fact that some direct costs were shared with the MCH Matching Grant project. Because Project HOPE's indirect cost rate is a portion of salaries and benefits, the project's indirect costs increased.

PROJECT BUDGET

<u>Category</u>	<u>Planned Exoenditures (DIP)</u>	<u>Actual Expenditures</u>
Personnel	\$ 473,059	\$ 533,949
Travel	144,923	158,416
Consultants	44,860	24,369
Procurement	212,426	137,317
Other Direct Costs	<u>114,660</u>	<u>55,743</u>
Total Direct Costs	989,928	909,794
Indirect Costs	<u>260,182</u>	<u>338,393</u>
GRAND TOTAL	1,250,110	1,248,187

D. Lessons-Learned

The following lessons were learned while implementing this project:

- Training/education activities need to be based on clear objectives and have to address certain identified needs. Families that participated in such targeted education activities promoted the project activities and increased their level of awareness about the importance of vitamin A. These families assumed ownership of their own development process in the community; they learned about food conservation and preparation; and now some of them are selling prepared products in the market.
- In projects, such as this one, where staff of other agencies and community volunteers are actually the ones implementing the project interventions at the community level, it is important to implement a good monitoring and supervision system. Unfortunately, three years is a very short time frame, given that each of the counterpart agencies is implementing many different activities, and that there may not be sufficient time to provide follow-up to the activities promoted by this project. However, Project HOPE is confident that its integrated and multi-sectoral approach was the right one, even if activities often proceeded more slowly, and that it has had an impact on the sustainability of the activities in the target area.
- Interinstitutional coordination, which provides assistance to other agencies, maximizes interest and learning. One potential barrier that was not observed was institutional territoriality and jealousy.
- Organizing staff from different sectors around a common objective has more impact than working only with one sector. This again **confirms** that health and development are best addressed in a multi-sectorial fashion.
- The inclusion of the sector “education” with pupils, teachers, and parents increases basic knowledge about health, nutrition, and home gardens, and increases the likelihood of behavior change at the household level.

- Not all involved agencies/individuals responded in the same way to the sale of vegetable seeds. However, overall the sale of seeds was very successful in that more gardens were cultivated and that they were cared for better. Paternalism is an obstacle to development. It should be eliminated with education and by raising community consciousness to foster community ownership of development.
- Rotating funds to sustain project activities were an idea that was well accepted, particularly in Totonicapán. In a previous CS project, the TBA peer supervisors had received a stipend for their activities. In this project they were persuaded that it was more important for them to organize themselves into self-managing groups. At the end of the project, they only received some support for their meetings, and their stipends had been eliminated. With assistance from the Social Investment Fund (FIS) and in coordination with the MOH, a “Cooperative of Trained TBAs” was established to manage a supply store and become involved in the self-management of development projects.
- The involvement of women was a key to the success of this project. The project transformed the more passive role of home-makers by having them actively participate in food production activities, improving their knowledge about food consumption, and showing them how to reduce the monotony in the family diet. This change in the role of women is positive for overall social networking.
- The project developed sustainability models for the community level and assisted communities in adopting these, for example, the sale of excess produce to purchase new vegetable seeds; the identification of seed distributors that sell at fair prices; purchase of seeds in larger quantities to reduce their price; education in food preparation; and technical assistance in developing family and community vegetable gardens. These actions have resulted in less expenses for produce; a better quality of the produce consumed; and the adoption of new foods rich in vitamin A that before had not been consumed.
- Agreements with counterpart agencies or community volunteers have to be formalized with agreements, letters of understanding, or other more formal processes which clearly define their roles and responsibilities. The project noted that outputs improved when these steps were taken.
- Nutrition education and vegetable gardens combined reduced the risk of vitamin A deficiency in the target population. As the families start using their knowledge, they are changing dietary habits and include more foods that are rich in vitamin A in their diet.

LESSONS-LEARNED THAT ARE IMPORTANT FOR PROJECT HOPE’S NEW CS PROJECT IN THE BOCA COSTA

a. Institutional Strengthening. Whenever Project HOPE is playing the role of facilitating and strengthening the work of counterpart institutions, formal agreements or letters of understanding have to be developed with each counterpart agency to clearly define roles and responsibilities. This increases the likelihood of a better participation of the counterpart institution in the project

activities during the project and an increased level of ownership in the long run, thus promoting long-term sustainability.

The new CS project in the Boca Costa of Region VI will involve the MOH offices of five departments, the national Coffee Growers' Association (ANACAFE), the Guatemalan Social Security Institute (IGSS), and other NGOs of the region. Project HOPE will play a coordinating and facilitating role, bringing these agencies together around a common goal of improving maternal and child health.

b. Interrated Information System. Establishing, developing, or providing assistance to health information systems of counterpart agencies and communities is extremely difficult, because agencies currently have vertical information systems that have been developed at the central level, and that do not take into account work that is implemented at the community level. These systems are also not equipped to provide feedback to the communities about their involvement. In this project, HOPE spent a lot of time in developing an information system that can capture information about all project components; is integrated and horizontal (rather than vertical); that can be used by other agencies involved in similar activities; can facilitate decision-making processes; and produces information that can be shared with donors and communities. The developed information system has the potential of integrating the information of many different agencies, and may be useful in developing an HIS for the Boca Costa project, integrating counterpart agency and community information.

c. Community Participation. Behavior change at the community level is facilitated best by community promoters and leaders that have been well-trained and that do not only motivate and help their groups, but are also able to empower them to become change agents in their own development. This is a very valuable lessons-learned for the Boca Costa project where volunteers will need the support of counterpart agencies to assume this challenging role with a partially unstable (migrant) population).

d. Educational Materials. Good educational materials have to be simple and clear, and are more effective if they have been developed with community involvement, at least during the process of validation and adaptation into local dialects, and with pictures that take into account local dress and customs. These types of materials promote better learning in the mothers. The use of materials developed and validated by other organizations in the target areas reduces project costs. In the new project, HOPE plans to also review existing child survival materials and materials that have been developed in the areas of origin of the migrant populations.

e. Use of other National and International Funds to Strengthen Specific Project Components.

- Project HOPE added a component to the vitamin A project that emphasized the overall food security of the family by developing a pilot project of integrated farms. In this small project, funded by PROSAF (Food Security project supported by the Netherlands), vegetable gardens were integrated with the raising of chicken and the consumption and sale of their eggs. Leftover vegetables were fed to the chickens who provided manure to use as an organic fertilizer.

- The Social Investment Fund (FIS) supported the organization of TBAs, assisting with setting up a store where TBAs can purchase their supplies. This project is also increasing TBA participation in other development activities.
- With support from IEF, the project conducted a quality assurance study to assess whether the participatory education methodologies of the promoters were effective in transmitting knowledge to the families they were educating.

These additional resources have allowed the project to explore different strategies and assess weaknesses to strengthen lessons-learned and sustainability.

VI. SIJSTATNABILITY

1. Community Participation

Project HOPE developed a work approach that used a multidisciplinary team of professionals in each of the three departments. Each of the professionals worked with his/her respective counterpart agency and staff (i.e., MOH, DIGESA, MOE, and NGOs). The primary responsibility of the team members was to train counterpart staff to have them promote and implement the project activities at the community level.

The final evaluation noted that promoters, agricultural extensionists, TBAs, and women's groups strongly identified with the project and demonstrated a good knowledge about the project interventions. There was a very strong participation of women who organized themselves around the gardening, nutrition education, and food preparation activities. These women, who before were mainly housewives, were now contributing to food production and began to prepare foods in new ways that reduced the monotony of the local diet.

Communities differed in their ways of organizing themselves to establish vegetable gardens. Some preferred individual and others community gardens. Most of the gardens are still for family consumption, and only some of the participants have become interested in commercial production.

When promoters started to offer the communities seeds for sale, the number of gardens actually continued to increase above the number of gardens that were established with donated seeds. In addition to increasing coverage, this strengthened the potential for sustainability.

The TBAs have organized themselves in the target areas of all three departments. During the field visits, the evaluation team was able to observe that some TBAs actually sell the vitamin A capsule to their post-partum clients with the objective of replenishing their stock. They do not expect the MOH to provide a reliable source of vitamin A, but they would like to provide this service to their clients for the long-term. This initiative should receive some follow-up by the MOH.

The evaluation team was able to visit a number of family and community gardens, as well as some integrated model farms that are managed by former extensionists of DIGESA. The latter focus on the production, use, and sale of vegetables and seeds in their district and will make these available at a lower cost. Those involved were trained in the importance of vitamin A, nutrition, and vegetable gardens at the model integrated farm that was developed by the project and DIGESA, with PROSAF funding. It integrates vegetable gardens with the raising of chickens and rabbits. Other similar farms, for example in San Marcos, have added the production of vegetable seeds. These and other models would benefit from the support of local NGOs and other agencies to continue to support their development and the strengthening of community-based models of sustainability.

2. Community Education and Promotion

Community education activities, based on participatory methodologies, were observed during the field visits. The promoters communicated mainly in the local dialect. However, some meetings took a long time which was taxing the concentration of the participants. Key messages were not repeated often enough to maximize the retention of the participants. Education sessions may be more effective if they are shorter and more frequent.

The project developed education materials in coordination with **INCAP**, DIGESA, Pro-Vita A, IEF, Helen Keller, and **Manoff** International. In addition, it **used** materials from other organizations including Peace Corps, Adult Education, MOH, Coogat, and **Cooperación Alemana para Guatemala**. To promote vitamin A, the project developed radio stories and short announcements about the importance of vitamin A in Quiche and Spanish. Other promotional items included calendars, recipe books, posters, brochures, and a vitamin A newsletter. For the training sessions, flip charts, brochures, recipe books, posters, cards, **and** videos were developed to illustrate the importance of good nutrition and vitamin A and vegetable gardens. These materials were of good quality, but the cost of some was high. The evaluation team also noted that HOPE provided individual packets of these materials to the health facilities, DIGESA, MOE, and the promoters. Some individuals expressed the need for more materials to improve training events. No materials were developed for community members which was one of the weaknesses the project was not able to overcome.

One of the strengths was that the project used many of the existing and already validated materials and in some cases developed complementary materials. The radio messages were also very important, and the San Marcos departmental radio has offered to continue emitting the messages, if they can have access to the materials in the two languages.

3. NGO Participation

The project coordinated with eight **NGOs** in Totonicapan, four in San Marcos, and five in Quetzaltenango. Most of the NGO staff were trained in the importance of good nutrition, the role of vitamin A, and in the development of vegetable gardens. These staff continue to replicate the project activities within their overall programs of health and agriculture. In two of the departments, **NGOs** continue to work with those that provide seeds (San Marcos: Caritas Diosenana; Totonicapan: Cedro). They help promoters acquire seeds for sale in their

communities. In Quetzaltenango, promoters and extensionists of DIGESA purchase seeds in the local market and sell them in their communities.

4. Capabilities **and** Limitations of the Counterpart Agencies to Sustain the Activities

Despite some of the problems with the counterpart institutions mentioned earlier on, many of the technical counterpart staff at the regional and departmental level know the project well and have participated in the project activities. Many of the activities are already included in the Annual Operational Plans (POAs), and districts and municipalities have been involved in the implementation. To date the health areas have not worked with mayors, syndicates, and auxiliary mayors, but have focused mainly on their own staff and local NGOs. As a result, municipal offices do not have any budgetary commitment to the project activities.

The participation of the staff from the MOH, DIGESA, and the MOE has been very positive in almost all cases, even though many of these staff face serious constraints in their institutions to provide the necessary follow-up to the activities at the community level. However, taking into account the focus of the MOH to decentralize and current negotiations with UNICEF to provide supplements to young children, the MOH will be in an excellent position to continue the community-based activities of the project because they can count on well-trained staff.

DIGESA has entered a period of organizational restructuring. However, the focus is also on a better projection at the community level and on promoting community development in agriculture. The training the DIGESA staff have received by the project in the importance of good nutrition and the role of micro-nutrients should be a continuing theme in their work now and in the future.

The MOE is interested to include school vegetable gardens as a regular school activity. The 20 model schools in each department did not only receive training, but education materials and gardening tools which should motivate them to continue their vegetable gardens. The children, in turn, will serve as educators and change agents to their families.

The evaluation team observed that if the process of staff reductions in the ministries continues, many individuals will be seeking employment with the private sector (i.e., NGOs). Therefore, the extent to which the project was able to mobilize the communities themselves is crucial for the long-term sustainability of the activities, because it is difficult to completely depend on the capacity of the public sector.

Table 8. SUSTAINABILITY PLAN AND ACCOMPLISHMENTS

OBJECTIVE	STRATEGY	STEPS TAKEN	RESULTS
<p>Develop policies that will assist in jointly supervising the nutrition activities with the Health Areas of the Departments of San Marcos, Quetzaltenango, and Tonicapán</p>	<p>Formation of a Regional Inter-Institutional Committee on Nutrition, involving the MOH, DIGESA, Project HOPE, representatives of the local university, NGOs, and the communities to formulate nutrition policies for the region and supervise the implementation of nutrition related activities, including activities in vitamin A.</p>	<p>The Regional Office of the MOH was eliminated. Therefore, the following activities were implemented at the department/health area level:</p> <p>Tonicapán:</p> <ul style="list-style-type: none"> - Involvement of DIGESA, the Health Area, CDRO, FEDECON, Catholic Church, CARE and HOPE in the development of an inter-institutional Committee on Food Security; - Approval of this Committee by the Health Area Council; - Development of a workplan. <p>San Marcos:</p> <ul style="list-style-type: none"> - TBAs were involved in health and nutrition committees coordinated by the Health Area nurses; - Development and management of rotating seed funds, with support from counterpart agencies. <p>Quetzaltenango:</p> <ul style="list-style-type: none"> - Development of district nutrition committees with involvement of the district nurses, TBAs, and health promoters. 	<ul style="list-style-type: none"> - One food security committee functioning in the Health Area of Tonicapin. The Committee meets monthly, has developed a workplan, and is looking for funding for its activities. - 14 TBA committees meet on a monthly basis with the district nurses which provide follow-up and management support. - 3 functioning district committees in Coatepeque, Palestina, and San Carlos Sija which meet monthly with the district nurses; - A plan to promote better family nutrition has been developed.

OBJECTIVE	STRATEGY	STEPS TAKEN	RESULTS
<p>Strengthen the counterpart staff in the three departments as trainers-of-trainers in the importance of vitamin A and vegetable gardens.</p>	<ul style="list-style-type: none"> - Train 90% of the MOH staff in the role and supplementation of vitamin A, as well as in the supervision of community volunteers; - Train 90% of DIGESA staff in the role of vitamin A, vegetable gardens, and pest control. 	<ul style="list-style-type: none"> - 289 MOH counterpart staff trained; - 262 DIGESA counterpart staff trained. 	<ul style="list-style-type: none"> - 32 health centers and 88 health posts supplementing children with vitamin A during ongoing activities and vaccination campaigns; - Health areas beginning to budget for vitamin A in their annual budgets; - 40% of DIGESA technicians are supervising community leaders and volunteers; - 10 DIGESA home educators are teaching mothers' groups in the preparation, demonstration, and conservation of foods.
<p>Strengthen the technical skills and organizational capacity of TBAs.</p>	<ul style="list-style-type: none"> - Train 100% of TBAs in target area. - Train 90 TBAs in organizational development and in maternal and child health, with an emphasis on vitamin A. 	<ul style="list-style-type: none"> - 1,250 TBAs trained in nutrition, vitamin A, and gardens. - 90 TBAs trained in organizational development, with the involvement of MOH district staff. 	<ul style="list-style-type: none"> - 40% of TBAs are supervised in their communities at least once per year by the district nurse, and they receive vitamin A capsules every three months at the health center/post; - TBA cooperative functioning; - Supply store, managed by TBAs, provides basic supplies at low cost.

OBJECTIVE	STRATEGY	STEPS TAKEN	RESULTS
<p>Promote the development of family gardens in the target area to change food production and consumption patterns in the target population.</p>	<ul style="list-style-type: none"> - Training of 80% of promoters in nutrition, vitamin A, and vegetable gardens; - Development of model gardens with promoters, leaders, and model schools; - Education of community groups by promoters in nutrition, vitamin A, and vegetable gardens. 	<ul style="list-style-type: none"> - 1,058 promoters trained in nutrition, vitamin A, and vegetable gardens; - 9,111 families trained in the development of gardens; - 20 school gardens developed in each department; - Health education and food preparation taught to target families. 	<ul style="list-style-type: none"> - Families with gardens purchase their seeds and consume most of their produce; - 53% of families have had a garden for more than one year; - 120 promoters are selling vegetable seeds in their communities at a reasonable cost and with a small mark-up as a personal income; - Food consumption patterns improved.
<p>Improve family food security in the target area, with an emphasis on producing vegetables that are good sources of vitamin A.</p>	<ul style="list-style-type: none"> - Establish 60 integrated pilot family farms (chicken and/or rabbits with vegetables) in five communities of Quetzaltenango. 	<ul style="list-style-type: none"> - 60 families have benefitted from training and chicken and vegetable baskets to develop integrated approaches. 	<ul style="list-style-type: none"> - 66% of families are consuming and selling eggs, meat and vegetables; - 17% have developed model integrated farms that serve as focal points for the education of other families and communities; - Three additional model farms were developed in Tonicapin and two in San Marcos to produce vegetables, seeds, eggs, and pigs.

ADDITIONAL COMMENTS TO THE SUSTAINABILITY PLAN

As can be seen in the DIP, the project had planned to promote the development of a regional committee for the development of food security policies and the implementation of the vitamin A activities. It was impossible to make much progress in this direction in the first year, since the government only supported a very general regional development council. Therefore, in 1994, the project decided to focus more on the department level. In San Marcos, a departmental council was developed with the participation of the MOH, DIGESA, and eight NGOs. Then the government decided to decentralize, and the project began to work with district level groups in San Marcos and Quetzaltenango. In these groups, promoters, TBAs, and the district nurses work together on the nutrition activities. Even though the project could have worked with the Nutrition Committee in the Departmental Development Council, these committees proceeded very slowly, and nutrition activity were of a very low priority to the MOH.

Work in Totonicapan proceeded differently. Under a MCH Matching grant with USAID, Project HOPE had successfully promoted the establishment of the Totonicapan Health Area Council whose members include the MOH and NGOs working in MCH. For the Health Area Council, nutrition was a priority intervention, and it was, therefore, very supportive of creating a Nutrition Committee that would take leadership in promoting nutrition interventions at the department level. Even though the process was not very rapid, this Committee does have the support of the Health Area Council which sets policies at the department level.

It should be pointed out that finally in 1997, supplementation of children with vitamin A has become a priority of the MOH which is now providing some supplements to the health facilities. In addition, the decentralization process gives the health areas authority over their own budgets and purchases.

In most of the health centers in the target area, district nurses continue to provide follow-up and supervision to the TBAs. They strengthen those TBA groups that are more organized and are making efforts to purchase vitamin A (e.g., in Totonicapan and San Marcos). There is particular interest in pursuing this issue in Totonicapan where Project HOPE has worked on TBA organization since a CS-VII project. Increasingly, the involved TBAs are becoming more capable in self-management and are realizing that they can also have a development function in their communities which goes beyond good quality services to individual clients. The cooperative and supply store funded with monies from the FIS has demonstrated to these TBAs some of the opportunities they have in shaping their destiny.

With respect to sustainable vegetable gardens, it now appears that with the restructuring of the MOA, DIGESA, its extension arm, may eventually disappear. Nonetheless, sustainability lies less in this institution than in the knowledge that the communities have acquired through DIGESA, HOPE, and NGO extensionists and home educators in the production, storage, preparation, and conservation of foods. The promoters with their model gardens and their sale of seeds are key for the sustainability of family gardens. Additionally, mothers have learned about the importance of having vegetable gardens to enrich the family diet and to be able to sell excess produce. It is very likely that families that have had gardens in the past two or more seasons will continue with this activities in the future.

Another important aspect of the project was the effort to integrate nutrition, vitamin A, and vegetable gardens which resulted in the model integrated farms. This activity in Quetzaltenango with 60 beneficiary families has contributed to additional lessons-learned regarding sustainability.

VII. CONCLUSIONS AND RECOMMENDATIONS

- The project **used a** multidisciplinary team approach and integrated lessons-learned from past projects. For example, the project acted mainly as a facilitator rather than an implementor of project activities to increase local ownership and sustainability.
- The evaluation took place in all three departments. Even though the project had ended 10 months earlier in San Marcos and Quetzaltenango, the activities were still being carried out by the communities and counterpart institutions, which increases the likelihood of some long-term sustainability.
- At the time of the evaluation, Project HOPE had reduced its staff size. Material resources will be transferred to the new CS project.
- The budget was used appropriately, with the changes pointed out in a previous section
- Participatory education methodologies are more effective with volunteers, mothers' groups, and other community members. However, the length of the sessions should be reduced and their frequency increased.
- The project responded to most of the recommendations of the midterm evaluation. Many of the DIP objectives were achieved. There are good reasons for not achieving some of the objectives. The shift of the project to developing sustainable approaches at the community level was very appropriate. The external evaluator and the evaluation team were happy with the progress the project had made.
- The MOH has benefited from training for staff, promoters, **and TBAs**, and from the fact that the project reached communities that are far removed from the district capitals. In addition, the MOH has benefitted from donations of vehicles, motorcycles, educational materials, **and** vitamin A capsules, and local authorities expressed great satisfaction with these contributions.
- Among the most impressive implementation sites visited by the evaluation team were the community-based minimal child health units, developed under the HOPE-USAID Matching Grant. The vitamin A project involved these units to develop model gardens and provide seeds for sale. Also impressive were the integrated farms, e.g., particularly one in Paramac that integrates the production of medicinal plants, vegetable gardens, pasture, sheep, goats, cows, and chickens.
- Important are also the efforts made by the project to increase the access to high-quality, **low-cost vegetable seeds** at the community level.

- The San Marcos radio station “La Voz de la Buena Nueva” offered its equipment and team at no cost to provide bilingual health education messages. This resource can be used after the project has ended to continue to provide coverage and impact in this department. The use of the radio as a mass education tool was an integral component of this project.
- The project once again demonstrated the importance of the community volunteers for promoting health at the community level and demonstrated that their involvement is crucial to reach a large target population.
- There have been some benefits to fortifying sugar with vitamin A in Guatemala. However, one weakness is that this sugar does not reach all communities, and that supplementation and improvements in food consumption remains important.
- Even though this project emphasized vitamin A, efforts were made to go beyond this micronutrient and improve overall nutrition **and** family food security.
- The MOH health services are now including vitamin A supplements in their vaccination campaigns.
- National policy makers should look at the importance of family vegetable gardens to address vitamin A deficiency and other nutrition problems. Variety in vegetable consumption should be emphasized, depending on climactic conditions and production capabilities during times of no or limited precipitation.
- The participation of women and other gender aspects were evident during the final evaluation, and much progress had been made since the midterm evaluation. The evaluator recommends to compile and document this experience, not in the form of a report, but in terms of how staff have lived with this project. The donor should learn about the project activities in the field, and lessons-learned should be transferred to future activities of other agencies and authorities at the national level.
- When activities are transferred to counterpart institutions, compromises and flexible, creative strategies have to be developed, given high staff turnover in the public sector.
- Future projects should hire more staff that are fluent in the local dialects. They should also focus on centers with many people, for example schools, where children can transmit their new knowledge to their families and peers.
- The Health Area Council of Tonicapán should be replicated in other health areas. Its importance and functions should be increased. This Council should assume a leadership role and have a vision for the development of the department. Sectorial jealousies need to be put aside because they interfere with such a departmental vision for integrated development.

The external evaluator recommended at USAID/Guatemala that donors should strengthen these types of projects that have knowledge and experience of working at the community level, and that the donors should take advantage of trained community members trained by Project HOPE. Specifically, the community-based minimal child health units should continue to be supported and be increased in number. The costs of maintaining these units is minimal compared to maintaining MOH health facilities, but the impact for the communities is significant.

- Projects must continue to promote self-management in their strategies to promote sustainability, and assure the success of their objectives,

APPENDIX A

EVALUATION TEAM

Appendix A

Evaluation Team

NAME ORGANIZATION	RESPONSIBILITY	TITLE
Dr. Roberto Kestler SOPOSAL. Sociedad para la Salud	External Evaluator	M.D. M.P H
Dr. Bettina Schwethelm HOPE Center	Headquarters Representative MCH Program Director	Ph.D. M.P H
Dr. Victor Calderon HOPE Guatemala	Country Director, Coordination and Support	M.D. M.P.H.
Dr. Edmundo Dominguez HOPE Guatemala	Health Coordinator	M.D.
Ing. Rolando Estrada HOPE Guatemala	Agricultural Coordinator	Ingeniero Agronomo
T.S.R. René Caraballo Area de Salud de Totonicapan	Health Team	T.S. Rural
P.Ag. Julio Say DIGESA, Totonicapan	Agricultural Team	Perito Agronomo
E.P. Patricia Siguenza Profesional	Grupo de Salud Area de Salud San Marcos	E n f e r m e r a
P.Ag. Romeo Salazar DIGESA, Quetzaltenango	Grupo Agricola	Perito Agronomo

APPENDIX B

SCHEDULE OF FIELD VISITS

PROGRAMA VISITAS DE CAMPO
DEPARTAMENTO QUETZALTENANGO

EVALUACION FINAL
PROGRAMA NUTRICION VIT.A HOPE/GUATEMALA

HORA DE SALIDA 7:30

FECHA	HORA INICIO	MUNICIPIO	COMUNIDAD Y/O INSTITUCION	TIPO ACTIVIDAD	BENEFICIARIOS	RESPONSABLE HOPE	GRUPO #	VEHICULO
18/6/97	9:00	Coarcpcque	Centro de salud	RCplica Nutrición Vir. A Reunión personal de salud.	CATS	Dr. Edmundo Domínguez María del Rosario	II	hlisubishi
	10:30	Colomba	Centro de Salud Escuela	Suplementación Vit. A niños. Réplica Vit. A Dramatización	Niños Pre-escolares Escolares	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	11:30	Colomba	Mercedes P/S	Demostración y preparación alimentos. Plática Vit. A p/s Huertos familiares	Ainas de casa	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	12:30	Quetzaltenango	Cabecra	Almuczo	-----	Mania del Rosario Dr. Edmundo Douninguez	II	Mitsubishi
	14:00	Quetzaltenango	CARE	Reunión Sub-Gsrnk MCH	-----	Dr. Edmundo Dorminguez María del Rosnrio	II	hlirsubishi
	15:00	Quetzaltenango	Educación Extra Escolar	Reunión director	-----	Dr. Edmundo Domínguez María del Rosario	II	Mitsubishi
	16:00	Quetzaltenango	DIGESEPE	Granja integral	-----	María dal Rosario Dr. Edmundo Dorminguez	II	hlirsubishi

Grupo II Énfasis Salud

PROGRAMA VISITAS DE CAMPO
DEPARTAMENTO TOTONICAPAN

EVALUACION FINAL
PROGRAMA NUTRICION VIT.A HOPE/GUATEMALA

HORA DE SALIDA 7:30

FECHA	HORA INICIO	MUNICIPIO	COMUNIDAD Y/O INSTITUCION	TIPO ACTIVIDAD	BENEFICIARIOS	RESPONSABLE COORDINACION	GRUPO #	VEHICULO
19/6/97	9:00	Momostenango	Pueblo Viejo	Huertos Camunales. Demostración alimentos (Educador CARE)	ACCAS Care Madres	María del Rosario Ing. Estrada	I	Toyota
	11:00	Momostenango	Nicajá	Huerto modelo Venta de semilla Demostración de alimentos CARE	Niños Grupo de madres	María Del Rosario Ing. Estrada	I	Toyota
	12:30	Momostenango	Pologuá	Almuerzo	-----	María del Rosario Ing. Estrada	I	Toyota
	14:00	San Fco. El Alto	Chivarreto	Visita a huertos familiares	Grupo de madres	María del Rosario Ing. Estrada	I	Toyota
	15:30	San Fco. El Alto	Chimaldonado	Granja Integral AFEDOG	Agricultores AFEDOG	Santiago Chay	I	Toyota
	16:00	Regreso a oficina	Quetzaltenango.					

PROGRAMA VISITAS DE CAMPO
DEPARTAMENTO TOTONICAPAN

EVALUACION FINAL
PROGRAMA NUTRICION VIT.A HOPE/GUATEMALA

HORA DE SALIDA 7:30

FECH.4	HORA INICIO	MUNICIPIO	COMUNIDAD Y/O INSTITUCION	TIPO ACTIVIDAD	BENEFICIARIOS	RESPONSABLE COORDINACION	GRUPO #	VEHICULO
19/6/97	9:00	Momostenango	Paxmaramac	RCplica de Vit. A Intercambio de experiencia (dia de Campo) Granja integral Venta de semilla. Demostración y Preparación de alimentos.	Agricultores Amas de casa	Santiago Chay	II	Moto Mitsubishi
	10:30	Momostenango	Pueblo Viejo	Réplica Vit. A p/s	Comunidad, madres	Santiago Chay	II	Mitsubishi
	11:30	Momostenango	Pologuá	RCplica Vit. A Pls CATS	Grupo madres embarazadas lactantes.	Santiago Chay .	II	htitsubishi
	1230	hlomostenango	Pologuá	Almuerzo	.....	Santiago Chay • Ingeniero Estrada	II	hltsubishi
	14:30	San Fco. El Alto	Chivarreto	Suplementación Vit.A p/s	Niños	Santiago Chay	II	Mitsubishi
	15:30	Totonicapán Cabecera	Educación Extra Escolar	Reunión Director	_____ . _____	Ing. Estrada	II	Mitsubishi
	16:30	Regreso a ohcina	Quetzaltenango.					

PROGRAMA VISITAS DE CAMPO
DEPARTAMENTO TOTONICAPAN

EVALUACION FINAL
PROGRAMA NUTRICION VIT.A HOPE/GUATEMALA

HORA DE SALIDA 7:30

FECHA	HORA INICIO	MUNICIPIO	COMUNIDAD Y/O INSTITUCION	TIPO ACTIVIDAD	BENEFICIARIOS	RESPONSABLE HOPE	GRUPO #	VEHICULO
20/6/97	9:00	Santa María Chiquimula	Pachún Choaquisis	Reunión Maestros Promotor Rural de Salud Visita Huertos escolares.	Niños escolarrs	Benedict0 Huinac Ing. Estrada	I	Toyota
	10:30	Santa María Chiquimula	Paxotajá	Huertos familiares Huertos Escolares	Madres Niños	Benedicto Huinac Ing. Estrada	I	Toyota
	11:30	Santa María Chiquimula	Cabecera	Huerto hodelo Centro de salud	Madres Beneficiarios CARE	Benedicto Huinac Ing. Estrada	I	Toyota
	12:30	Santa María Chiquimula	Csbecera	Almuerzo	.....	Benedict0 Huinac Ing. Estrada	I	Toyota
	14:00	Totonicapan	Cebecera	Reunión DIGESA Director	.....	Ing. Estrada	I	Toyota
	15:00	Totonicapan	Cabecera	Reunión FEDECON Vicepresidenta	.....	Santiago Chay Ing. Estrada	I	Toyota
	16:00	Totonicapan	Cabccera	Reunión CDRO Antonio Aguilar	.....	Ing. Estrada Santiago Chay	I	Toyota
	17:00	Regreso a oficina	Quetzaltenango.					

Grupo I Enfoque Agrícola.

PROGRAMA VISITAS DE CAMPO
DEPARTAMENTO TOTONICAPAN

EVALUACION FINAL
PROGRAMA NUTRICION VIT.A HOPE/GUATEMALA

HORA DE SALIDA 7:30

FECHA	HORA INICIO	MUNICIPIO	COMUNIDAD Y/O INSTITUCION	TIPO ACTIVIDAD	BENEFICIARIOS	RESPONSABLE COORDINACION	GRUPO #	VEHICULO
20/6/97	9:00	Santa María Chiquimula	Rancho P/S	Suplementación Vitamina A	Niños Entrevistas	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	10:30	Santa María Chiquimula	Xesaná	Replica Vit.A Demostración y preparación alimentos Salón Comunal	Grupo de madres	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	11:30	Santa María Chiquimula	Chimejfa Xesaná	Suplementación de Vit. A niños por promotor ONG y CAT	Niños	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	12:30	Totonicapán	Cabcccra	Almuerzo	-----	María del Rosario Dr. Edmundo Domínguez	II	Mitsubishi
	14:00	Totonicapán	Centro de Salud	Reunión Personal c/salud Técnica Comadrona	Comadronas	Dr. Edmundo Domínguez María del Rosario	II	Mitsubishi
	15:30	Totonicapán	Jefatura de Área	Reunión jefe de Área	-----	María del Rosario Dr. Edmundo Domínguez Dr. Víctor Calderón	II	Mitsubishi

ALTERNATIVA: Educación Extra Escolar 16:30 hrs. Coord. Enriquez De León

17 horas: Regreso a Quetzaltenango

Grupo II Enfoque Salud