

CSSP



**REDUCING VITAMIN A DEFICIENCY IN WESTERN GUATEMALA
AN EXTENSION AND REPLICATION PROJECT IN THREE
DEPARTMENTS
QUETZALTENANGO, SAN MARCOS AND TOTONICAPAN**

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

September 1993 - August 1996

MID-TERM EVALUATION

**The People-To-People Health Foundation, Inc.
(Project HOPE)
Millwood, Virginia 22646**



May 1995

**Renee Charleston, External Consultant, Team Leader
Peter Jensen, Consultant, Agriculture
Judiann McNulty, HOPE Headquarter's Representative**

TABLE OF CONTENTS

	<u>Page</u>
1. ACCOMPLISHMENTS	1
2. EFFECTIVENESS,	4
3. RELEVANCE TO DEVELOPMENT	5
4. DESIGN AND IMPLEMENTATION	6
4.1 DESIGN	6
4.2 MANAGEMENT AND USE OF DATA	6
4.3 COMMUNITY EDUCATION AND SOCIAL PROMOTION	7
4.4 HUMAN RESOURCES FOR CHILD SURVIVAL	8
4.5 SUPPLIES AND MATERIALS FOR LOCAL STAFF	11
4.6 QUALITY	11
4.7 SUPERVISION AND MONITORING	12
4.8 REGIONAL AND HEADQUARTERS SUPPORT	12
4.9 PVO'S USE OF TECHNICAL SUPPORT	13
4.10 ASSESSMENT OF COUNTERPART RELATIONSHIP	13
4.11 REFERRAL RELATIONSHIP	15
4.12 PVO/NGO NETWORKING	15
4.13 BUDGET MANAGEMENT	16
5. SUSTAINABILITY	17
6. RECOMMENDATIONS	20
7. SUMMARY	24

ANNEXES

- A. HUMAN RESOURCES
- B. **INFORMATION** SYSTEM
- C. EDUCATIONAL MATERIALS
- D. COMMUNITIES WHERE PROJECT IS BEING IMPLEMENTED
- E. BUDGET PIPELINE
- F. EVALUATION METHODOLOGY AND RESULTS
- G. BIBLIOGRAPHY
- H. **KPC** SURVEY

1. ACCOMPLISHMENTS

Project HOPE received financing from **USAID** under cooperative agreement FAO-0284-A-00-3037-00 for the implementation of a Child Survival program focusing on Vitamin A deficiency in Western Guatemala for 36 months, September 1993 to August 1996. At the time of the Mid Term Evaluation (MTE) the project had been operating for 18 months. Main project strategies include; education in nutrition, Vitamin A and gardens, and distribution of Vitamin A capsules and vegetables seeds.

The most important inputs, outputs and outcomes are summarized on the following pages. Information was obtained from a KPC (Knowledge, Practices and Coverage) survey of 711 families completed in April of 1995, information obtained during the MTE May 1 S-26, 1995, and the Health Information System from HOPE and major counterparts: DIGESA (Ministry of Agriculture Extension Service) and the Ministry of Health (MOH). The KPC report is included in Annex H.

In general, the project objectives are being met, where measurement is possible. One of the main weaknesses of the project is the lack of a functioning information system, which greatly limits the ability to measure project accomplishments. A survey was completed by HOPE staff immediately prior to the MTE. Results from the survey were used in the formulation of this report, but in some cases the validity is questionable.

The estimated beneficiary population from the Detailed Implementation Plan (DIP) is 301,611 with a predominate Mayan Indian population (58-85%) and a high level of illiteracy (60-75%). The target population is located in 32 high risk municipalities in the three western departments of Guatemala of San Marcos, Quetzaltenango, and Totonicapan. There are approximately 1300 communities in the target area, the project is currently working in less than 300 communities. The original coverage rate for training outlined in the DIP was 50% of communities in the target area, this was decreased during the first year¹ to 40%. This represents 520 communities to be trained by the end of the project.

The principal project strategy outlined in the DIP is for HOPE to serve as a trainer for counterpart staff; DIGESA and the MOH. With this strategy, the proposed coverage could theoretically be achieved by the end of the project. Unfortunately, observations during the MTE show that HOPE is the primary trainer for communities and volunteers, with little utilization of counterpart staff or volunteers for a multiplier effect.

General observations as to project accomplishments and comparison with DIP projections can be drawn from the following table. Some objectives however warrant additional comments.

¹ Year One Annual Report (Sept. 93 to Aug. 94)

Objective 2

The information presented in a report² written by HOPE staff for the MTE shows 36% of children six months to six years as receiving two doses of Vitamin A during 1994. A problem exists however in the analysis of MOH data. 77,625 doses of “A” were distributed during the first campaign in July and 46,884 doses during the second campaign of the year in November. The project utilizes an averaging technique, adding the two totals together and dividing by two--the resulting figure is used as the number of children receiving two doses, which is then compared with the total child population. The problem with this type of calculation is that it is impossible to determine if the same child received two doses or two different children received one dose each. The percentage of coverage through calculation (36%) is contradicted by the results of the KPC survey of 23%.

Objective 3

The survey found 20% of women interviewed had received a Vitamin “A” capsule after the birth of her last child. This meets the goal of 10% the first year but the data is somewhat questionable as 145 out of 711 women said that they had received “A” after their last birth. Only 347 of the 711 women surveyed had children under two years of age, the approximate time the project has been distributing “A”. The question would be better formulated within the timeframe of “during the last year (or two)” to avoid confounding with activities of other child survival projects previously implemented in the same areas. The final evaluation of CS-VII in Totonicapan found that 28% of women received “A” after the birth of their last child.

Objective 6 and 8

Due to the lack of an Health Information System (HIS) these objectives are not measurable in a systematic fashion. DIGESA does collect information on family gardens but this information is not available in all communities.

Objective 7

During MTE focus group discussions, 46% of the groups of women could identify six sources of “A”. The main confounding factor in the interpretation of these data is that HOPE has not clearly established what foods are rich sources of “A”. Educational materials developed by the project provide erroneous information and so errors made by women are many times the results of the communities being taught incorrect information. This problem is discussed more fully in Section 4.3.

² **Avances** en el **Periodo** de Septiembre 1994 a **Abril** 1995, Calderon.

Objective 9

According to the mid-term survey, 78% of pre-school children are consuming equal to or more than the amount of Vitamin A recommended for their age. It must be remembered that only families actively participating in the project were interviewed, but that level of consumption is impressive. Some clarity is lost in comparing the objective to the analysis, because the analysis shows actual consumption based on nutrient content rather than just number of times per week.

Nutrition Objectives

Objective 1

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

Baseline is defined as the Baseline Survey for CS-VII, in June 1992, which found that 50% of women breast-fed exclusively for the first three months of the baby's life. (n=48) A ten percent increase would establish a goal of 60% of women exclusively breastfeeding. Results from the **KPC** survey show 92% of women exclusively breastfeeding for the first six months (n=63). It appears that the definition of "exclusive breastfeeding" is not clear to project staff. "Exclusive" normally refers to only breastmilk, excluding water and all other liquids and food. In the survey three categories were used; exclusive breastfeeding, mixed feeding (breast and artificial milk), and no breastfeeding. This categorization would not distinguish women who were breastfeeding plus giving liquids and/or food. According to interviews held during the MTE, 35% of mothers thought that foods or liquids should be introduced before six months, 26% of **CHWs** (Community Health Workers) and 50% of **TBA**s (Traditional Birth Attendants) shared this opinion. It is suggested that a format similar to the one used as baseline for this objective (Baseline CS-VII) be used in the final evaluation of this project where the mother is asked if the target child is fed?. with list of items including water, juice, etc.

Objectives 2 and 3

Promote the use of appropriate weaning foods that are both high density and rich in Vitamin A and other micro-nutrients.

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.

Little emphasis was observed during the MTE on education concerning weaning foods and these objectives have no measurable indicators for evaluation. However, the information concerning foods consumed by children and pregnant and lactating women collected in the recent survey shows that they are consuming good to excellent sources of Vitamin A frequently.

2. EFFECTIVENESS

During the first Annual Report, Project HOPE decreased the percentage of planned coverage by the end of the project for two objectives: 5d) the number of communities to be trained in nutrition and Vitamin A, from 50% to 40%; and 8) the percentage of families in these communities who are producing Vitamin A rich herbs or vegetables from 40% to 30%. This decrease, particularly in number of communities trained, reflects a more realistic indicator for the efforts of this project.

Targeted high-risk groups are effectively being reached (children under six and pregnant and lactating women). A targeted very high risk group is children with measles. According to information from the project and interviews during the MTE, there have been no reported cases of measles during the 18 months of the project. This shows a possible effective coverage rate of measles vaccination, which points out an important problem in measuring impact of this project. According to national statistics, vaccination coverage rates are low in the project area, but medical personnel feel that this can be attributed to faulty denominator values.

The last functional census in Guatemala was in 1981 with annual extrapolations of expected growth in the country which do not take into account migration. A national census was held in 1994 but was felt to be incomplete and the data have not been analyzed nor released to the public. Medical personnel feel that the population figures currently being used do not reflect the actual population, thus accounting for low coverage rate even though effective disease prevention levels appear to have been reached. As the same population figures are used in the measurement of advances of this project, care needs to be taken in the interpretation of percentages.

A summary of accomplishments of the project at the time of the MTE compared with anticipated targets was presented on pages 2, 3 and 4. The project has successfully met the majority of training objectives for the first year and exceeded many. Of concern is the measurability of many objectives and definition of some terms. If some adjustments are made in the project, as outlined in the recommendations section of this report, it is probable that the project can meet its stated objectives by the end of the funding period.

3. RELEVANCETODEVELOPMENT

The project has developed a decentralized methodology which includes the formation of multi-disciplinary teams in each department. These teams work together with counterpart agencies to increase coverage utilizing strategies inherent to the cultural and educational characteristics of each department. HOPE has a good reputation in the communities and through strategies of community outreach has been able to reach a great number of communities with limited personnel.

A particularly strong strategy of the project is the coordination with existing community workers, health promoters (CHW) and DIGESA guides or representatives (**GA/RA**). These community members are trained by either the MOH or DIGESA, many have years of experience and provide a stable contact with the communities. **CHWs** work as volunteers and **GA/RAs** receives a stipend from DIGESA. **TBAs** have been another extremely effective way of reaching the target population with Child Survival activities. According to interviews during the MTE, 23% of **TBAs** have worked for 20 years or more, 5% for over 40 years. 26% of **CHWs** have worked for 10 or more years.

The HOPE project has created a demand for Vitamin A supplementation and seeds for gardens which has provided an additional motive for participation in MOH vaccination programs, DIGESA activities and use of **TBAs' services**.³ This additive effect, while not sustainable in the long term, does facilitate the formation of positive habits in seeking health services.

HOPE is supporting the formation of groups at the community level and the subsequent development of leaders through the transmission of health messages and practice in working with groups. One of the weaknesses observed during the MTE was a lack of coordination with elected, and other natural, community leaders. As HOPE has proposed to “empower” communities according to the DIP, the community as a unit and political entity needs to be strengthened.

Currently community leaders are informed as to HOPE activities at the beginning of work in each community, but in most cases participation ends there. There were examples given by project staff and observed by the MTE team, of communities where leaders were trained by HOPE and also where the community was sufficiently organized to go on to execute other projects. These seemed to be the exception rather than a project strategy. In order to insure sustainability of project activities, a better developed strategy for involving all community members and leaders in project management is needed.

³ According to the 1994 Annual Project Report

4. DESIGN AND IMPLEMENTATION

4.1 DESIGN

No significant changes were made in project design. Strategies have been refined based on experience during the first 18 months of implementation.

4.2 MANAGEMENT AND USE OF DATA

The Health Information System (HIS) of the HOPE project is one of the major weaknesses identified during the MTE. The system is currently operating on a very limited manual basis while HOPE and counterparts are revising the system. Technical assistance has been received from **INCAP** (Institute of Nutrition for Central America and Panama), but due to staff shortages within that organization, the assistance has been limited. The MIS specialist for HOPE estimates that the system can be finished in two months, but given the human resources available and the work that has been completed to date, **this** is doubtful.

The project utilized as the Baseline the CS-VI final survey, completed with technical assistance from VITAL in 1993, "The Impact of Home Gardening on Dietary Risk of Inadequate Vitamin A Intake in Guatemala". A second survey was undertaken in April 1995 with KPC and consumption information. Unfortunately the completed analysis from this survey was not available at the time of the MTE. In conjunction with **INCAP** a food availability and consumption survey was completed during October of 1994. The results of that survey have not yet been completely analyzed.

A review of the HIS was included as part of the MTE. The proposed revised HIS will include input from one principal form to be utilized by **HOPE/DIGESA/MOH** staff (Form "**Informe Estadística Mensual**" included in Annex B). The DIP presented a Data Collection schedule (Appendix F of DIP) utilizing "Activity Reports". These reports have not been developed, except for the form previously mentioned which has not been implemented. Information is collected in a narrative format but is of limited use as a monitoring tool. The system does not include any collection of community volunteer activities which greatly limits the project's ability to measure replication of educational activities at the community level. No feedback loop is projected at this time to operational nor community levels, which would enhance decision making by counterpart and HOPE staff and serve as a strategy for empowering communities.

Revisions to the system contemplate including trimester, semester and annual reports but to date these have not been clearly defined. HOPE staff currently utilize biweekly and monthly reporting and planning tools but these are not included in the HIS. **Gustavo** Castro, HIS Analyst, is 1/2 time with the Vitamin A project, he is currently being shared with another **USAID** funded MCH project.

4.3 COMMUNITY EDUCATION AND SOCIAL PROMOTION

Service delivery in this project is limited to the administration of Vitamin A capsules to post-partum women and to children six months to six years of age. This constitutes one of three components of the project, the other two being education in home gardening, and nutrition education. Community education is provided through meetings with mothers' groups, lessons presented at health centers, some activities in the schools, and utilizing local radio. The activities are conducted by **HOPE/DIGESA/MOH** personnel and community volunteers.

A strong presence of HOPE personnel was observed throughout the MTE. This directly contradicts the stated strategy of training counterpart and community staff to provide education and distribute Vitamin A, resulting in a duplication of effort and loss of the multiplier effect outlined in the project proposal.

The participative methodologies used are effective in transmitting the educational messages. Effectiveness would be greatly enhanced if more educational activities were presented in the department of Totonicapan, in **the native** language, Quiche. The radio messages are transmitted in both Spanish and Quiche.

There is basically no focus in the project on teaching community volunteers how to teach. Counterparts received some "Training for Trainers" education although the result of this training was not always evident in field observations. HOPE staff members are cognizant of adult learning principles and have adopted a variety of appropriate participatory activities into the training of counterparts and in educational messages at the community level. This is one of the most evident strengths of the project, although these methods are not passed on to the community volunteers. Counterpart personnel and community volunteers are given a post-test after training sessions to evaluate the level of learning which occurred.

The educational materials developed by the project, particularly the flip charts, are adequate but the cost prohibits the distribution to all educators. This is particularly true for the community volunteers, perhaps those most in need of educational materials. During MTE interviews the most frequent request for support from HOPE from all groups was the provision of educational materials.

It appears that educational messages were based on information obtained from KPC surveys of the previous CS projects. No evidence was seen that focus groups, in-depth interviews nor pilot testing were used in developing educational materials. HOPE has adapted previously field tested materials which take into consideration the cultural differences of the population and has acquired materials from the Helen Keller International, the International Eye Foundation, and Peace Corps.

Some glaring errors exist in the educational materials and messages, particularly in sources of Vitamin A. The main threefold pamphlet used by the project should be reviewed looking at adequacy of recommended sources of "A" and clarity of graphics. The project needs to identify several clear educational messages on the importance of "A" and focus less on clinical symptoms. Teaching semi-illiterate **TBA**s to identify Bitot's Spots is just one example of not focusing on

appropriate “action” messages. A sample of educational materials which should be reviewed and revised are included in Annex C.

A strong emphasis on hands-on learning was evident, particularly in educational activities for gardening. It was observed that all participants had an opportunity to be involved in either actual gardening activities or a group learning experience. These activities were well balanced with a more formal lecture style used to impart information.

A very popular educational activity is food preparation and distribution of recipes. This was most frequently mentioned as the favorite activity in educational sessions and the majority of women interviewed during the MTE stated that they had prepared at home some of the recipes learned in these sessions. A recipe book has been prepared by DIGESA and HOPE staff and distributed to DIGESA and MOH staff in selected areas. Care needs to be taken in the utilization of this book, particularly in the recipes for baby foods. Recipes are included which recommend the use of honey in the preparation of baby foods. Due to the potential problem with botulism poisoning with babies under one year of age these recipes should be removed from the book. There are also some recipes which include the addition of excessive sugar, which is not recommended for weaning foods. Recipes should be selected based on the local availability of ingredients, cost, time of preparation and equipment required.

4.4 HUMAN RESOURCES FOR CHILD SURVIVAL

The HOPE Vitamin A project consists of the following staff Program Director, 3 Supervisors, 4 Nutrition/Health Educators, 3 Home Educators, 7 Agricultural Educators/Specialists, 1 Training Specialist, 1/2 time Administrator, 1/2 time Computer Analyst, 1 Driver, and 1 Secretary. An organizational chart is included in Annex A as well as a list of current staff.

The HOPE staff forms three multi-disciplinary teams, one for each department, coordinating with counterpart staff to provide direct services, education and follow-up of project activities. The current number and type of human resources within the project appears to be sufficient for meeting project objectives.

The main change in personnel since the DIP has been the addition of three supervisors. One is a physician responsible for supervising health activities in the three departments. The other is an agronomist provided by ITCA through an inter-institutional agreement. A third supervisor will be provided by DIGESA, according to an agreement between DIGESA and HOPE. The Program Director indicated that the person has been identified and should be in place within the next few weeks.

These supervisors will serve to strengthen a project weakness of lack of follow-up of project activities. A supervision form has been developed but has not yet been implemented. A copy of the form is included in Annex B.

In general, project staff is well qualified with the exception of language abilities. A large segment of the target population lacks fluency in Spanish, particularly the women, yet HOPE

employs no Quiche-speaking health or home educators. Two agronomists on the team do speak the local language. No language training has been provided to staff.

Thirteen HOPE staff received a two day course on Participative Education presented by the MOE (Ministry of Education) in March of 1994. A workshop on Integrated Pest Management was held for HOPE staff (13) in April 1994. Staff also attended several courses on development of educational materials and evaluation methodologies.

COMMUNITY VOLUNTEERS:

HOPE utilizes a wide array of volunteers at the community level. **TBAs** are one of the strengths of the program. HOPE previously worked with these groups during prior Child Survival projects and they are responsible for education at the community level as well as distribution of Vitamin A capsules to post par-tum women. There are an estimated 1,250 **TBAs** working in the project area, and 1,071 **CHWs**. The **CHWs** and group leaders provide education in both nutrition and gardening. The RA/GA (DIGESA community extensionists) focus mainly on education and technical assistance in gardening.

The workload of the volunteers varies as some are health promoters, previously trained by the MOH or other **NGOs**, and provide complete health services in their communities; control of **diarrheal** and respiratory diseases, vaccinations, curative medicine and education. Other volunteers are newly recruited by the project and only work on specific Vitamin A activities. The project does not collect information on turnover rates of community volunteers but during the MTE; 85 **CHWs** and 87 **TBAs** were interviewed. The evaluation team found that 28% of the **TBAs** had worked for more than 20 years, and 26% of **CHWs** for more than 10 years.

A summary of training of counterpart staff and volunteers is included in the following table. Training curriculums are included in Annex C.

Type/# Dates	Training Topics	Topic Hours	Training Method for Topic
<u>MOH Personnel</u> Quetzaltenango (14) San Marcos (29) Totonicapan (63) Total (106) 9/93 to 8/94 Total (86) 9/94 to 5/95	-Participative learning skills -Vitamin A -Nutrition -Gardens	Two hours for each topic (4)	Brainstorming Slides Photos of clinical symptoms Practice-use of vaccine card Nutrition game Flipchart Practice-garden
<u>DIGESA Personnel</u> Quetzaltenango (61) San Marcos (103) Totonicapan (56) Total (220) 9/93 to 8/94 Total (25) 9/94 to 4/95	-Participative learning skills -Vitamin A -Nutrition -Gardens	Two hours for each topic (4)	Brainstorming Slides Photos of clinical symptoms Practice-use of vaccine card Nutrition game Flipchart Practice-garden
<u>TBAs</u> Quetzaltenango (192) San Marcos (157) Totonicapan (169) Total (518) 9/93 to 8/94	-Role of TBA -Nutrition for pregnant/lactating women -Vitamin A -Gardens	Two hours for each topic (4)	Sharing of experiences Analysis of malnourished child Nutrition Game Practice-forms and Vit A distribution Flipchart
<u>CHWs</u> Quetzaltenango (23 7) San Marcos (188) Totonicapan (100) Total (525) 9/93 to 8/94 Total (174) 9/94 to 5/95	-Nutrition -Vitamin A -Gardens	Two hours for each topic (3)	Sharing of experiences Nutrition Game Flipchart Pictures to generate discussion Demonstration
<u>MOH Nurses</u> Total (175) 9/94 to 5/95	-Nutrition -Vitamin A -Garden	Two hours per topic (3)	Slides Photos of clinical symptoms Nutrition game Flipchart Practice-garden
<u>MOE Education Supervisors</u> Total (86) 9/94 to 5/95	-Nutrition -Vitamin A -Garden	Two hours per topic (3)	Slides Photos of clinical symptoms Nutrition game Flipchart Practice-garden

4.5 SUPPLIES AND MATERIALS FOR LOCAL STAFF

HOPE staff are provided with raincoats and educational materials needed for fulfilling their job requirements. Male staff are provided with motorcycles and helmets. Few staff were observed to be utilizing their helmets.

Volunteers are provided with:

TBAs Vitamin A and reporting forms for distribution of A (Example included in Annex B).

CHWs Seeds, sporadic donations of medicines, thermometers, etc.

RA/GAs currently receive a stipend from DIGESA but due to financial constraints, this is scheduled to end soon

All groups expressed concern during the MTE that educational materials had not been provided. The project was in the process of beginning to distribute flip charts to health centers and small corresponding cards to health promoters. Due to the cost of duplication of materials, health posts and other volunteers will not receive these materials.

The materials received by the health centers are: Vitamin A, forms for recording vaccines and Vitamin A supplementation, vaccine cards for children which include Vitamin A, and educational materials. During the MTE seven Health Centers were visited and 86% reported having a current stock of Vitamin A, forms and cards. One center reported that, in the past, problems had occurred in receiving Vitamin A in a timely manner. One center reported a lack of vaccine cards and report forms. The main problem reported by project staff was in bureaucratic delays in Customs which limited the project's ability to provide capsules of "A" to health centers as scheduled.

4.6 QUALITY

The level of abilities of both project and counterpart staff and volunteers varies widely. As pointed out in section 4.3, incorrect information is being promoted. This adversely affects the quality of health messages and confounds evaluation of mothers' levels of knowledge. The KPC survey conducted for the MTE, which unfortunately included the erroneous answers, showed that 76.8% of the mothers scored 10 or more out of 19 possible points on knowledge of sources, importance, and risk factors. Qualitative interviews with project participants by the evaluation team showed that in approximately 46% of the groups interviewed women could identify six sources of Vitamin A, but **many** also identified erroneous sources.

The high level of correct responses shows that educational methodologies are effective and women report that they are putting into practice what they have learned.

Counterpart staff showed a mixed level of understanding of the importance of Vitamin A and sources as taught by the project. In interviews with MOH staff 100% of groups could mention at least one reason why Vitamin A was important, compared to 71% of DIGESA staff. 71% of MOH staff could name six sources of "A" but only 14% of the DIGESA groups could. 86% of MOH groups stated that foods should be introduced at six months of age for infants and only

29% of DIGESA groups shared that opinion. This points out a need to reinforce knowledge levels of health and nutrition of **DIGESA's** staff.

The project's main strategy is the replication of educational messages by counterparts and volunteers. HOPE's staff displayed a good level of competency in delivering health messages but little evidence was seen that volunteers had been taught adequate educational methodologies. Almost all educational sessions observed by the MTE team were presented by HOPE staff. This observation is contradicted however by the findings in the qualitative surveys conducted during the MTE. During the MTE interviews of mothers, 36% reported receiving education concerning nutrition from counterpart staff and 69% concerning gardens. Additional evaluation results are summarized in Annex F.

4.7 SUPERVISION AND MONITORING

Due to the lack of a computerized HIS the project's ability to monitor project activities is severely limited. Information from the MOH concerning Vitamin A supplementation is received but through informal channels rather than through a formally established system. The actual number of gardens established is monitored by DIGESA but not included in the HIS. The lack of a system for monitoring project activities restricts the effectiveness of targeting supervisory activities.

With the recent addition of three supervisors, two of which are currently on staff, the project has identified supervision as a major weakness and is making efforts to correct the situation.

The MOH expressed serious doubts as to their ability to supervise volunteers in the field due to lack of transportation to outlying areas. In most areas it was observed that health centers were meeting regularly (once per month) with **TBAs** and **CHWs**. No records were kept by project staff as to the percentage of volunteers attending these meetings making it difficult to determine the number of volunteers receiving supervision from the MOH or DIGESA.

A form for supervisory visits has been developed and in the future is proposed for use by HOPE, DIGESA and the MOH. The instrument has not yet been field tested but the project plans to begin use of this form in the near future in order to improve supervision of all community volunteers. A copy of the form is included in Annex B.

4.8 REGIONAL AND HEADQUARTERS SUPPORT

HOPE's national staff expressed satisfaction with the quality and quantity of administrative and technical support which they receive from HOPE Center. Some limitations were observed in local budget control due to lack of sufficient communication concerning headquarters spending but this does not appear to be a major constraint. HOPE's Maternal Child Health Director, Bettina Schwethelm, visited the project twice during 1994.

4.9 PVO'S USE OF TECHNICAL SUPPORT

Technical assistance received by the HOPE during the first half of the project includes that from VITAL and **INCAP**. The most extensive formal agreement is with **INCAP** which includes assistance with project evaluation, evaluating knowledge levels of volunteers, development of educational materials, and the Health Information System. Due to cutbacks within **INCAP**, particularly in personnel, **INCAP** has been unable to fulfill the established schedule of technical support. During the remaining **18** months of the project a prioritization is planned, in coordination between the two organizations.

One barrier to revising the **HIS** has been a dependency on technical support from **INCAP**. During the next six months the most urgent need is for assistance in completing the revision of the **HIS**. This assistance should be sought from sources other than **INCAP** to insure timely completion. An adequate amount to cover technical support is included in the project budget.

4.10 ASSESSMENT OF COUNTERPART RELATIONSHIP

The two main counterpart agencies working with HOPE on the Vitamin A project are DIGESA and the Ministry of Health. The relationship with the MOH was established a number of years ago during other Child Survival projects. Coordination with DIGESA is more recent and therefore less mature. The project also has close relationships with various other organizations; ICTAL, DIGESEPE, Peace Corps, and **INCAP**. Most agreements have been formalized through written "Letters of Understanding".

DIGESA, ICTAL and DIGESEPE have all agreed to second a staff member to HOPE. In the case of DIGESEPE it is a half time position, the other two agreed to provide a full time person. At the time of the MTE, DIGESEPE and ICTAL had fulfilled their agreement. ICTAL has seconded a technical specialist who will become a technical supervisor with HOPE while under the employ of ICTAL. This individual will provide excellent technical assistance in the area of garden establishment and in efforts to create a sustainable market for garden seeds and plants. The resulting institutional relationship will be a valuable asset to the project during its final year and a half.

DIGESEPE has established **an** integrated model farm utilizing chicken and rabbit manure in the cultivation of gardens raising Vitamin A rich vegetables which will serve as a good tool for the transmission of technology in the small animal component of the project. Animal enclosures and gardens will be constructed using the same methods and materials as those found in local villages making transfer of technology more feasible. The HOPE-DIGESA-ICTAL-DIGESEPE relationship is very positive as the more governmental agencies involved, the greater the likelihood that institution building will take place.

HOPE has a good working relationship with the chief counterpart agencies, as well as other secondary agencies. Interviews were held during the MTE with representatives from DIGESA (in all three departments), the MOH (in San Marcos at the departmental level plus seven Health Centers and Posts in the three departments), and DIGESEPE. The consensus of all coordinating

agencies was very positive towards HOPE and all gave examples of coordination efforts and ways in which HOPE was seeking to improve relations. Communication was judged to be adequate, but in the case of DIGESA, could be improved according to DIGESA staff. Some inconsistencies were noted during the MTE in term of establishing joint policies between HOPE and DIGESA, particularly concerning the distribution of seeds.

HOPE coordinates well with the MOH and all project activities are in line with national policies. Many MOH staff have been trained in Vitamin A activities by HOPE staff and report that they are replicating health messages to the beneficiary population. No reporting system exists to track educational activities. Vitamin A distribution is carried out in conjunction with MOH vaccination campaigns in most areas. A major accomplishment was the addition of a Vitamin A distribution record on the official MOH vaccine card for children and on the MOH reporting form. (Samples included in Annex B). This has only been implemented so far in the three departments where HOPE works and currently serves as a national model.

A major issue in terms of sustainability of project activities is the **MOH's** inability to supervise and provide follow-up due to budgetary limitations for transportation. This is a chronic problem in Guatemala, and a positive step to overcome this has been taken in many areas by having monthly meetings with **CHWs** and **TBAs** at the health center. This has been particularly effective with **TBAs** who have the added incentive of submitting their reporting form of Vitamin A distribution and receiving additional capsules at each meeting.

Most of the MOH staff who were interviewed during the MTE expressed concern that the government would be unable to continue distributing Vitamin A capsules when the current project ends. They clearly saw the solution to this problem as the implementation of home gardens as a continuous source of Vitamin A. Lack of educational materials was another concern expressed by MOH staff. The project has begun distributing flip charts to the Health Centers in the project area.

Both DIGESA and the MOH have a good understanding of HOPE's objectives although there appears to be a lack of understanding as to the role of one another. DIGESA focuses mainly on the agricultural aspect, without mentioning the role of the MOH in health education and services and the MOH focused on Vitamin A without a clear idea of **DIGESA's** role in providing technical assistance in gardening.

The project is developing a relationship with the Ministry of Education (MOE). This effort could potentially yield a very positive impact. Eighty-six MOE supervisors have received training from HOPE and 60 schools will begin working with the project (20 per department). There is a great deal of enthusiasm on the part of the MOE at all levels. The basic educational messages of the project are appropriate for inclusion into the official school curriculum, and school gardens are seen as a positive activity. Visits were made during the MTE to several schools, and MOE officials. This appears to be an excellent strategy for expanding the project during the remaining grant period. The "**Educacion** Extra-escolar" program has assisted the project by translating educational messages from Spanish to Quiche and broadcasting them during a daily radio program.

4.11 REFERRAL RELATIONSHIP

The project offers three main opportunities for referrals;

1. Vaccine services at established MOH centers
2. High risk pregnancies and obstetrical emergencies to MOH hospitals and centers
3. Technical assistance for agricultural problems, especially pest control

The first two points are well established as part of the ongoing relationship with the MOH. **CHWs** and **TBAs** are motivated to maintain close contact with local centers through project activities and report a strong commitment to refer community members for vaccines and in cases of high risk pregnancy. As these important human resources are from the communities, their level of credibility is very high. Whereas not all community members are convinced, a high level of acceptance was reported.

The third point requires additional strengthening as there exists a lack of coordination at the local level between health volunteers (**CHWs** and **TBAs**) with DIGESA guides and representatives (**GA/RAs**), and the health volunteers interviewed did not identify DIGESA as a potential source of technical assistance for gardening.

4.12 PVO/NGO NETWORKING

HOPE is a member of ASINDES, a local NGO network with 52 members based in Guatemala City. A limitation of coordination exists for HOPE because their office is not located in Guatemala City but in Quetzaltenango, a major urban center located about three hours by road from the capital. Most other **NGOs** have their offices in the capital city. This decreases easy access but has not appeared to impede a close working relationship with both national and international **NGOs**.

One of HOPE's strengths has been in the mobilization of resource sharing with other **NGOs** in Guatemala, particularly those working in Child Survival and Vitamin A projects. Educational materials have been developed with a consortium of **NGOs** and a great deal of information and technical assistance comes from very dynamic relations with International Eye Foundation (IEF) and **INCAP**.

The Vitamin A project also has developed good contacts with the University of San Carlos and Peace Corps, both of which have placed a student/volunteer to work with the project for 1 or 2 years.

HOPE has been active in the organization of a departmental development committee. The original plan was for the formation of a regional nutrition committee but due to recent changes in the political focus of Guatemala, it was decided that committees would be more appropriate on a departmental level. Whereas efforts have failed to get the committee formally off the ground, the efforts at organization have allowed HOPE to identify other **NGOs** working in the three departments. These contacts have permitted a close coordination in order to avoid duplication of efforts.

4.13 BUDGET MANAGEMENT

A budget pipeline analysis is included in Appendix E. Review of the budget and expenditures through June 30, 1995 shows excellent fiscal management of the program. All expenses, with the exception of one, are at or below target for this date. The one exception is for the indirect cost of headquarters, which was adjusted after the original budget for this project was written. Because expenses in other categories are low, compensation will be possible. It is expected that all funds remaining will be utilized by the end of the project.

5. SUSTAINABILITY

The HOPE Vitamin A project has sought to identify strategies which will lead to sustainable activities after funding terminates. Both main counterpart agencies are well aware of the need for developing innovative programming which decreases dependency on outside funding. Unfortunately, these concepts are difficult and many times untried. The project continues to struggle with these issues.

Of the project activities; 1) education in health and nutrition, 2) gardens 3) Vitamin A supplementation, the most likely to be sustainable is the gardening component. The Vitamin A supplementation will probably not be prioritized by the Guatemalan government except for the continuation of Vitamin A fortification of sugar. MOH officials clearly see the production of Vitamin A rich vegetables as the future activity for decreasing "A" deficiency. Educational activities will be partly sustained by both DIGESA and the MOH, as well as community volunteers, but it appears that the strongest motivation for continuation is in family gardens.

One of the pivotal points of sustainability is the availability of seeds on a continuous basis. It was observed in the field to be one of the main areas of conflict. According to the Sustainability Plan developed by HOPE and DIGESA for the department of Quetzaltenango, seed distribution centers would be developed and rotating funds established to be managed by health promoters (CHW), Agricultural Representatives (RA), or community leaders. In one community the Health Center was given the responsibility, creating animosity with the CHWs. The CHWs told the evaluation team that they had been told by HOPE that seeds would be donated to them and were later told by HOPE that the policy had changed. This is just one example of the conflicts arising from lack of a clear consistent policy as to how seeds will be managed as part of an integrated sustainability strategy.

There also appears to be a difference between HOPE's policy of seed distribution and DIGESA's policy, again creating confusion and the potential for diminishing HOPE's credibility. The knowledge which has been acquired by communities and counterparts as to the importance of gardens and Vitamin A will provide motivation to continue planting gardens, even when the seeds must be purchased. The results of the food availability and consumption study (HOPE/INCAP October 1994) showed that 64% of families in Totonicapan were already purchasing seeds.

The use of donated seeds in home vegetable gardens is good for the first time garden. Thought should be given to seed viability as many donated seeds have passed their expiration date. This can be overcome by teaching people how to conduct simple germination tests. If the germination percentage is lower than expected, this can be compensated for by overseeding. For the first time gardener, success is essential. Plan for success by using good, viable seed. In future years when donated seeds are no longer available, other sources will have to be utilized. HOPE and ICTAL are currently working on solutions to this problem by providing seeds at a lower cost for community people to either plant or resell at a slight markup.

As the region around Quetzaltenango is known for its vegetable production, local seed sources are available. Steps should be taken now to create opportunities for people to purchase these locally available seeds. Seeds are expensive, but compared to the cost of ill-health from a diet deficient in vegetables, or the cost of vegetables in the market, the seed cost becomes more reasonable.

Many of the seeds being donated are hybrid varieties, which is fine except when it comes to efforts to produce seeds from these plants. The seed of a hybrid plant will not come back true to its parent, but rather will resemble one of the parents of the original hybrid. Regardless, seed saving is time-consuming and difficult. For sustainability, the seed supply should be purchased, especially if hybrid seeds are used in the future.

The actual horticultural methods being taught to community groups and individuals, regardless of who does the teaching, are also critical for sustainability. The use of organic amendments such as manure, wood ash, lime, vegetable waste, etc., to build soil fertility without the need for costly chemical fertilizer was being promoted and should be continued and strengthened. Composting to convert raw waste into an organic soil conditioner was observed during the MTE at several locations. The use of locally available, natural materials, to control insects and diseases was also being taught. Using garlic and hot pepper extracts, soap solutions, and lime/sulfur solutions are all low cost, available methods to control pests and some diseases. These activities have a good potential for being sustainable due to their low cost and local availability, as well as effectiveness.

A continuing issue is that HOPE field staff is working directly with community groups and individuals, a strategy which will not lead to long-term adoption of project goals and objectives. HOPE field staff are doing an excellent job of transferring ideas and methods, but it should be HOPE working with DIGESA and the MOH so that local people will be the ones transferring technology.

The sustainability plan presented in the DIP is analyzed on the following page.

SUSTAINABILITY GOALS, OBJECTIVES, MID-TERM MEASURES AND STEPS TAKEN/NEEDED

GOAL	END OF PROJECT OBJECTIVES	STEPS TAKEN TO DATE	MID-TERM MEASURE	STEPS NEEDED
Formation of Regional Inter-Institutional Committee	Committee formed and meeting quarterly Number of organizations	Decision to not form Regional Committee, but Departmental Committee	Contacts with organizations to form Committee in Totonicapan	Formation of Departmental Committees
Project staff will act as Trainers-of-trainers, not direct implementors	% MOH facilities that provide "A", supervise CHWs & TBAs 2XNr % DIGESA staff supervise promoters 2XNr & teach community foodpreplgardens	MOH and DIGESA staff trained, Vitamin A and seeds provided	MOH facilities provide supplements DIGESA staff provides education, no data on supervision	Development of HIS and supervisory system that allows monitoring of activities
CHWs, GA/RAs, TBAs , Leaders who promote development of home gardens, production of vegetables, and supplement with "A".	# leaders CHWs w/ model garden # leaders CHWs trained community in production of "A" vegetables # TBAs supplement women	518 TBAs trained 41% 699 CHWs trained 65% TBAs provided with "A" and report form Seeds provided	TBAs reporting Vitamin A supplement activities	Improve HIS to allow collection of information on activities at community level, include MOH data on TBA activities
Communities are changing food production and consumption practices	% families w/ garden % children "A" source 2Xlwk # communities purchase/sell seeds for income	283 communities trained Seeds provided with training to communities	KPC study completed	Finish KPC analysis Develop ways to measure indicators

6. RECOMMENDATIONS

EDUCATION

1. Continue coordinating activities with MOE, mass media organizations and other NGOs, for example; La Voz de la Buena Nueva, Education Extra-Escolar, NUFED, and other schools. They have valuable human resources, teachers, organized groups, and promoters, who should be trained in nutrition and gardens in order to further disseminate project activities,
2. In order to stimulate continued interest, the radio messages should be re-recorded in a new format, the same format has been in use for some time. Recipes and information about gardens, pest control, etc., should be included in the radio messages.
3. HOPE should re-analyze its original strategy for training presented in the DIP and change current methodologies to assure that more direct community training is carried out by counterparts and community volunteers. Teach community volunteers how to teach and provide them with educational materials so they truly become disseminators of educational messages.
4. Although educational methodologies are generally good, they can be improved by using techniques of “Teaching without Letters”, working with smaller groups, focusing on a few points so that training sessions are not too long, use other educational methods such as role playing, give the participants more opportunity to ask questions, and utilize more creative ways to evaluate understanding.
6. HOPE should identify clear, simple educational messages, especially in teaching about the importance of Vitamin A. All educational materials and curriculum should be reviewed for correctness and clarity and modified as necessary.
7. Educational materials and messages should be tailored to the geographical area. This has been well done in the highlands, but also needs to be modified for the coastal lowlands,
8. The Educational Module developed by HOPE should be used as an in-house document only and should not be distributed due to lack of proper documentation and violation of copyright laws.

HEALTH

1. A problem exists in dosification of children under 1 year of age with Vitamin A. In some areas the entire 200,000 IU capsule is being given. HOPE should buy capsules of 50,000 IU for use with young children.
2. **TBA**s should begin charging for Vitamin A capsules once they have received adequate training. HOPE should discuss this with the MOH in order to have a consistent policy which leads to a sustainable activity.

3. **TBA**s should be supplied with opaque containers in which to store the Vitamin A capsules.
4. The potential problem of receiving too much Vitamin A needs to be addressed by the project. The feeling that “more is better” is very strong in the communities and HOPE needs to focus education on the dangers of receiving capsules more frequently than every six months. A stronger recommendation needs to be made to the mothers to keep their vaccine cards and not re-issue them at each distribution.
5. The project should keep in mind that Vitamin A is only effective within the larger context of good nutrition, it is not a panacea which will solve all problems and assure healthy people. More focus is needed on what is good nutrition in order to keep Vitamin A supplementation in perspective.

GARDENS

1. Implement gardens utilizing techniques of staggered planting so that produce is available for a longer period of time. The MTE found that the three favorite vegetables of the groups interviewed were carrots, beets and radishes, This type of information should be included into decisions concerning seed availability and educational messages so that the needs and interests of the families and climactic zone are taken into consideration.
2. A written policy should be developed by HOPE and DIGESA covering the donation and sale of seeds which includes equal treatment in all areas, fixed pricing policy, and strategies to use seeds as a means of motivating community volunteers.
3. Instead of teaching canning as a food preservation method, HOPE should promote food drying as a more practical and useful activity. A workshop should be held to teach HOPE, DIGESA and MOH personnel appropriate solar food dehydration techniques utilizing locally available materials. Dehydration is much safer and less expensive than canning fruits and vegetables.
4. Training is necessary before rotating seed funds are established. The person in charge of selling seeds should be able to provide basic technical assistance along with the sale of the seed. Training on how to manage a rotating fund is urgently needed.
5. Continue the emphasis on organic horticultural methods, especially with regard to soil fertility and pest control.
6. The use of compost and animal manure is excellent but should be seen mainly as a soil conditioner and not the sole source of fertilizer for the garden. Other sources of organic fertilizers should be investigated such as; wood ash, dried blood, bone meal and lime.
7. Rather than concentrating on seed saving as a source of seeds in the future, effort should be made to **identify** other markets where local seeds could be purchased. This is not to deny the acceptability of seed saving attempts on a small scale. It is a very viable technology, however it is difficult to promote as the sole source of future garden seed.

8. Develop a simple easy-to-read pamphlet with illustrations on how to establish a home vegetable garden. This should include planting instruction, seeding depth and rates, fertility needs, harvest periods, and storage needs for the principal crops of each region. These pamphlets should be appropriate for use at the community level and with a sufficient number of copies made so that community workers have copies available.

9. Investigate a simple method whereby a gardener could determine the approximate fertility needs of his/her particular soil. Soil testing could possibly be coordinated through DIGESA.

10. Continue coordination with DIGESEPE in their efforts to develop integrated model farms. Structures and methods should be as identical as possible to those available in the communities. This will serve as a good demonstration of the viability of small animal production and use of their manure for sustainable production.

11. Food preparation demonstrations should only use foods which are actually available in the area, with supplies commonly found in most homes, and all recipes should be easy to prepare in a short period of time.

PROJECT MANAGEMENT

1. The most urgent task of the project is to implement a computerized Health Information System with feedback to communities, staff and counterparts in order to facilitate evaluation and decision making at all levels. The project needs to review all project indicators and determine specifically how each will be collected. Counterparts and communities should be involved in the ongoing monitoring of the project through use of the HIS to modify activities as problems are identified.

2. HOPE should contract a specialist in HIS to work with staff, counterparts and communities in identifying their needs for information and with the HIS specialist to implement the system as soon as possible.

3. HOPE should serve as a catalyst for bringing together DIGESA and the MOH both at the community level with volunteers, and at the staff level in order to improve technical, assistance and insure sustainability by creating a more collaborative relationship between the two agencies. This could be structured by planning sessions with the three agencies on an annual and monthly basis in order to program activities according to community needs and the availability of resources of each organization.

4. The supervision and follow-up of project activities is deficient. The first step should be to **define** what these two concepts are and the objectives of each. All communities should be analyzed as to their needs for supervision and through inter-institutional coordination, define who is responsible for follow-up in each community. A supervision/monitoring workshop would be a good format to use in establishing roles and responsibilities.

5. Community leaders should be more involved in planning, implementation, monitoring and evaluation of the project so that communities assume ownership of project activities in the future

to insure sustainability.

6. HOPE should formulate a policy on community selection which includes level of interest on the part of the community. This could be expanded to include actions to be taken if a community fails to meet project expectations in order to prioritize where the project should work to maximize their impact.

7. A valuable human resource is being under-utilized in the project, drivers should be trained in all project activities and be given specific responsibilities for working with the communities.

7. SUMMARY

The evaluation team consisted of five representatives from Project HOPE, two external consultants, one representative each from DIGESA and the MOE, two nurses from the MOH, a nutrition student from the University of San Carlos, and a Peace Corps volunteer working in nutrition. A complete listing of the evaluation teams, instruments used, and field activities completed, is included in Annex F. One day was utilized to develop evaluation instruments and one day at the end to analyze the information and formulate conclusions and recommendations. Focus groups, key informant and participant interviews, and observation were the methodologies utilized during field visits.

A complementary survey of 711 families was completed before the evaluation team arrived, which provided quantitative data of project accomplishments. Evaluation results will be analyzed by all Project HOPE field staff, counterparts, and community representatives during a two-day workshop in July. The principal author of the evaluation was Renee Charleston, with input from Peter Jensen, Judiann McNulty, Victor Calderon (Program Director), and the entire evaluation team. Total cost of the evaluation was approximately \$8,600.

Main project strategies include; education in nutrition, Vitamin A and gardens, and distribution of Vitamin A capsules and vegetables seeds.

Major project accomplishments include completion of training objectives, excellent inter-institutional relations and positive educational methodologies. The main limitation to reaching end of project objectives is that HOPE is providing too much direct training of communities and volunteers, limiting counterpart and community volunteers responsibility. Counterparts and volunteers have not received sufficient training in educational methodologies nor have adequate educational materials to function as truly effective educators.

The main recommendations of the evaluation were the need for strengthening the Health Information System, supervision and follow-up of project activities at all levels, and improve the clarity and correctness of educational messages.