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# INTERNATIONAL EYE FOUNDATION

## UNDERSTANDING AND STRENGTHENING THE CAPACITY OF INTERMEDIATE ORGANIZATIONS (PVOS AND NGOS) TO PROVIDE INTEGRATED COMMUNITY-BASED VITAMIN A PROGRAMS IN GUATEMALA. (E.D.I.)

***Final Report***

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ARI | Acute Respiratory Infection |
| CCF | Christian Children's Fund |
| CEA | Cost Effectiveness Analysis |
| CeSSIAM | Center for Studies of Sensory Impairment, Aging and Metabolism |
| CSSP | Child Survival Support Program, Johns Hopkins University |
| CRS | Catholic Relief Services |
| EDI | Understanding and Strengthening the Capacity of Intermediate Organizations (PVO's and NGO's) to Provide Integrated Community-Based Vitamin A Programs in Guatemala (Spanish acronym) |
| DHS | Demographic and Health Survey, Macro International |
| FFQ | Food Frequency Questionaire |
| HHCSM | Hand Held Computer Sampling Method |
| IEF | International Eye Foundation |
| IMR | Infant Mortality Rate |
| INCAP | Instituto de Nutricion de Centro America y Panama |
| KAP | Knowledge, Attitudes and Practice |
| KPC | Knowledge, Practices and Coverage |
| LACHNS | Latin American Health and Nutrition Sustainability Project |
| MOH | Ministry of Health |
| MSD | Minimum Statistical Difference |
| MSF | Medicines Sans Frontiers |
| NGO | Non-Governmental Organization (see PVO) |
| ORS | Oral Rehydration Solution |
| P.O. | Program Results |
| PVO | USAID Registered, Private Voluntary Organization |
| QA | Quality Assurance |
| QAP | Quality Assurance Project, Bethesda, Maryland |
| SLAN | Sociedad Latinoamericana de Nutrición |
| SO | Strategic Objective |
| UPVA | Unidad Pro Vitamina A |
| URC | University Research Corporation |
| USAID | United States Agency for International Development |
| VAC | Vitamin A Capsule |
| VAD | Vitamin A Defficiency |

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## I. Executive Summary

The following report is the submission for the International Eye Foundation (IEF) project, "Understanding and Strengthening the Capacity of Intermediate Organizations (Private Voluntary Organizations (PVOs) and Non-Governmental Organizations (NGOs)) to Provide Integrated Community-Based Vitamin A Programs in Guatemala." This project was funded through a Cooperative Agreement (No. HRN-5116-A-00-5010-00) from United States Agency for International Development's (USAID) Center for Population, Health and Nutrition (PHN), Office of Health and Nutrition (HN). The project was commonly referred by its Spanish acronym, EDI, Evaluación de Impacto. This report covers the entire period of the project, August 31, 1995 - September 30, 1997.

Described in this report are the positive results achieved by the IEF in five years of vitamin A (VA)/nutrition programming in Guatemala, which included a **130% increase in the number of children obtaining the RDA for VA.** The impact analysis which yielded this information is the core component of the EDI project which included analysis of quality and cost elements in addition to a dietary assessment. Also presented, is the positive collaboration of the IEF with a diverse variety of PVOs to bring together the lessons learned and recommendations of these stakeholders to understand means of strengthening PVO/NGO capacity to monitor and evaluate VA/nutrition programs. By disseminating lessons learned and acting on the requests of stakeholders for technical assistance, this project has contributed to Strategic Objective (SO) number 3 of the PHN, increasing the use of nutrition interventions through improvements to quality and local resources for VA/nutrition programs.

The first phase of the project was the completion of a 7 day food frequency questionnaire (7DFFQ) and a Knowledge, Attitudes and Practice (KAP) survey in the area of Alta Verapaz, in rural Guatemala. Through the dietary assessment the IEF was able to document a 43 percentage point increase in the number of children meeting their RDA for vitamin A. The improvement was from 34% in 1991 to 78% in 1996. In addition, the assessment also revealed that over half of the retinol consumed by the children was obtained from fortified sugar. This is taking into account the actual levels of retinyl palmitate expected based on an IEF analysis of household sugar samples. The data collected by IEF is consistent with the recent National Micronutrient Survey (Ministry of Public Health, Guatemala. 1996).

An additional, theoritical analysis was performed which showed children received 100% of their RDA when capsules were included in their dietary intake. This is specific data on the impact of vitamin A capsules (VACs) in an area of marginal deficiency and is especially useful on a policy level as Guatemala's improving VA situation has lead some organizations to reconsider VAC distribution programs.

The IEF presented the findings of the impact analysis at a stakeholders meeting of over 12 PVOs and NGOs to ascertain group needs in relation to VA/nutrition programming, especially in the area of monitoring and evaluating for impact. The diversity of the groups ranged from local NGOs to donor organizations, with international PVO/NGOs comprising the majority.

Lessons learned generated by the stakeholders included a consensus statement that the cost and expertise required to perform impact evaluations such as dietary assessments was beyond the scope of the vast majority of the PVO/NGOs present without specific funding and linkages to a research institution. The group agreed impact evaluations should be organized by donors through the use of uniform indicators. Stakeholders also agreed on two issues requiring national attention: an exit strategy for vitamin A capsule distribution and the inclusion of VA education into the primary school system.



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Taking a broader view of impact analysis, the stakeholders were enthusiastic about cost effectiveness analysis (CEA), quality assurance (QA) and qualitative research methods and how they could be applied to programs to monitor improvements and increase effectiveness and customer focus. The stakeholders adamantly agreed that manuals alone, would not function to provide the level of training necessary to perform these evaluation methodologies properly. It was recommended that training exercises be conducted in actual field settings, accompanied by a manual, to be most effective.

The enthusiasm for quality assurance exhibited during the stakeholder meeting can not be underestimated. IEF and Project HOPE, through their recent collaboration, were the only stakeholders with actual experience executing this methodology. QA is appealing to this community because it provides a simple and effective means to monitor programs. Rather than requiring intensive expertise, QA relies on the employee closest to the action: the worker that hands the VAC to the mother or child, for example. By emphasizing process, workers are empowered to make changes that lead to improvements, and are encouraged to look for ways to continually better the process. QA also provides real data on manageable, though significant, problems. Additionally, QA is oriented to the customer which is both needed by donor agencies and desired by NGOs to improve VA/nutrition programming. Interest generated for QA lead stakeholders to request training through actual field exercises.

For groups new to VA programming, whose programs were not developed to a point where cost and quality assessments would be appropriate, it was recommended that capacity building in the basic elements of VA programming be made available by IEF. Again, the consensus was that a manual alone would not satisfy their needs and that training sessions accompanied by a manual targeted to field workers was needed. It was further recommended that the manual be a consolidation of existing information and give a general introduction into the evaluation methodologies.

The IEF was able to complete the priority recommendations identified by consensus of the stakeholders. Through the IEF technical team, training was provided in basic VA programming to over ten organizations. The training took from 1 to 2 days and was specifically tailored to the needs of the PVO/NGO. The diversity of the groups ranged from local NGOs such as the Foundation for the Development of Indigenous Women, Talita Kumi, and AgroSalud, to large PVOs, such as CARE/Guatemala. In order to serve the widest possible audience, groups were asked to cost share activities with IEF. A manual to accompany the training was also developed (refer to annex VI) and delivered to all stakeholders. Given the end of the project in September 1997, additional groups requesting training and refresher courses could not be addressed.

IEF was able to provide training in CEA to CARE/Guatemala and the Instituto de Nutricion de Centro America y Panama (INCAP). The one week course instructed a team at CARE to integrate CEA into an upcoming nutrition and food security program (FONUSEP). Participants analyzed data from ongoing projects to make the course meaningful and meet the requests of the stakeholders. A section on CEA was incorporated in the IEF's Vitamin A Manual with a list of references and local and international contact numbers.

The QA training which was requested by the stakeholders was beyond the scope of the EDI project. However, a proposal has been submitted to OMNI Research to meet this need. Given stakeholder interest for learning this methodology in Honduras (as determined by a second stakeholder meeting), the proposal was conceived to be a regional initiative. QA is particularly appropriate in Latin America where rates for VA/nutrition coverage indicators are high but quality is often lacking.



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Due to the stakeholder assumption that impact evaluation is too technically or resource intensive to be conducted independently, the IEF arranged a second stakeholder meeting to further analyze this topic. The groups decided a first step to improving the capacity of PVO/NGOs to conduct impact evaluation would be to create a database of all indicators currently in use and present this information to large donors such as USAID and UNICEF (refer to annex VIII). The majority of organizations use indicators from the Knowledge, Practices and Coverage (KPC) questionnaires of Johns Hopkins University Child Survival Support Program (CSSP) and UNICEF. These surveys measure process and behavior change but not actual dietary intake or biochemical indicators. Of the groups present at the stakeholder meeting, few had experience in dietary surveys and biochemical assessments, and this with access to technical expertise from research entities such as the Center for Studies of Sensory Impairment, Aging and Metabolism (CeSSIAM) and INCAP.

The IEF has successfully documented the lessons learned and recommendations of a variety of stakeholders managing VA/nutrition interventions in Guatemala. Understanding the needs of these organizations enabled IEF to improve their capacity in the areas of basic VA programming, QA and CEA through direct field support and a manual targeted to field workers. Recommendations for IEF to provide a technical training in QA were beyond the scope of this project but have been submitted to OMNI Research for future action. By disseminating lessons learned and by providing appropriate, technical field assistance to improve monitoring and evaluation systems the IEF has improved the quality of VA/nutrition programming by PVO/NGOs in Guatemala, in direct support of USAID's P.O. 3.4. In addition, the IEF has supported P.O. 3.2, increasing resources available to stakeholders through field support and development of a vitamin A manual to stakeholder specifications. These intermediate results in turn lead to the increased use of VA/nutrition interventions by stakeholders and the communities they serve in Guatemala in support of PHN's overall strategy (SO3), increasing the use of nutrition interventions.

## II. Introduction

The International Eye Foundation (IEF) and other PVOs and NGOs have been actively working with the Ministry of Health (MOH) of Guatemala to address the vitamin A and nutritional needs of the poorest regions of the country through integrated programming aimed at reducing VA deficiency to decrease childhood mortality. IEF, specifically, had gathered a significant quantity of quantitative and anecdotal information about vitamin A and nutritional status over the preceding years of program activity. This included information about dietary behaviors and cultural patterns at baseline, which, given final evaluations at the close of the projects, could provide valuable insight to the impact of these interventions.

The IEF therefore proposed to the USAID Office of Health and Nutrition, to work collaboratively with Project HOPE to evaluate the impact of these programs. The impact assessment included dietary and qualitative assessments in both project areas, and a quality assessment and cost analysis of the IEF program. The IEF further proposed to gather the patchwork of local and international organizations with VA/nutrition programs in Guatemala to share information gathered during the impact evaluations, to evaluate this information based on differing approaches to sustainability taken by the two groups and to document the lessons learned and progress achieved through PVO/NGO, MOH and community partnerships in the area of VA/nutrition through a variety of stakeholder meetings.

The following objectives were outlined for the project:

Objective 1: Measure the impact PVO/NGO integrated nutrition programs have had on vitamin A deficiency and general nutritional status among targeted populations.

Objective 2: Approximate the unit costs, cost/benefit, and opportunity cost of such integrated community-based programs.

Objective 3: Define how successfully PVO/NGO projects have integrated vitamin A interventions into child survival programs.

Objective 4: Define how impact evaluation can be integrated within a project and used to strengthen Guatemalan NGO capacity to implement more effective health projects that serve a wider community.

Objective 5: Describe how impact evaluation information can be disseminated more effectively to influence national and international policy efforts to promote and strengthen nutrition, micronutrient and child survival programming.

## III. Background

The International Eye Foundation (I.E.F.) began its Vitamin A for Child Survival Project in fifty rural villages in the south-central region of the Alta Verapaz Province of Guatemala in late 1990 through BHR\PVC\CS (Cooperative Agreement No. FAO-0500-A-00-3020-00). Alta Verapaz is a mountainous, forested area in the Sierra Madre mountain range in central Guatemala. Over 95% of its total population is indigenous - the two principal groups are of Q'eqchí and Poqomchí descent. The economy in the province includes lumbering and cultivation of coffee and cardamon as well as subsistence farming. Rural communities are marked by high levels of poverty. Over 80% of the villages have no electricity and less than 30% of homes have potable water services. In project communities only 23% of women are semi-literate, of which 55% are only able to read in their indigenous language.

In year two of the project (1991), IEF conducted a baseline assessment of micronutrient status in the communities, measuring serum VA, hemoglobin, dietary intake and anthropometry. Project interventions at the time of the current project included vitamin A supplementation, Oral Rehydration Solution (ORS) distribution, home gardening projects, cooking demonstrations, and health and nutrition educational talks. The IEF has also collected information on KPC for each child survival intervention, obtained as part of the standard child survival KPC surveys at baseline, mid-term and final evaluations.

Project HOPE has been assisting the Guatemalan MOH to deliver basic health services in the Western Highlands of Guatemala since 1976. Starting in January of 1990, HOPE added a vitamin A component to its program of health activities. HOPE's expanded program is being carried-out in communities in three different provinces of the Western Highlands. The areas of intervention (San Marcos, Quetzaltenango and Totonicapán) include coastal and mountainous areas with approximately 54% of the population being indigenous - the two principal groups are of Quiche and Mam descent. The economy in the area is based on agriculture (beans, corn, wheat, and sugar), as well as handicrafts (weaving) in the Totonicapán Province. Rural communities are marked by high levels of poverty with 86% of the population living in poverty and 68% in extreme poverty. Approximately 81% of the villages have no electricity and only 40% of homes have potable water services. Overall illiteracy in the project area surpasses 60%.

Project HOPE also collected serum vitamin A and dietary intake data as part of their baseline assessment of micronutrient status in the communities. Dietary information collected at baseline was a 2 week household intake which was not comparable to the final evaluation. For comparison purposes to the EDI project, later dietary assessment which was conducted by Project HOPE at mid-term was used.

Interventions of the project included training-of-trainers activities with both the MOH and the Ministry of Agriculture (DIGESA). These training-of-trainer activities are focused on educational talks on health and nutrition, home gardening projects, storage and preparation of vitamin A-rich foods, and vitamin A supplementation. Project HOPE has also collected information on KPC related to the vitamin A interventions carried out by the volunteer "staff" of the two Ministries, obtained as part of a HOPE-designed KPC survey carried out a various points in time throughout the project. In addition, cost-effectiveness analyses of the vitamin A capsule distribution, home gardening and nutrition education interventions were conducted in 1994 (M. Phillips, T. Sanghvi, et al., May 1994).

The Alta Verapaz province was selected for I.E.F.'s Vitamin A for Child Survival Project and the Western Highland provinces were selected for HOPE's expanded Vitamin A and basic health services program due to their poor socio-economic status in conjunction with poor infant and maternal health indicators as well as their level of endemic hypovitaminosis.

Guatemala has one of the highest child mortality rates in Latin America. A Demographic and Health Survey (DHS) Maternal and Child Survey (1995) indicated an infant mortality rate (IMR) of 57 per 1,000 live births and a child mortality rate of 80 per 1,000. The same study showed the IMR in Alta Verapaz to be 66 per 1,000 live births and a child mortality rate of 102 per 1,000, both over 15% higher than the country average. While the official infant mortality rates for the Western Highlands (HOPE) were 31.1, 74.9 and 83.6 per 1,000 live births for the provinces of San Marcos, Quetzaltenango and Totonicapán, respectively (MOH, 1992).

In both project areas, as well as nationally, the two primary causes of infant and child morbidity and mortality are acute respiratory infections (ARIs) and diarrheal diseases. It must be considered that general malnutrition as well as Vitamin A Deficiency (VAD) and/or undernutrition are frequently associated with an increased risk of morbidity and mortality, specifically in the infant and child population.

Vitamin A deficiency is a significant public health problem in Guatemala. The 1991 IEF baseline survey data revealed that in the project area over 21% of children under age six in project villages were deficient, while in the HOPE area the same measure was over 20%, in both cases the mean retinol concentrations were less than 20ug/dl. Furthermore, seven-day recall data showed that 66% of these children consumed less than the WHO recommended daily amounts of Vitamin A in the IEF target area (I.E.F./CeSSIAM, 1991), while consumption data in the HOPE area showed that most of the families did not consume vitamin A-rich foods.

Current statistics from the 1995 National Micronutrient Survey (1996), reflect national improvements with deficiency levels of 15.7% among children consuming sugar and 22.4% among children consuming both sugar and unfortified sugar derivatives - panela.

## IV. Summary by Objective

A. Objective 1: Measure PVO/NGO impact. Measure the impact PVO/NGO integrated nutrition programs have had on vitamin A deficiency and general nutritional status among targeted populations.



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1. Dietary Assessment.

Assessment of current dietary and knowledge status of rural populations with integrated nutrition programs with comparison to baseline and/or mid-term information collected by the projects. Documentation of the determinants of success and the potential constraints to behavioral changes at the community and household level in both project areas.

*Methodology*

The assessment of the status of current dietary practices and vitamin A-related knowledge was carried out through the administration of two questionnaires, a Seven Day Food Frequency Questionnaire (FFQ) and a KPC questionnaire, respectively. The KPC questionnaire was developed based on the baseline and mid-term KPC surveys for both IEF and Project HOPE and also included a section of new, vitamin A-specific questions administered to both project areas (see Annex 1). The FFQ was based on the CeSSIAM method which was performed at baseline in the IEF communities and at mid-term in Project HOPE's communities (See Annex 2). The CeSSIAM FFQ incorporates both portion size and frequency of consumed foods which enables the investigator to estimate the weight in grams of each portion as well as the overall consumption.

The calculated sample size for each project was 900 households. This sample size anticipated a 23% loss due to non-response, absence of target child in family and household uninhabited. The sample size calculation assumed a design effect of three, a maximum variance of 0.50, and a minimal statistical difference (MSD) of 10% (see Annex 1). Due to a much higher than anticipated non-response rate, the sample size was modified during field work, staying within the statistically acceptable limits for analyzing within project impact.

The selection of the sample was carried out by means of a stratified sampling method (see Annex 1). Within each strata there was a two stage cluster sampling based on time in the program and proportional to population size. Clusters were defined as villages or small towns. With Project HOPE it was necessary to combine very small communities in order to define an area as a cluster (minimum of 60 households/cluster). Within each cluster, the random selection of households was based on the Hand Held Computer Sampling Method (HHCSM)(see Annex 1).

Criteria for inclusion of a particular household in the sample were: 1) presence of at least one child < 6 years of age; 2) availability and willingness of mother to respond to the KPC questionnaire; 3) availability and willingness of mother or some other adult in charge of feeding the children (<6 years of age), to respond to the DIETARY questionnaire. The index child was determined to be the child between 11 and 71 months of age. In the case that in the selected family there was more than one child in this age range, the index child was randomly selected.

Prior to commencing with the data collection, theoretical and practical training of the eight member Field Team was conducted July 8th-23rd, 1996. Topics covered: Brief orientation to IEF's and HOPE's field projects as well as to the general importance of vitamin A; KPC and 7-day FF Questionnaires (Spanish and local dialect); Pointers related to use of a standard set of locally used utensils for determining food portion sizes as well as a digital scale for weighing available portions of prepared foods and whole fruits and vegetables; and a general orientation to the sampling methodology.

The collection of field data for the KPC and Dietary questionnaires was carried out from July to October of 1996 (Project HOPE: July - mid September and IEF: mid September - October). A total of 685 and 606 mothers were interviewed in the Project HOPE and IEF areas respectively.

DATA COLLECTION SUMMARY

| | Households Sampled | KPC Ques. Completed | DIETARY Ques. Completed | # of Project Participants |
|---|---|---|---|---|
| Project HOPE | 1,715 | 685 | 644 | 62 |
| IEF/AMPROS | 1,309 | 606 | 566 | 225 |

Data collection was completed in the Project HOPE areas prior to commencing in the IEF region. The entire field team was responsible for collecting data in each of the project areas and was given a practical training prior to starting and between survey areas. Topics covered included, orientation on the KPC and Dietary questionnaires; proper interviewer presentation, quality control in interviewing techniques (KPC and DIETARY surveys); and quality control related to filling out forms, including recommendations from those in charge of data entry. The KPC and Dietary questionnaires varied slightly from one area to another, due mainly to local language differences in the two regions.

Based on the inclusion criteria for the baseline dietary survey in both project areas, the current survey interviewed mothers with children under 6 years of age. However, the IEF Child Survival Project, in keeping with the standards of the USAID guidelines for the Child Survival surveys, focused data collection on mothers with children under the age of two. For this reason, comparisons made to the Child Survival KPC survey for IEF utilized the subset of children under two years of age.

The full statistical report of the two surveys is found in Annex 1. The following section highlights the relevant information from the report. In addition, a theoretical analysis was added to the dietary survey, taking into account the retinol equivalents being consumed by the under 5 population.

*Key Findings*

Background information regarding mothers and children shows a similar breakdown by age for both groups in the IEF and Project HOPE areas. The majority of mothers are between the ages of 20 and 30 years old. The children are fairly evenly distributed throughout the 1 to 6 year old age groups. The educational levels of the mothers are different, however, with the IEF side showing about half as many mothers with the ability to read and write in comparison to the Project HOPE women (refer to Tables 1 and 2).

Data describing the socio-economic status of the households was collected and a summary is presented in Table 3. The majority of households report between 4 and 9 family members living in a house at both project sites with over 90% of families owning their home. Access to water and to electricity shows a lower standard of living in the IEF project area with only 9% of families reporting the presence of electricity and 57% collecting water from natural sources such as a stream or rain. Access to personal latrines is better at the IEF project site, most likely due to the over 600 latrines constructed in a joint effort between the MOH, the communities and IEF over the course of the Child Survival Project.



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## BACKGROUND INFORMATION

*Table 1: Mothers*

| Measurement | | IEF | HOPE |
|---|---|---|---|
| Mother's age | ≤ 20 y.o. | 13.0% | 11.8% |
| | >20 to ≤30 y.o. | 45.4% | 46.6% |
| | >30 to ≤40 y.o. | 32.5% | 32.0% |
| | >40 y.o. | 9.1% | 9.6% |
| Percentage of mothers that can read | | 24.1% | 43.9% |
| Percentage of mothers that can write | | 22.8% | 42.0% |
| Percentage of mothers that have ever attended school | | 26.1% | 47.3% |
| Of mothers having attended school, last grade completed | | | |
| | 0-3rd | 69.6% | 59.3% |
| | 4th-6th | 23.4% | 34.2% |
| | Secondary | 7.0% | 6.5% |

*Table 2: Index Child*

| Measurement | | IEF | HOPE |
|---|---|---|---|
| Age of index child | 1 to <2 y.o. | 18.0% | 19.7% |
| | 2 to <3 y.o. | 22.4% | 22.0% |
| | 3 to <4 y.o. | 21.4% | 22.9% |
| | 4 to <5 y.o. | 21.7% | 21.4% |
| | 5 to <6 y.o. | 16.4% | 14.1% |
| Gender of index child: | Male | 48.8% | 50.6% |
| | Female | 51.2% | 49.4% |

*Table 3: Description of Household*

| Measurement | | IEF | HOPE |
|---|---|---|---|
| Number of people living in the Household: | < 4 | 17.3% | 18.0% |
| | 4-9 | 70.0% | 68.9% |
| | > 9 | 12.7% | 13.1% |
| Ownership of House: | own | 94.9% | 90.8% |
| | rent/borrow | 4.9% | 9.0% |
| Composition of House Flooring : | soil | 87.3% | 65.6% |
| | concrete | 22.7% | 34.3% |
| Presence of electricity | | 8.7% | 62.5% |
| Water source | inner faucet | 19.8% | 58.0% |
| | other faucet | 15.4% | 6.9% |
| | personal well | 0.0% | 24.2% |
| | shared well | 0.3% | 5.3% |
| | natural | 57.4% | 3.0% |
| Access to personal latrine | | 89.3% | 75.9% |

The comparison data which was generated by the current study (EDI) is summarized in Tables 4 - 8. Comparisons are made from the recent field survey to the baseline and mid-term KPC surveys as available and to the baseline and mid-term dietary assessments of Project HOPE and IEF. Details of the data sources are included in the Statistical Report in Annex 1. Tables 4 and 5 show a marked increase in vitamin A-related knowledge and practices based on KPC data. In both projects the most impressive increase in practice is related to the percentage of families that have planted at least one vitamin A-containing food in their family garden. While referring to knowledge, IEF shows an increase in the percentage of mothers able to identify at least 2 vitamin A-rich foods, Project HOPE shows a combination of both increases and decreases in knowledge levels related to vitamin A which in part may be due to short time period between the evaluations.

*Table 4: IEF --- KPC*

| Indicator | Baseline | EDI |
|---|---|---|
| | 1991* | 1996 |
| Percentage of families with a home garden | 6.7% | 39.1% |
| Percentage of families that have planted at least one green leafy vegetable in home garden | 5.3% | 43.7% |
| Percentage of families that have planted yellow or orange vegetables and/or fruits in home garden | 0.0% | 74.4% |
| | 1993** | 1996 |
| Percentage of families that have planted at least one vitamin A containing food in home garden | 8.0% | 99.4% |
| Percentage of mothers who could identify at least 2 vitamin A-rich foods | 63.0% | 85.0% |
| Percentage of mothers that report receipt of VAC after last childbirth | 0.0% | 15.3% |

*Baseline Survey, Phase I **Baseline Survey, Phase II

*Table 5: Project HOPE --- KPC*

| Indicator | Baseline | EDI |
|---|---|---|
| | 1993* | 1996 |
| Percentage of families with a home garden | 3.0% | 14.4% |
| Percentage of families that have planted at least one vitamin A containing food | 33.3% | 93.9% |
| Percentage of mothers that can identify at least one vegetable that contains vitamin A | 28.7% | 88.3% |
| Percentage of mothers that can identify at least one green leafy vegetable that contains vitamin A | 28.7% | 88.3% |
| | 1995** | 1996 |
| Percentage of mothers that can identify at least one fruit that contains vitamin A (based on project participants only) | 81.8% | 57.9% |
| Percentage of mothers that can at least one animal food that contains vitamin A (based on project participants only) | 87.9% | 55.6% |
| Percentage of mothers that can identify at least one benefit of vitamin A (based on project participants only) | 68.7% | 82.4% |
| Percentage of mothers that report receipt of VAC after last childbirth (based on project participants only) | 20.1% | 10.1% |

* DIP Phase III **Mid-term Evaluation, Phase II



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Tables 6 through 8 summarize the information collected through the Seven Day Food Frequency Questionnaire. The IEF was able to show **a greater than two-fold increase in the percentage of children consuming the RDA for vitamin A.** Tables 7 and 8 define which foods contribute most to the children's weekly vitamin A intake. The contribution of sugar is very significant both in terms of grams of retinol equivalents and percentage of retinol equivalents by food group. In the IEF area, sugar contributed six times more retinol equivalents than carrots and in the Project HOPE area, sugar contributed almost 28% more retinol equivalents than the animal group.

Given that the majority of children in this area and in other regions of Guatemala are now meeting the RDA for VA it was anticipated that future policy discussions may consider the elimination of capsule distribution. It was further agreed by the VA stakeholders (see section D.1. Stakeholder meeting) that this issue would be of importance in Guatemala and in the region of Latin America as sugar fortification efforts improve to eventually replace capsule distribution programs. For this reason, a theoretical calculation of the effect of retinol consumed from capsule was made and is reported in Annex IX and graph 1, below. As the data suggests, the VA from the capsules ensures that about 100% of children in the IEF target area are meeting their retinol requirements, an increase of approximately 20%.

The analysis is admittedly not sophisticated. The actual child receiving the capsule was not linked to his/her dietary assessment, but the information does give the idea that the capsules are helping a significantly greater percentage of children to meet their VA requirements than without the capsules.

*Table 6(a): Comparison of Dietary Assessments*

| Percentage of 1 to 6 year olds that consume the RDA for Vitamin A (includes fortified sugar* but not breast milk) | Baseline | Final/EDI |
|---|---|---|
| IEF | 34.2% (1991) | 77.8% (1996) |
| Project HOPE | 78.0% (1995) | 69.1% (1996) |

***Calculations for the level of retinol in sugar are based on work done by IEF/INCAP (1995) of household levels of fortification. A median of 8.0 g retinol equivalents per 100 grams of sugar was calculated.**

*Table 6(b): Comparison of Dietary Assessments for Final/EDI*

| Percentage of 1 to 6 year olds that consume the defined amount of the RDA for Vitamin A (includes fortified sugar* but not breast milk) | IEF | Project HOPE |
|---|---|---|
| < 50% of the RDA for VA | 5.9% | 12.9% |
| 50% to < 75% of the RDA for VA | 7.3% | 7.6% |
| 75% to < 100% of the RDA for VA | 8.9% | 10.4% |
| ≥ 100% of the RDA for VA | 77.8% | 69.1% |

*8.0 g/100g sugar - based on a study by IEF/INCAP (1995)

*Table 7: Foods with most significant contribution to RDA for vitamin A (Final/EDI)*
(RE = Retinol Equivalents = VA+(beta-carotene÷6)+ (other carotenes÷12) per 100 grams)

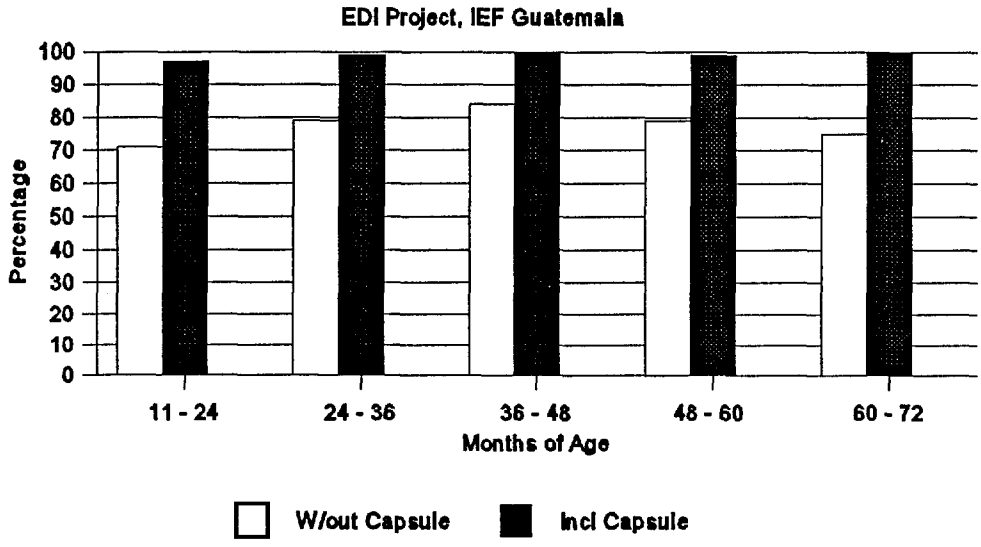
| FOOD | IEF mean RE consumption (7 days) | Project HOPE mean RE consumption (7 days) |
|---|---|---|
| Beef liver | 1,611.3 | 676.0 |
| Chicken eggs | 108.8 | 114.0 |
| Fortified Cereals - possible weaning foods(Incaparina, Protina, Bienestarina) | 299.5 | 256.5 |
| Carrots | 494.1 | 957.1 |
| Quilete (Green Leafy Vegetable) | 196.6 | 105.2 |
| Ripe Plantain | 221.1 | 79.3 |
| Sugar (fortified*) | 3,180.3 | 2,312.2 |
| Margarine (fortified) | 68.2 | 79.8 |
| Breast Milk** | 480.8 | 324.8 |

*8.0 g/100g sugar - based on a study by IEF/INCAP (1995)
**Calculations for the amount of breast milk and retinol content were based WHO, 1985.

*Table 8: Percentage of Retinol Equivalents Obtained from Food Groups (Final/EDI)*

| FOOD GROUP | IEF | Project HOPE |
|---|---|---|
| Sugar (fortified 8.0mcg/g) | 53.0% | 44.6% |
| Animal | 22.2% | 16.8% |
| Vegetable | 16.4% | 30.1% |
| Fruit | 4.0% | 2.3% |
| Grain-Based Porridges | 3.5% | 4.0% |
| Margarine (fortified) | 0.9% | 1.2% |

*Graph 1: Percentage of Children Meeting the RDA for VA Taking Into Account Capsule Distribution.*



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2. Qualitative Data Collection.

In order to document the determinants of success and the potential constraints to behavioral changes at the community and household level, focus group activities were carried out in both project areas.

*Methodology*
A transverse qualitative study, using the focus group technique, was performed in four communities in both the IEF and Project HOPE areas. In each community, four mutually exclusive groups of mothers with children six years of age and younger were included: participants in the project's health and nutrition education activities; project participants with gardens; project participants without gardens; and finally a group of mothers who did not participate nor have gardens. The four sample communities for each project area were randomly selected by the Project Coordinator, utilizing a list of communities (provided by the Field Supervisors) which filled the characteristics requested for each focus group.

The Focus Group Moderators and Observers were selected based on previous experience as well as the ability to speak the local dialect, and received a one-day orientation session from the IEF expert in Focus Groups methodology, Nora Coj de Salazar. Specific guides were developed for each focus group session by Ms. Salazar. These were reviewed, discussed and finalized during the training session for the Moderators and Observers.

Field work was performed over a two week period (in Feb. '97), under the supervision of the IEF Focus Group Expert. Each focus group session was observed as well as taped and within 24 hours was transcribed into a summary report.

*Key Findings*
The results obtained from the focus group sessions were summarized based on 5 major themes: educational Sessions; cooking demonstrations; gardens; general comments; and reasons for non-participation. The results in theses 5 categories were not found to differ greatly between IEF and Project HOPE participants and are therefore presented jointly. The following are the key results:

## FOCUS GROUP ACTIVITIES IN IEF AND PROJECT HOPE AREAS

| THEME | MOTHERS' COMMENTS | IEF 'S RECOMMENDATIONS |
|---|---|---|
| Educa-tional Sessions | -Majority like visual aids, they help them to understand and to remember the themes.<br>-Some stated that sessions were not frequent enough, sometimes they only meet once or twice a month and it's difficult for them to remember from one month to the next. | -The frequency of educational sessions is often constrained by funds and project management, weekly sessions should be attempted despite these barriers and visual aids should be used at every session.. |
| Cooking Demos. | -Mothers unanimously stated that they participate in cooking demonstrations because they want to learn to cook new foods to give their children in order to improve their health and that the recipes they like the best are simple and include locally available ingredients.<br>-Most of the mothers commented that the recipes should be drawn or written down on handouts to be given out at the end of each demonstration, otherwise they won't remember them. | -Although both projects attempt to provide the simplest and most locally acceptable recipes possible, improvements are still needed. By increasing the acceptability of the recipes the project's success and the women's confidence will be increased.<br><br>-Design a cookbook or handouts in order to be able to give the mothers the recipe written down and/or in drawings after each cooking demonstration. |
| Gardens | -The majority prefer a family garden over a communal garden because it's easier to manage, it's often difficult to get people together, and in the end only a few people end up benefitting from the harvest of a communal garden.<br>-Mothers unanimously knew where to obtain/buy seeds in the community, yet the majority were uncertain about the future of the seed vendors when the projects were over. | -If the goal of the project is to promote family consumption of the production, individual family gardens should be promoted, as they are more acceptable than communal gardens.<br><br>-Organize a committee or cooperative within the community to sell seeds locally, assuring their availability for families with gardens. |
| General | -Majority of the wives stated that their husbands would like to participate in the health and nutrition sessions as well as the gardening sessions, but they don't because they're not specifically invited. | -Provide formal invitations for fathers as well as mothers to participate in project activities. This is one way of assuring husband's direct involvement in, as well as his approval of, the project activities in the community. |
| Non-partici-pation | -The most common reasons stated for not participating in project activities were: a lack of time, usually due to taking care of children; lack of a personal, formal invitation; lack of information related to the activities offered and qualifications required for participation; difficult/uncomfortable to incorporate into the group once established. | -Promote idea that the participant mothers invite and personally accompany new mothers to project activities, in order to help them incorporate into the group more easily.<br><br>-Although children are welcome at activities, there should be specific activities for the children while the mothers are learning. |

(For more detail on Mothers' Comments from each category of Focus Group and by Project area, see Annex IV)

B. Objective 2: Perform Cost Analysis. Approximate the unit costs, cost/effectiveness, and opportunity cost of integrated vitamin A/nutrition community-based programs.

1. Cost-Effectiveness Analysis.

Complete a cost/effectiveness analysis of IEF's Child Survival Program in Guatemala using interventions related to nutritional status such as nutrition education, vitamin A capsule distribution to post-partum mothers and children, and home gardening projects.

*Methodology*

The cost/effectiveness analysis (CEA) was performed to assess the cost of improving vitamin A status of the target population: children less than 72 months of age and women of childbearing age (15-49 years). Three vitamin A-related interventions which are integrated into a larger Child Survival Program were studied: nutrition education, capsule distribution, and home gardening. The analysis was based on a reported methodology by Tina Sangvi for the Latin America Health and Nutrition Sustainability Project (LACHNS), 1994.

IEF's CEA began with close scrutiny of a single year's inputs and results considering the available data and resources. Calender year 1996 was chosen because it was a year during which project activities were relatively stable and data availability was excellent. The data was obtained from the IEF's computerized accounting system on Quicken® software files.

Once the representative period was chosen, the costs to be analyzed were decided upon. In addition to direct project expenses , several layers of indirect expenses, including capital and overhead were also evaluated. In IEF's case, study calculations were made only on direct expenses even though costs including capital expenditures and/or local overhead were also reported (this transparency serves to maximize usefulness of data).

The following step, that of the allocation of costs amongst the interventions being evaluated, was carried out quite easily due to the fact that a single input (in IEF's case, labor) was the dominant expense. Information regarding the allocation of expenses was obtained from a combination of original personnel time sheets and the reported time allocation included in the Project Manager's monthly field reports. The majority of the data for the year's activities (e.g. capsules distributed, educational talks given, etc.) was also extracted from these reports.

Once the cost was determined for each activity or intervention, measures of effectiveness were defined. These measures included both measures of project activities (e.g. number of nutrition lectures given) as well as measures of individuals affected by the activities (e.g. number of women attending the lectures).

In order to analyze the cost per unit or the cost per intervention over the total project period, costs previously calculated for the year 1996 were extrapolated based on the following: 1) In-country total cost records for 1995 and 1994; 2) Headquarters pipeline analysis records and adjustments for population served in earlier years; 3) Time allocations which were assumed to be consistent over time; 4) The time period of 1996, which was assumed to be representative of the whole project period.

While examination of expenditures for a particular time period allowed IEF to put a price tag on particular services, it is the cost of the project over time, relative to fundamental impacts, that is the true measure of success for the three vitamin A-related interventions analyzed in the current study. Information related to indicators measuring improvements over time (e.g. increase in mother's vitamin A-related knowledge, increase in impact of home gardens and increase in percent of population consuming the RDA for retinol was obtained from various KPC surveys, as well as dietary and other supplementary surveys performed at baseline and final project dates through the EDI project.



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All cost data were recorded in Guatemalan Quetzales at the IEF office. All calculations and reporting for the cost analysis, however, were calculated in U.S. Dollars using a standard exchange rate of 5.90Q = 1.00USD. This represents both the approximate current value as well as the mid-point of the range of values seen over the life of the project. For more detail related to the methodology of the CEA see Annex II, Cost-effectiveness Analysis Report.

*Key Findings*

The results can be divided into two broad categories: Operational or annual results and longitudinal results or capital effects. The first category reflects the cost of the actual activities as they happened during the year examined (in the current study the results refer exclusively to the year 1996). The operational results measure the cost of the services provided during a time period without measuring the effect of that service. The results from the second category reflect the cost of the absolute change in a particular indicator from time point A to time point B. For example longitudinal results may refer to the costs related to changes from baseline or mid-term to project completion. Additionally, where applicable, longitudinal results are reported both in terms of the target population and the general population.

*Operational Results*

Nutrition Education: A total of 2,576 cooking demonstrations and nutrition education lectures were presented in 1996, at a cost of $23,326, or $9.06 per session. The sessions were attended by a total of 20,909 women resulting in a cost per attendee of $1.12. It is also instructive to view these numbers in terms of the individuals effected rather than only those attending. If it is assumed that each woman receiving the information affects the eating habits of her entire family, then a total of 25,851 individuals would be effected, 11,588 within the target population, at a cost of $0.90 per person, or $2.01 per target population individual.

Vitamin A Capsule Distribution: In 1996, 14,977 capsules were distributed to children under the age of 72 months at a cost of $0.49 per capsule, while 3,291 capsules were distributed to post-partum (PP) women at cost of $2.85 per capsule. Capsules distributed to women involved both a low-cost approach, utilizing hospital personnel to provide capsules to PP women that deliver in the district hospital, and a high cost approach, locating women that deliver outside of the hospital and providing the capsule in their homes. The low cost approach succeeded in dosing 2,572 women for $0.36 per capsule, while the high cost approach provided capsules to a smaller number of women (719) at a cost of $11.68 per capsule.

Home Gardening: A total of 1,043 new family gardens were planted in 1996, at an overall cost of $19,698. It can be estimated that the gardens served an average of 5.8 individuals from the entire population or 2.6 members of the target population, per garden. Given a unit cost of $18.89 per garden, the cost per member of the target population is $7.26 or about $3.26 per family member affected (including older siblings, fathers, etc.). The report cautions that enough information has not been obtained to fully evaluate the intervention and therefore, this information should not be taken out of context.

*Longitudinal Results*

Nutrition Education: Through the use of a KPC survey, the project was able to report an increase in the percentage of mothers able to correctly identify at least two foods rich in vitamin A (63% at baseline to 85% at final evaluation). The cost for each percentage point increase was $4,730 over the length of the project or a cost of $47.81 for each individual educated. Considering that the education benefits the mother's children as well as herself, this further translates to a cost of $18.39 per member of the target population served. Expanding the idea one step further that the mother's knowledge will affect not just the target children (< 6 years old) but all of her family, the cost is reduced to $8.24 per individual affected.



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Vitamin A Consumption: Through the use of the Seven Day Food Frequency Dietary Assessment method, the project was able to report an increase of 44 percentage points (130% increase) in retinol sufficiency in children 6 to 71 months of age (baseline level of 34% to final evaluation level of 78%). The cost for each percentage point increase in retinol sufficiency was $4,381 over the length of the project. This translates into a cost of $10.19 for each additional individual reaching sufficiency, and $22.31 for every new member of the target population reaching sufficiency.

Home Gardening: At baseline (a weighted average of surveys done in 1991 and 1994) 9% of families in the project area had home gardens. By 1996 3,043 families or 41%, had home gardens, 65% of which were more than a year old. The cost of each percentage point increase was $2,471 over the length of the project. Each new garden cost $33.29. A total of $12.80 was expended per member of the target population served by a garden and $5.74 per individual or family member served by a garden.

*Key Findings*

- The extremely high marginal cost of tracing PP women to their homes to dose them, suggests that the practice needs to be re-evaluated. It was recommended that the project utilize mid-wives which were present at about one third of the births in the target area.

- More longitudinal data needs to be gathered before a fair evaluation of the gardening program can be made. There is little information about the rate at which gardens are sustained over time, or the number of people (inside and/or outside the family) that are affected by each garden. If even a small percentage of the gardens planted become permanent sources of vitamin A for families, the unit cost of the program would drop dramatically.

- The nutrition education program also suffers from a dearth of data. There exists only one indicator at both the baseline and final evaluation surveys which serves as a point of direct comparison. Considering that even under the most controlled circumstances it can be difficult to link education with behavioral change, new indicators must be carefully defined, before additional resources are devoted to including them in future surveys.

C. Objective 3: Evaluate Integration of VA Interventions into Projects. Define how successfully PVO/NGO projects have integrated vitamin A interventions into child survival programs.

1. Complete QA Assessment of the nutrition education interventions.

Assess the quality of services and trainings provided as a measure of sustainability and success of VA interventions and report findings.

Funding for a quality assessment and for the development of quality indicators for nutrition education became available to the IEF through an OMNI Research grant from the Division, "Effective Communications to Resolve Micronutrient Deficiencies". Due to this, the activity was completed and reported under the OMNI Research guidelines. Highlights of the work are reported below. A separate evaluation of the vitamin A capsule intervention was completed through EDI and is also reported.

*Methodology*

This objective was implemented by IEF, in collaboration with Project HOPE, in their respective target areas. The purpose of the assessment was to evaluate whether QA methods could be adapted for use by basic health workers to monitor and evaluate their project's nutrition/vitamin A communications plan, to improve the quality of their plan and to subsequently increase the positive affect it may have on the nutritional behaviors of mothers and children, as measured at pre- and post-intervention time periods.

The QA methodology of the URC's (University Research Corporation's) Quality Assurance Project (QAP) was implemented by Dr. Marylena Arita from IEF/Honduras, who served as a consultant to the project. The protocol was developed based on the overall purpose of the assessment and included the following activities from the URC QA methodology:

| ACTIVITY | PERSON(S) RESPONSIBLE |
|---|---|
| 1.) Develop Purpose and Vision for the QA effort | Consultant with Project Manager and/or Country Director |
| 2.) Collect Diagnostic data/Information to Identify Strengths and Weaknesses in Workers' Performance<br>-Review project documents<br>-Interview all levels of project staff and "clients"<br>-Observe performance of all levels of project staff | Consultant |
| 3.) Share Analysis of Diagnostic Data with All Project Staff Along With Orientation on QA Methodology | Consultant with Project Manger and/or Country Director |
| 4.) Identify Opportunities For Improvement | All Levels of Project Staff with guidance from Consultant |
| 5.) Define Opportunities For Improvement Operationally | All Levels of Project Staff with guidance from Consultant |
| 6.) Analyze Priority Opportunities for Improvement to Identify Root Causes utilizing:<br>-Process Analysis Diagrams<br>-Cause and Effect Diagrams<br>-Flow charts | All Levels of Project Staff with guidance from Consultant |
| 7.) Develop Solutions Utilizing Criteria such as: Importance, Time Feasibility, Cost and Impact of each Possible Solution | All Levels of Project Staff with guidance from Consultant |
| 8.) Develop Action and Monitoring Plans Including Objectives, Activities, and Indicators | All Levels of Project Staff with guidance from Consultant |
| 9.) Choose the Quality Assurance Circle | All Levels of Project Staff |
| 10.) Put the Solutions into Action | All Levels of Project Staff |
| 11.) Monitor the Advancement of the QA Activities | All Levels of Project Staff and QA Circle |
| 12.) Present Visual (Monthly) Summary of QA Advancement | QA Circle |
| 13.) Analyze and Evaluate the QA Process | All Levels of Project Staff, QA Circle and consultant |
| 14.) Revise Action and Monitoring Plans as Needed | All Levels of Project Staff, QA Circle and Consultant |

The following data was collected in the initial assessment of the quality of the educational interventions:

| IEF Staff/Participants | Number | Average Score | Project HOPE Staff/Participants | Number | Average Score |
|---|---|---|---|---|---|
| Technicians | 02 | 56/100 | Technicians | 04 | 80/100 |
| Supervisors | 04 | 69/100 | Supervisors | 02 | 80/100 |
| Extensionists | 16 | 50/100 | Health Promoters | 10* | 52/100 |
| Mothers (sampled by convenience) | 310 | 54/100 | Mothers (sampled by convenience) | 96 | 72/100 |

IEF: The entire IEF staff was interviewed (n=22)
HOPE: The entire vitamin a-related staff was interviewed (n=6)
*The most active MOH Health Promotors (trained by HOPE) were selected by the HOPE team to participate.

The following data was obtained from random observations of performance during educational activities were carried-out:

| | IEF | HOPE |
|---|---|---|
| a.) Use of at least one participatory technique | 19% | 0% |
| b.) Ask mothers to repeat key messages (evaluation) | 50% | 0% |
| c.) Reinforce importance of the theme | 62% | ---- |
| d.) Adequate use of visual aids | 87% | 0% |

IEF-16 talks by 16 Extensionists, in the same number of communities were observed. The sample was obtained by convenience, based on educational activities planned during the data collection period.

HOPE - 4 talks by 4 Health Promoters, in the same number of communities were observed. Also sampled by convenience (for more detail see Annex III).

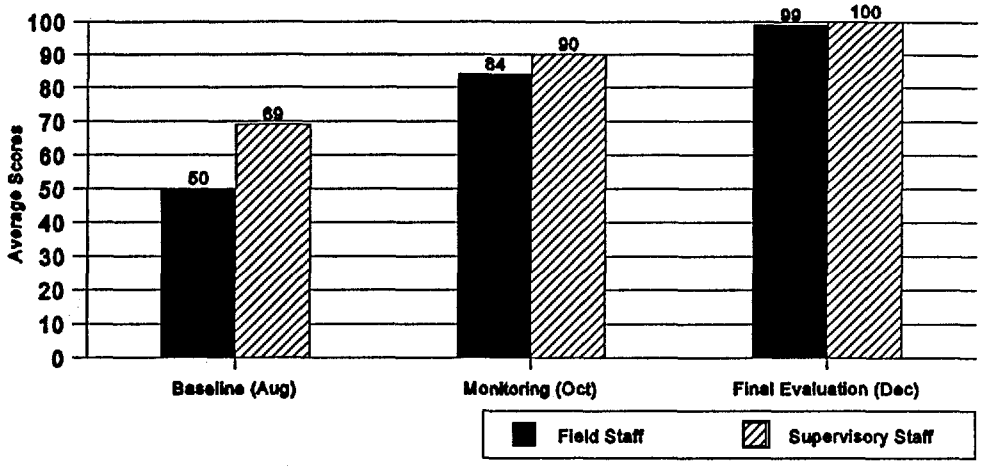
Based on the initial analysis, the program personnel completed a QA exercise which included the identification of areas for improvement based on data and on priority concerns of the field teams. The QA methodology was then applied to realize improvements. The QA process moves through the 14 steps outlined in the table above, designing problem statements, identifying root causes and establishing indicators (see Annex III for details) before monitoring improvements and then establishing a permanent monitoring system incorporated in the supervisory system of the project.

The following summary highlights the achievements realized by the IEF and HOPE QA teams. The IEF information follows the process through its entirety, while the HOPE team was able to complete through the problem identification phase. Graphs represent information collected by the respective QA teams to monitor improvements during the evaluation phase.

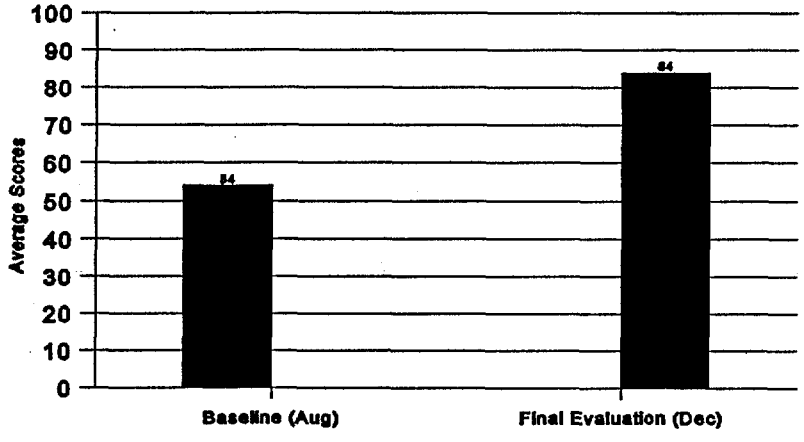
IEF:
*Step 1: Identify Opportunities For Improvement:*

*Problem Statement #1:* Improve the educational process to mothers by improving the quality (completeness and accuracy) of educational information being transmitted. *Solution*: Reinforcement of the project personnel's knowledge and application of evaluation examination. *Monitoring and Evaluation:* (See Graphs)

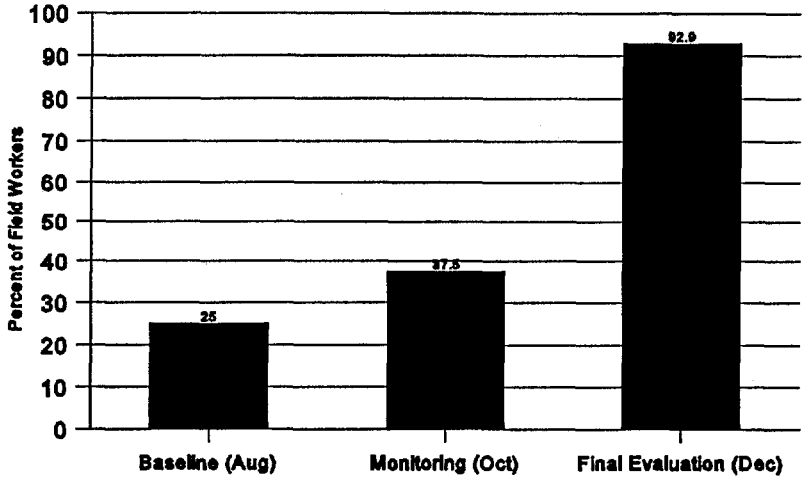
*Graph 2: Vitamin A Knowledge Level of Field and Supervisory Staff*




*Graph 3: Vitamin A Knowledge Level of Mothers*




*Graph 4: Use of Participatory Techniques in All Educational Sessions*



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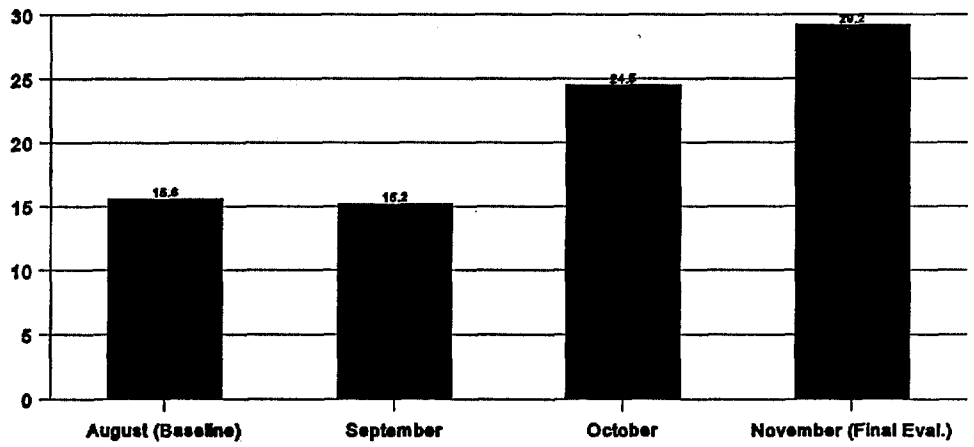
*Problem Statement #2*: Improve the quality of vitamin A capsule supplementation to children 6 to 11 months of age. Children under one year of age are receiving an insufficient dose of vitamin A due to improper handling of the capsule by health workers. In this case, staff were giving a number of drops less than half of the capsule. *Solution:* Standardization of the entire team in cutting and squeezing drops of vitamin A from a capsule, beginning with an exercise to determine the average number of drops in a capsule. *Monitoring and Evaluation*: All staff were tested several times following the training and all were judged to properly handle the capsule.

*Problem Statement #3*: Improve the attendance of mothers at the project's vitamin A educational sessions. Low attendance rate at the educational sessions (15%) should be increased to at least 30%. *Solution 3:* Improve the promotion of educational sessions through participation in socio-cultural activities and through home visits.

*Graph 5: Percent of Mothers from Target Population Attending Educational Activities*




HOPE:

*Problem Statement #1*
Further training of HOPE staff is needed to improve basic knowledge about VA and to increase use of participatory methods during educational sessions. *Solution:* Establish a systematic model of training on Nutrition, Vitamin A and Vegetable Gardens, focusing on participatory techniques for the Promoters of the project area.

*Problem Statement #2*
Improvement in the coordination and communication between the MOH and Project HOPE is needed to increase efficiency of the supervisory and workplan system. *Solution :* Provide the Health Promoters (MOH) with training in the use of visual materials and participatory techniques in order to improve their performance and provide follow-up support/supervision of the activities they carry-out.

*Problem Statement #3*
Due to a lack of uniformity in the supervisory system, the system needs to be restructured to fully support the activities of the Health Promoters (ie. further support Problem Statement #2). *Solution:* Further strengthen the follow-up/supervision of the activities performed by the Health Promotor by designing a supervisory instrument, a checklist for observations, for the use by the Technicians during the monitoring of the educational activities which the Health Promoters conduct with the community mothers.

*Key Findings*
IEF and Project Hope have very different approaches to VA/nutrition programming, reflecting the variety of strategies found throughout the country. The IEF's role in the implementation of the project is direct, while Project HOPE's is that of trainer-of-trainers, supervisor and catalyst to the MOH. Although the implementation phase varied between IEF and HOPE, concrete results were observed by both organizations. Neither PVO had prior experience in QA. This is consistent with the observations from the stakeholder meeting (see section D.1.), where no participants other than IEF and HOPE had actually performed QA. The Stakeholder meeting clearly revealed the interest of the PVO/NGO community to move towards actual implementation of QA.

The improvements to the VA/nutrition program will be continually monitored and new areas for improvement will be continually sought, as the QA system is integrated into program activities. The incorporation of QA and use of the nutrition education quality indicators is the most important achievement of this QA exercise. The indicators were shared with other PVO/NGOs at the Stakeholder meeting and are part of the VA manual which was produced according to Stakeholder recommendations. Although the indicators can be used as part of a monitoring and evaluation system, it is best for the organization to perform the QA exercise and develop specific indicators targeted to the needs of their project and location.

The following is a list of recommendations to PVO/NGOs, generated by the activities of IEF and Project HOPE:

- QA methods should be incorporated into the design of a communications plan from its initiation.
- It is necessary that the QA circle be a multi disciplinary representation of staff and volunteers from all levels. Those workers who are involved with, contribute inputs or resources to, and/or benefit from the quality activities must be specifically included in the QA circle (ie. Field workers and/or Volunteers).
- The ease with which QA methods can be used for the monitoring and evaluating of a communications plan depends strongly on the existence of an established HIS where monitoring and evaluating tools have already been implemented, yet are lacking a focus on quality of process.
- The definition of efficient and effective performance indicators and the measurement of these indicators during the monitoring phase is crucial to the provision of feedback to the staff.
- The summary data presented on a monthly basis (initially) by the QA circle should be in graphic form, displayed permanently in a central location and discussed with the entire team to provide meaningful feed-back.
- The team can consider the quality improvement effort a success when it has evidence that the problem has been resolved: the data show that the problem no longer exists and the changes/solutions have been incorporated into routine procedures.

2. Complete QA of vitamin A capsule distribution.

Complete a Quality Assurance (QA) assessment of project VAC interventions. Assess the quality of services and trainings provided as a measure of sustainability and report findings.



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*Methodology*

Prior to the MOH Immunization and VAC campaign in the Spring of 1997, refresher technical training in VAC administration techniques and in general vitamin A education were offered by the IEF Vitamin A Specialist to the three Health Districts in the IEF project area. All interested staff ( salaried and volunteer) were invited to attend. After each training session the following materials were given to the participants:

- Checklists for VAC distribution (all points included in the future QA evaluation)
- Forms needed to document VAC distribution
- Miscellaneous supplies needed for the day of the campaign

Based on their experience with the QA assessment of vitamin A education interventions, the IEF field team developed three guides which were reviewed by IEF's QA consultant. The three guides included the following: 1) Observational checklist for use during the campaign - including arrival of MOH personnel at the community post on time, establishment of a congenial relationship with the mothers, how to handle/administer VACs, verification of the age of the child and proper recording of capsule administration; 2) A verification checklist to be administered to 5 randomly selected mothers - including observations related to whether or not the dose administered was correct, whether or not it was recorded on the child's vaccine card, and whether or not the mother could state the time period for her child to receive a subsequent VAC; 3) A form with equations for calculating the coverage of the campaign.

The MOH planned the VAC distribution campaigns in the project area together with the IEF field staff. In each project community, an IEF field worker was present during the campaign in order to assist the MOH staff as requested, as well as to carry out the QA evaluation. In the District of San Pedro Carcha the MOH was able to successfully link VAC distribution with immunizations. Of the two remaining districts the MOH was not able to handle the logistics of distribution VA in addition to vaccination and requested the assistance of IEF, while in the third district the vaccination campaign was canceled.

*Key Findings*
Following are highlights from the information collected:

**MOH Campaign Posts Evaluated**

| District | Number of Posts | Type of Distribution |
|---|---|---|
| San Juan Chamelco | 6 | VACs only |
| Coban | 7 | VACs only |
| San Pedro Carcha | 32 | VACs and Vaccines |
| TOTAL: | 45 | ---------- |

The information obtained from all three Districts revealed that 100% of the posts had administered the correct dosis to each child, while no posts had given VA educational talks. Separating the data into districts with only VAC distribution and districts with VAC distribution and vaccine administration, it was observed that the additional field staff was needed to assist the MOH staff to administer VACs in 23% of the posts (3/13) with only VAC distribution, while additional staff was also needed in 56% of the posts (18/32) with VAC and vaccine distribution.

The main conclusions drawn from the QA evaluations of the MOH's distribution of VACs were:

1.) There exist missed opportunities to improve the vitamin A knowledge level of the community mothers through educational talks at campaigns. Consciousness among all staff regarding the importance of vitamin A education at these times should be raised.



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2.) The MOH should better consider the amount of time and coordination needed to vaccinate as well as administer VACs (including all appropriate recording) when planning future joint campaigns and they should consider sending a minimum of two MOH staff to each campaign post to handle the logistics of both vaccinating and distributing capsules.

3) The MOH should continue to utilize the QA/information forms to monitor the quality and coverage of their future campaigns now that IEF support has phased-out of the area. The information should be fed-back to all employees and volunteers to motivate further improvements.

D. Objective 4, Strengthening NGO Capacity: Define how impact evaluation can be integrated within a project and used to strengthen Guatemalan NGO capacity to implement more effective health projects that serve a wider community.

1. Stakeholder Questionnaire and Meeting:

Gather information on current levels of integrated nutrition programming in Guatemala from PVOs/NGOs and other organizations working in Health and Nutrition and subsequently determine the needs of these organizations related to the aforementioned subject. Present findings of the impact evaluation of IEF and Project HOPE through a preliminary participatory workshop with stakeholders. Produce documentation of Lessons Learned as well as Recommendations to further strengthen the local PVOs/NGOs.

*Methodology*

*Questionnaire*
During January and February, 1997 a questionnaire was developed and distributed to 40 stakeholders including PVOs/NGOs, Donors and other organizations involved in vitamin A programming to characterize the level and type of work currently being implemented in Guatemala. The results from the 17 questionnaires that were filled out and returned were incorporated in the design of the Stakeholder meeting in May, 1997. The majority of respondents were International NGO and PVOs; donor agencies as well as 2 local NGOs, also responded. Of the 17 respondents, 13 had programs in nutrition, 8 of which deliver nutrition education. Four organizations stated a specific VA intervention, with 3 stating they were interested in incorporating VA programs in their future work.

The most interesting findings from the questionnaires included that the group of stakeholders generally did not feel a lack of technical expertise and would prefer to see the consolidation of available information. Qualitative research and QA methods as applied to nutrition programs were also stated to be of interest.

*Stakeholders Meetings*
The stakeholders meeting, held by IEF in Guatemala City, May 20.1997 was entitled "Cooperation for Strengthening of Integrated Nutrition and Vitamin A Programs". The meeting was attended by 14 stakeholder organizations including 10 PVOs/NGOs, USAID, UNICEF and US Peace Corps (see Annex V, List of Participants). The morning plenary session presented results of IEF's and Project HOPE's recent impact evaluation including KPC and dietary data, quality assurance assessments, and qualitative and cost-effectiveness analyses. In an afternoon workshop setting, the stakeholders participated in the generation of a list of lessons learned and recommendations based on their experiences with the monitoring and evaluation techniques presented and measurement of impact.

*Follow-up Stakeholder Meeting*
A follow-up meeting also held by IEF in Guatemala City, Guatemala, was held two months later with 4 NGOs, 2 International Organizations and 1 Guatemalan Governmental Agency in order to discuss general indicators and key messages for vitamin A interventions as well as the inclusion of educational materials in the manual which was requested by the stakeholders.

2. Lessons Learned, as generated by stakeholders.

*Difficult and Expensive to Evaluate Impact*
The group was impressed with the evaluation of impact that IEF was able to conduct to show increases in knowledge and changes in practices in the community. However they generally agreed that they would not perform this type of evaluation because it is too costly and requires a very high level of expertise. The group felt that it was not the role of PVO/NGO's to collect this type of information unless partnered with a university or research group with the necessary skills to properly perform the evaluation. PVO/NGO's, however, could contribute to the coordinated efforts of large donors to collect impact data given uniform indicators.

*Manuals are Most Useful When Accompanied by Practical Training Sessions*
Stakeholders were not in favor of requesting materials in manual form only, rather they stated their needs are best served when manuals are accompanied by hands-on training that focuses on the practical application of the materials presented. In the specific case of Guatemala, the stakeholders voiced that sufficient technical materials existed, they simply needed to be compiled in a meaningful format.

*Important to Associate Qualitative and Quantitative Data*
It was agreed that the trend of collecting qualitative data to enhance quantitative data should be utilized in Guatemala. It was also agreed that collection of qualitative data could improve knowledge of the customer needs and enhance customer focus of Programs which will strengthen programs.

*Every NGO Should Define Its Own Concept of Impact Before Carrying Out Baseline Assessments*
Stakeholders agreed that starting with and sticking to a working definition of "impact" is necessary in conducting relevant impact evaluations. It was mentioned that USAID should participate in assisting groups to better define "impact" and corresponding indicators.

*Administration of Vitamin A Capsules Needs to be Coordinated by the MOH to Ensure Sustainability.*
In many areas of Guatemala, PVOs and NGOs have primary responsibility for vitamin A capsule distribution. Although stakeholders have been actively promoting the capsules to the Ministry, the MOH in some areas has not embraced the concept. Steps should be taken by large donor organizations to assist the MOH in coordinating and eventually taking over this activity (this process has begun and was encouraged by the stakeholders).

*Focus Groups Should be Utilized Throughout the Planning and Implementation Phases of a Project*
The stakeholders perceived focus groups to be particularly useful in maintaining the customer focus of a project. It was felt that by conducting focus groups during planning stages, as well as periodically during the implementation phases, nutrition interventions would be continually redesigned to best serve community needs and to adapt to changing local conditions.

*Cost - Effectiveness Analysis Should be Incorporated Into the Original Design of the Project.*
Cost - Effectiveness Analysis (CEA) is generally thought of in the later stages of the project. It was the consensus of the stakeholders that CEA should be incorporated into the original design of any nutrition intervention in order to incorporate the collection of meaningful cost and time data into the program's management information system(MIS). It was also agreed that CEA is underutilized as a useful management tool.

*Guatemalan PVOs/NGOs are Lacking in Their Knowledge and Use of Quality Assurance (QA) Methodology.* Stakeholders were generally familiar with the concept of QA but few, if any, of the groups had actually implemented the methodology. The stakeholders view QA as a powerful tool for improving the quality of services provided to customers and were interested in receiving training in the methodology in order to apply it to their nutrition and other program interventions.

3. Recommendations, as generated by stakeholders:

*A Complete Manual of Vitamin A for Field Workers in Guatemala, Accompanied by Technical Support.* The stakeholders requested a basic manual targeted to field level workers and managers be developed. It was suggested that the majority of information regarding Vitamin A programming is available and should simply be consolidated into one package for easy access. The following components were considered essential by the group:

- Background/Basic Vitamin A information with References
- List of Key Messages
- Focus Group Methodology
- Quality Assurance Methodology
- Reference of Essential Nutrition Education Materials

It was also recommended that the IEF make itself available to the wide range of PVO/NGO's in Guatemala to assist with their VA needs. For example, it was requested that groups entering VA interventions for the first time such as Catholic Relief Services (CRS) and Medicines Sans Frontiers (MSF). Assistance to these groups would consist of an introduction to the VA educational materials, such as the Unidad Pro Vitamina A (UPVA) materials which were developed by IEF, dosing regimens etc. Groups with more experience in VA programs would require assistance with focus groups and quality assurance (see next recommendation). The IEF would also be able to share experiences of their programming and serve as a liaison to the varied PVO/NGO community.

Progress towards this recommendation: Over a three month period, technical assistance accompanied with the sharing of experiences was coordinated by a team of three Supervisors and one Agricultural Technician from the IEF Vitamin A for Child Survival Project in Coban, Alta Verapaz. Training was provided to approximately 10 different organizations in Guatemala including PVOs/NGOs and Governmental or Public Institutions. The organizations receiving assistance from the Coban technical team ranged from the Ministry of Health, the National Schools of Nursing and Agriculture, local Church Volunteer groups, to local NGOs such as the "Foundation for the Development of Indigenous Women - Talita Kumi" and "AgroSalud", International PVOs and NGOs including Food for the Hungry, CARE/Guatemala, Medicos Sin Fronteras and Catholic Relief Services.

Topics covered during the technical assistance visits included the Basics of Vitamin A (education and administration of capsules), overviews of QA methodology and its importance to Nutrition/Vitamin A education, and gardening. Of the approximately 500 participants, the majority (82%) received training in the Basics of Vitamin A, with 13% receiving training in gardening and 5% receiving an orientation to Quality Assurance. The majority of the costs of the training sessions were covered by the soliciting organization including travel expenses of the staff providing the training, with IEF covering only the salaries of the training staff in most cases.

The accompanying Vitamin A Manual was produced as a simple reference guide for field workers. Technical assistance for the manual was provided from IEF/Guatemala's expert in Focus Group Methodology, IEF/Honduras' expert in Quality Assurance Methodology and IEF/Bethesda's consultant in Cost-Effectiveness Analysis, as well as the technical team from the Vitamin A for Child Survival Project in Coban. The manual

includes information on the four topics suggested by the stakeholders (Vitamin A, Focus Groups, Quality Assurance and Cost-Effectiveness Analysis) as well as examples based on IEF's experience in each topic area. Lists of references and lists of local and international resources, including consultants, for each topic area are also included. Easy to copy handouts for VA education and administration are also included. The complete Vitamin A Manual is located in Annex VI for further details.

*Development of a Quality Assurance (QA) Training Workshop with a Field Exercise Component Focusing on VA Interventions.*
Stakeholders were overwhelmingly in support of receiving further training in QA. Not one of the stakeholder organizations had prior experience in the technique but they were all convinced that application of the methodology to their VA and nutrition programming would be feasible and would lead to cost-effective improvements.

As with the first recommendation, production of a manual in Spanish was requested with an accompanying field workshop. Information about QA in Spanish is unavailable unlike the technical VA information. For this reason the stakeholders specifically requested a step by step instruction manual with examples from actual QA exercises to be accompanied by a training workshop for teams from each PVO/NGO. The workshop would consist of follow-up sessions as the team completed an actual QA exercise in their project areas. A final workshop with presentations by each PVO/NGO and with the opportunity for critique of the presentations by the QA consultant and the PVO/NGOs teams was considered ideal. It was recommended that the training be conducted in Guatemala as there was sufficient interest from the groups present to form a class. Groups agreed that they would be willing to contribute to the cost of a QA training.

Progress towards the recommendation: Given the time and expense involved in realizing this recommendation, it was relayed to the group at the meeting that IEF would not be able to provide these services as part of the EDI project. The IEF later took the opportunity to interview stakeholders in Honduras who also recommended that the training be conducted in-country. Due to this response, a proposal was submitted to OMNI Research to complete with the recommendation on a regional rather than national level. The proposal would be a joint collaboration of the IEF and the QAP.

*Design of a Simplified Cost-Benefit Manual for Field Workers.*
Stakeholders requested that the method of cost-benefit analysis carried out by IEF of its Vitamin A interventions, be simplified and included in the manual for field workers. In addition, CARE Guatemala expressed interest in carrying out a cost-benefit analysis with assistance from IEF's cost-benefit consultant. Also, it was suggested that a very simple computer program be developed to continually collect this cost information and hopefully facilitate the sharing of such information amongst PVO's/NGO's.

Progress towards this recommendation: The IEF and CARE agreed to cost-share (on a 50% basis) the cost analysis consultant to perform a training in cost analysis. In addition, and based on the training, a "how to" section on cost analysis was incorporated into the basic VA manual. This "how to" section is based on Tina Sangvi's earlier work in Guatemala with Project HOPE and highly recommends that groups interested in performing this type of analysis should refer to her manual.

The IEF's cost-benefit consultant met with CARE/Guatemala in July of 1997 to train CARE, IEF and INCAP staff in the CEA methodologies. Each group performed an analysis of an existing program, however the goal of CARE was to implement CEA into a new multifaceted development program (FONUSEP) including Food Security and Nutrition initiatives once training of their staff was completed. A variety of CEA informational tools were also provided to the participants. A final report provided by the consultant will serve as a summary of the training course as well as guidelines for implementing CEA for CARE's FONUSEP project in the future. The assistance provided to CARE is allowing them to build CEA into its FONUSEP program and to develop

within the organization CEA team with experience and expertise that will serve other programs as well. " This expertise could help elevate the concept of cost-effectiveness analysis from an interesting idea being applied sporadically, to a concept integral to the planning and execution of all projects," as stated by the CEA consultant.

*Develop a List of "Best Indicators" in Vitamin A and General Nutrition.*
The Stakeholder's recommended that IEF coordinate an effort to publish a list of "best indicators" for use by PVO's/NGO's. It was suggested that Marcelo Castrillo of the Population Council could serve as technical assistant to the process given his experience with the development of the Child Survival indicators for the CSSP. It was also suggested that Laura Caufield from the Johns Hopkins Division of Nutrition could be contracted as an outside consultant, also to assist with selection of best indicators.

Progress towards this objective: The IEF began this process by requesting from PVO's/NGO's a list of indicators currently in use. Given that the majority of groups utilize the Johns Hopkins or UNICEF KAP survey as a means of monitoring and evaluating programs, the KAPs questions used to measure a given indicator were also requested from each organization. It was agreed at the stakeholders meeting that a group of approximately 5 to 6 PVO/NGO's would meet in July at the IEF offices, to set an agenda for further discussions on this topic. The meeting was held to review the list of indicators collected by IEF. Due to time constraints further review of the indicators to choose the "best" was not completed. The indicator list has been handed over to the USAID Mission in Guatemala to assist with their development of general indicators.

*Organize a Technical Meeting to Discuss the Issue of An Exit Strategy for PVO/NGO Capsule Distribution and the Incorporation of VA and Nutrition Themes in Primary Education at the Sociedad Latinoamericana de Nutrición (SLAN) Meeting in November.*
The group agreed that two major VA themes were important to the PVO/NGO community. The first being the issue of which groups should continue capsule distribution given the levels of fortified sugar that are reaching a large segment of the Guatemalan population. Recommendations by an expert panel specific to Guatemala or the region of Latin American, it was felt, would better guide VA programming for these stakeholders and the MOH.

The second theme of importance to the stakeholders was the incorporation of VA and nutrition education into the primary school system in Guatemala. The Peace Corps has been taking a lead role in bringing this objective to national attention, however, it was recommended that IEF assist Peace Corps with its objective, given the IEF's experience in VA and nutrition issues specifically.

By incorporating technical workshops on VA into the SLAN meeting it was the hope of the stakeholders to bring greater attention to issues of specific concern to the PVO/NGO community.

Progress towards this objective: Given that the EDI project ended in September and the SLAN meeting was not scheduled until November, it was decided that IEF's role in realizing this recommendation would be limited. The IEF did contact the organizers of SLAN, Dr. Hernan Delgado, Director of INCAP, and Dr. Noel Solomon of CeSSIAM to make them aware of the issues important to the group of stakeholders. The IEF will continue to seek alternative funding for the workshops, perhaps through a different forum.

E. Objective 5: Dissemination of Results. Describe how impact evaluation information can be disseminated more effectively to influence national and international policy efforts to promote and strengthen nutrition, micronutrient and child survival programming.

1. Develop publicity plan for the dissemination of impact evaluation data.

The original idea to develop a publicity plan for the dissemination of impact evaluation information was adapted to better reflect the needs of the stakeholder's. Impact evaluation itself was not generally within the financial and technical abilities of the PVO/NGOs. For this reason, the stakeholders preferred to leave impact analysis and subsequent dissemination of findings in the hands of the large donor organizations. Based on stakeholder recommendations improvements to existing VA/nutrition programs were better achieved through increased communication amongst stakeholders, training in QA and qualitative methods, and the collection of uniform indicators.

Findings from the impact evaluation were disseminated to stakeholders, including USAID and UNICEF, via the Vitamin A Manual and the stakeholder meetings. Findings were also presented at the XVIII International Vitamin A Consultative Group (IVACG) Meeting in Cairo, Egypt by Ms. Martha Piedrasanta (annex X).

The dramatic increase in the percentage of children meeting the RDA for vitamin A through fortified and non-fortified foods supports what has been found in other regions of Guatemala. In addition, the theoretical calculation, showing close to 100% of children meet their RDA when the VAC program is taken into account should assist national and regional policy makers when determining the need for continued capsule distribution.

*Key Findings*
Although the original concept of creating a publicity plan useful to PVO/NGO's was modified, the Stakeholder meetings did generate recommendations that will have a potential impact at national and regional levels. First, the IEF findings related to the impact of their VA/nutrition interventions in Coban support other information collected nationally. The fact that the majority of the retinol consumed is from fortified sugar is not only consistent with national data but further supports the investment of fortification in Guatemala. This information will be shared with the private sector producers by way of INCAP. This information also brought to attention the issue of an exit strategy for VACs. It has long been stated that capsules are not a long term solution such as home gardening and fortified sugar can be. However, the theoretical calculation showing about 20 to 30% more children meet the RDA when capsules are considered in the dietary intake, indicate that the capsules are still needed. Given the high coverage of fortified sugar, it is time for policy makers to establish parameters for phasing out capsules in the future.

Secondly, the stakeholders identified an issue that needs greater national attention: the incorporation of VA and nutrition education into the primary school systems requires both grass-roots and government support to be realized. Although it was not possible for the IEF to assist in this effort through the EDI project, IEF has maintained contact with the Peace Corps in Guatemala and are seeking funding to continue the collaboration in a more formal manner.

## V. Discussion

*Strengthening the VA/Nutrition PVO/NGO community in Guatemala.*
The overall purpose of the EDI project was to strengthen the capacity of Guatemalan NGO's, including USAID registered PVO's, to monitor and evaluate the impact of their vitamin A programs. The objectives and activities in support of this purpose were outlined in the DIP in a two stage design. The first stage of the project allowed for the impact evaluation of IEF and Project Hope's programs, the only two PVO's involved specifically in VA in Guatemala. Once evaluated, the data was provided to a wider audience of PVO/NGO stakeholders in the country. The impact evaluation analyzed the progress of the interventions from behavioral (dietary and qualitative assessments), cost (cost-effectiveness analysis), and process (coverage, quality assurance) points of view, while contrasting the different approaches to sustainability taken by IEF and Project Hope.

IEF presented the information and organized the stakeholders into working groups to generate lessons learned and a list of recommendations based on their VA programming needs. Prior to the meeting, a questionnaire was administered to a wide variety of PVO/NGOs to assess the current state of VA/nutrition programming in Guatemala. Of the 40 organizations queried, the majority of groups working in the area were international NGOs providing VA information to communities through general nutrition education programs. Only 3 of the groups were providing VAC's, but two more were initiating this activity in the coming year. A general lack of communication and cooperation amongst the groups was acknowledged prior to the meeting and was taken into account in planning the reunion.

The meeting agenda included participatory and working group sessions to maximize the interactions amongst the organizations. The list of lessons learned and recommendations generated by the stakeholders can be grouped into four categories. The first is the experience of the groups with impact evaluation. Stakeholders were impressed with the quantity and quality of data collected during the IEF dietary survey and the level of analysis. The consensus, however, was that organizations present did not have the technical nor financial resources to execute such evaluations independently. The majority preferred impact analysis be coordinated by large donor organizations or involve partnerships of the NGO with a research institution.

Secondly, taking a broader view of impact analysis, the stakeholders were enthusiastic about CEA, QA and qualitative research methods and how they could be applied to programs to monitor improvements and improve effectiveness and customer focus. The stakeholders were adamant that training manuals alone, would not function to provide the level of training necessary to perform these methodologies properly. Group consensus called for training exercises to be conducted in actual field settings and accompanied by a manual aimed at field personnel, to be most effective.

Third, groups new to VA programming, without the experience to begin the higher level analysis required by QA and cost-effectiveness analysis, requested capacity building in the basic elements of VA programming. Again, the consensus was that a manual alone would not satisfy their needs and that training sessions accompanied by a manual geared to field workers was needed. It was further recommended that the manual be a consolidation of existing information and give a general introduction into the evaluation methodologies.

Finally, the group suggested there were two issues of national importance to VA programming. The first issue was that of an exit strategy for vitamin A capsule distribution. Based on the National Micronutrient Survey and on IEF's dietary assessment, the levels of VA deficiency have continued to decrease in Guatemala with a majority of the intake coming from fortified sugar. Although levels have not reached 100% sufficiency, the improvements, combined with scarce resources, may lead NGOs to consider termination of capsule distribution programs. Anticipating this eventuality, the stakeholders recommended convening an expert panel at the upcoming SLAN meeting to propose the most prudent exit strategy and to set general guidelines for countries with marginal and/or improving VA status.

The other issue of national importance was the inclusion of VA education into Guatemala's primary school system. The Peace Corps had taken a lead role in this activity but used the stakeholder meeting as a forum to solicit support from IEF and others to further the agenda. The group agreed that Peace Corps should continue to lead the effort but requested IEF provide technical and advocacy support to better communicate the need for this education to the MOH and the Ministry of Education.

The IEF was able to complete the priority recommendations identified by consensus of the stakeholders. Through the IEF technical team, training was provided in basic VA programming to over ten organizations. The training took from 1 to 2 days and was specifically tailored to the needs of the NGO. The diversity of the participating groups ran from local NGOs such as the Foundation for the Development of Indigenous Women, Talita Kumi and AgroSalud, to large PVOs such as CARE/Guatemala. In order to serve the widest possible

audience, groups were asked to cost share activities with IEF. A manual to accompany the training was also developed (refer to annex VI) and delivered to all stakeholders including those that did not attend the meeting. Given the end of the project in September, groups requesting a second round of training and refresher courses could not be addressed.

IEF was able to provide training in CEA to CARE/Guatemala and INCAP. The one week course capacitated a team at CARE to integrate CEA into an upcoming nutrition and food security program (FONUSEP). Participants analyzed data from ongoing projects to make the course meaningful and meet the requests of the stakeholders. The introduction to CEA is included in the IEF VA Manual along with references to CEA done by LACHNS in 1994, to new CEA software for nutrition programs being developed by OMNI, and a variety of other important resources. The assistance provided to CARE is allowing them to build CEA into its FONUSEP program and to develop within the organization a CEA team with experience and expertise that will serve other programs as well.

An issue addressed during the CEA analysis and in the manual, is that groups should use caution when generating and reporting cost estimates. Complete information is rarely gathered and conclusions are therefore drawn based on a combination of data and program experience. Comparing cost data from one project to another also requires caution. Full knowledge of figures, calculations and assumptions used is necessary to make accurate comparisons.

The enthusiasm for Quality Assurance exhibited during the stakeholder meeting can not be underestimated. IEF and Project HOPE, through their recent collaboration, were the only groups with actual experience executing this methodology. QA is appealing to this community because it provides a simple and effective means to monitor programs. Rather than requiring intensive expertise, QA relies on the employee closest to the action: the worker that hands the VAC to the mother or child, for example. By emphasizing process, workers are empowered to make changes that lead to improvements, and are encouraged to look for ways to continually better the process. QA also provides real data on manageable, though significant, problems. Additionally, QA is oriented to the customer which is both needed by donor agencies and desired by NGOs to improve VA/nutrition programming. Interest generated for QA lead stakeholders to request training through actual field exercises. Although it was not possible to provide this training through the EDI Cooperative Agreement, a proposal has been submitted to OMNI Research to meet this stakeholder request. Given stakeholder interest for learning this methodology in Honduras (as determined by a second stakeholder meeting), the proposal was conceived to be a regional initiative.

Due to the stakeholder assumption that impact evaluation is too technical or resource intensive to be conducted independently, the IEF arranged a second stakeholder meeting to further analyze this topic. The groups decided a first step to improving the capacity of PVO/NGOs to conduct impact evaluation would be to create a database of all indicators currently in use and present this information to large donors such as USAID and UNICEF (refer to annex VIII). The majority of organizations use indicators from the KPC questionnaires of JHU/CSSP and UNICEF. These surveys measure process and behavior change but not actual dietary intake or biochemical indicators. Of the groups present at the stakeholder meeting, with the exception of the large donors, only IEF had experience in dietary surveys and biochemical assessments, and this was with access to technical expertise from CeSSIAM and other contractors.

*Dietary Survey*

The International Eye Foundation documented an increase of 130% or 44 percentage points in the number of children reaching vitamin A sufficiency in the program area. The VA programs of the IEF are integrated into Child Survival programming in the Alta Verapaz region of Guatemala. The increase occurred in a period of five years from 1991 to 1996. A theoretical calculation was also made, adding the vitamin A contribution of the capsules to the dietary intake of the children assessed for dietary intake. Using this calculation a 20 to 30

percentage point increase was shown in the number of children (depending on age) reaching VA sufficiency. Without taking capsules into consideration, 78% of children meet the RDA, with capsules about 100% of the children meet this requirement.

## VI. Conclusion

The International Eye Foundation was able to verify the impact of its integrated VA interventions through impact analysis including: dietary assessment, quality assurance and cost-effectiveness analysis. A key finding was the increase in the percentage of children reaching the RDA for VA from 34% to 78% in a five year period in the IEF target area. Additionally, the information gathered about the additional impact of the project when VAC distribution is taken into account, bringing 100% of target children to sufficiency, should prove useful to future policies for capsule programs in Guatemala.

By sharing the findings of the impact analysis with a diverse group of PVO/NGO stakeholders, the IEF was able to assess the needs of these organizations in relation to vitamin A programming. Meeting the requests of the PVO/NGO community, the IEF provided field training in the basic elements of VA and developed a supporting VA Manual. The IEF also provided CEA training for CARE and INCAP staff. Remaining requests for training in QA and for the organization of expert panels to deal with the issue of an exit strategy for VACs in Guatemala will be pursued by IEF through alternative funding mechanisms.

By disseminating lessons learned and by providing appropriate, technical field assistance to improve monitoring and evaluation systems the IEF has improved the quality of VA/nutrition programming by PVO/NGOs in Guatemala, in support of P.O. 3.4. In addition, the IEF has supported P.O. 3.2, increasing resources available to stakeholders through direct field support and development of a vitamin A manual to stakeholder specifications. These intermediate results in turn lead to the increased use of VA/nutrition interventions by stakeholders and the communities they serve in Guatemala in support of SO3.

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# Annex I: Statistical Report

# INTERNATIONAL EYE FOUNDATION

## EDI 1996
## February 1997

# Statistical Report

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# STATISTICAL METHODOLOGY

This chapter presents the statistical methodology used in the design of the study as well as in the statistical analysis. It also presents the way that the data was enter and handled into the computer.

When the design of the study was selected, there was an interest in comparing the Programs HOPE and AMPROS, with some of the indicators. So, as it may be seen, the calculated sample size reflects larger sizes to enable the comparison. At the end of the study it was decided not to compare both Programs, so the statistical analysis does not show any statistical hypothesis comparing these two, although the sample sizes remained the same. The only statistical hypothesis tested in this study, and shown in this report were the ones that compare participants versus non participants within each Program.

## *I STUDY DESIGN*

Initially the study was designed to allow comparisons among the Programs HOPE and AMPROS with respect to Vitamin A indicators, mainly KPC, and food consumption. It also was designed to allow comparisons of these indicators within the Programs among time, lets say, to compare base and middle evaluations with the actual one.

In this report the comparison among AMPROS and HOPE is not actually made, although most of the indicators could be easily compared by means of the confidence interval. The results are written in a table where both AMPROS and HOPE are present to facilitate the comparison of the confidence intervals.

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This report neither presents a comparison of the indicators with respect to base and middle lines, but confidence intervals could be easily used to infer if there have been any changes. So, this should be taken as a first or preliminary report on the statistical analysis of the study.

To understand the study design, it is important to start with the aims of the study.

**STUDY AIMS**

The aims of the study were:

1) To know the effect due to the KPC Program established by AMPROS, among the communities were the Program works. This is obtained by comparing the values of the actual KPC indicators with the ones in the base and middle lines.

   For example, this aim could be seen as to know if the percentage of mothers of young children (six years or less), that live in the AMPROS communities, have "good" practices and knowledge about Vitamin A is equal to the percentages showed in the base and middle lines.

   The statistical hypothesis is :

   **Ho: P=Po**

   Where "Po" is referring to the proportion from the base and middle lines.

2) To know the effect due to the KPC Program established by HOPE, among the communities were the Program works. This is obtained by comparing the values of the actual KPC indicators with the ones in the base and middle lines.

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For example, this aim could be seen as to know if the percentage of mothers of young children (six years or less), that live in the HOPE communities, have "good" practices and knowledge about Vitamin A is equal to the percentages showed in the base and middle lines.

The statistical hypothesis is :

**Ho: P=Po**

Where "Po" is referring to the proportion from the base and middle lines.

3) To know if the effect of both HOPE and AMPROS is different with respect to KPC. This will be done by comparing the KPC indicators of the actual communities in both Programs. ***(This aim was drop out from the study at the time of making the statistical analysis, but its relevance is important to understand the calculated sample size).***

For example, this aim could be seen as knowing if the percentage of mothers that have "good" practices and knowledge about Vitamin A who live in the HOPE communities, is equal to the percentage of mothers who live in the AMPROS communities.

The statistical hypothesis is :

**Ho: $P_1=P_2$**

Where "$P_1$" is the proportion corresponding to AMPROS, and $P_2$" corresponds to HOPE.



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## DESIGN OF THE STUDY AND SAMPLE SIZE

According with the aims of the study, and by the fact that the involvement with the AMPROS and HOPE Programs is voluntary, the proposed design study was an **observational and cross-sectional** one.

The sample size was calculated under the next parameters :

1. Among the three aims mentioned above, number three is the one that needs the larger sample size, because of the proposed hypothesis test, and there is no references from most of the indicators that will be compared. These two facts made us to calculate the sample size with the maximum variability possible, from a dichotomous variable : variance = P(1-P), where P=0.05 ; so, variance = 0.25). For a pooled or common variance we have $P_1 = 0.50$ and $P_2 = 0.50$, so the pooled variance :

   $VarP = P_1(1- P_1) + P_2(1- P_2) = 0.25 + 0.25 = 0.50$ (Machin & Campbell, 1987; Meinert, 1986). On the other hand , a real difference among the two Programs was defined as 10% for any indicator.

2. For the hypothesis test , a control of type 1 error of 90% and a control of type 2 error of 70% was chosen. So, there is a confidence level given by :

   $Z = Z_{\alpha/2} + Z_{B} = 1.645 + 0.524 = 2.17$ ($\alpha = 0.10$, $\beta = 0.30$)

Based on previous evaluations of KPC questionnaires from other Programs, the following information was obtained :

The effect of the design over the variability among the observations, known as design effect, is around three for this type of studies. Therefore a design effect of three was assumed.

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It is common to go to the field and not get an answer from a household, either because : it is an empty household, people is not at home, or lack of collaboration. This is known as a non response observations. So in order to keep the calculated sample size, there are at least two ways of proceeding in these cases : the first one is to make another selection and go back to the field. The other procedure is to over sample, knowing that a percentage of the selected households will be into the non response category. For the sample size calculation, a 13% of lost of data for non response was used.

The calculus of the sample size took also into account the fact that not in all the households were young children (selection criteria : under 6 years old), considering the percentage of houses with these children as 90%. So, this is another 10% of households selected that will not give an answer, added to the ones with non response.

Based on above, the sample size was calculated :

n = Minimum Sample Necessary X Correction due to design effect and estimated lost of information.

$$n = \frac{CL^2 \times VarP}{Difference^2} \times \frac{DE}{(1-LP)\ X\ (1-PN)}$$

| | | |
|---|---|---|
| Where: CL : | $Z = Z_{\alpha/2} + Z_{B} = 1.645 + 0.524 = 2.17$ | |
| VarP: | $P_1(1-P_1) + P_2(1-P_2) = 0.25 + 0.25 = 0.50$ | |
| Difference: | 10%, or equivalent to a proportion of | $\Delta = 0.10$ |
| DE: | Sampling Design Effect | DE = 3 |
| LP: | Lost proportion | LP = 0.13 |
| PN: | Proportion of households without young children | PN = 0.10 |

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So,

$$n = \frac{2.17^2 \times 0.50}{0.10^2} \times \frac{3}{(1-0.13)\ X\ (1-0.10)} = 235.45 \ X\ 3.83 = 902 \cong \mathbf{900}$$

**households/Program**

With a sample size of 900 households for each Program, it was meant to be possible to establish a difference as statistically significant among the indicators from the base/midle lines and this evaluation (aims one and two). According with the next formula, the minimal statistical difference (MSD) to be detected in this case is :

$$MSD = \sqrt{\frac{CL^2 \times Variance}{n} \times \frac{DE}{(1-LP)\ X\ (1-PN)}}$$

Where, according with the hypothesis to be tested **Ho: P=Po**
And
Where: CL : $\alpha=0.05, \beta=0.10 \Rightarrow Z= Z_{\alpha/2} + Z_{B} = 1.96 + 1.828 = 3.242$

| | | |
|---|---|---|
| Variance: | P(1- P) = 0.25 | |
| DE: | Sampling Design Effect | DE = 3 |
| LP: | Lost proportion | LP = 0.13 |
| PN: | Proportion of households without young children | PN = 0.10 |
| n: | 900 households | |

$$MSD = \sqrt{\frac{3.242^2 \times 0.25}{900} \times \frac{3}{(1-0.13)\ X\ (1-0.10)}} = 0.10 \Rightarrow 10\ \%$$

So, a difference of 10% or over in any indicator value was meant to be the one to established as a significant difference among base/midle lines and this evaluation..



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## TARGET POPULATION

Mothers of children with six or less years old (young children), that live in the communities where the Programs HOPE and AMPROS work were defined as the target population.

## INCLUSION CRITERIA TO THE SAMPLE

How a household was selected is explain below. To include a selected household into the sample, it had to comply with these criteria:

There should be children of six or less years old

The mother must be available and willing to give information for the KPC questionnaire

The mother or some other adult (in charge of feeding the children) must be willing to give information for the questionnaire on food consumption of the index child

If a household was more than one family complying with the above criteria, the mother giving the initial information (answering the filter questionnaire) was the one selected. If the person responding to the filter questionnaire is not the mother of the children, then a random selection among the families was held.



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The index child was the one that has an age between one year and less than six years. In the case that in the selected family there was more than one child with these ages, then the index child was randomly selected.

## SELECTION OF THE SAMPLE

The selection of the sample was held by means of a stratified sampling. Within each strata a two stage cluster sampling, proportional to size (PPS sampling) was done. Clusters were defined as villages or small towns. With the Program HOPE it was necessary to add small communities to defined a cluster, so at least 50 households were in each cluster. Because there was a lack of actual maps or lists of households/people from the communities, within each cluster the selection of the households was random by the HHCSM methodology (Matute et al, 1992).

The HHCSM methodology uses a hand held computer. This small computer is fed with the probabilities of selection for each household among a cluster. The methodology requires that the field team goes through all the cluster pointing with the computer to each household. The program within the computer creates random intervals from which one household is selected. The program also keeps track of the number of households that have been pointed out, as well as the number of selected ones (these information has two objectives : to check the field work and to help to generate the selection weights used in the statistical analysis).

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The calculated sample size for each of the two Programs was 900. So, it was decided to sample 50 households within each selected cluster, for a total of 18 clusters for each Program. Since the beginning of the field work, it was seen that to go trough 18 communities for each Program was time-impossible, therefore three clusters from each Program were randomly drop out, and the sample size for the remaining 15 was increased to 60.

## The Strata

For both, HOPE and AMPROS there was a need to stratified the communities according to its type : rural / quasiurban-urban , and the amount of time that the Program has been into the community. The amount of clusters selected into each strata was proportional to the total amount of them.

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For AMPROS these were the strata :

**Table A : Strata in AMPROS.**

| STRATA | TYPE OF COMMUNITY | TIME IN THE PROGRAM | CLUSTERS TOTAL | CLUSTERS SELECTED |
|---|---|---|---|---|
| I | Rural | 3-5 years | 18 | 5 |
| II | Rural | 1-2 years | 29 | 8 |
| III | Quasiurbano | 1-2 years | 3 | 2 |

The selected and visited communities for AMPROS were : (Population data was obtained from the Program)

**Table B : Selected and visited communities in AMPROS.**

| PROGRAM | STRATA /cluster. | County | COMMUNITY | POPULATION Total | households* |
|---|---|---|---|---|---|
| AMPROS | I | | | 15,966 | 2,661 |
| | | Sn Pedro Carchá: | | | |
| | 1 | | Chizón | 1,025 | 171 |
| | 2 | | Chitaña | 498 | 83 |
| | 3 | | Chiyo | 2,946 | 491 |
| | 4 | | Pocolá | 1,519 | 254 |
| | 5 | | Chiquixji | 2,769 | 462 |
| | | Sn Juan Chamelco: | | | |
| | II | | | 22,356 | 3,726 |
| | | Sn Pedro Carchá: | | | |
| | 7 | | Chitap | 851 | 142 |
| | 8 | | Yocbatz | 608 | 102 |
| | 10 | | Muyha | 1,500 | 250 |
| | 11 | | Chicojl | 1,104 | 184 |
| | 12 | | Pequixul | 885 | 148 |
| | 13 | | Coop. Samac | 528 | 88 |
| | 14 | | Mestelá | 496 | 83 |
| | | Sn Juan Chamelco: | | | |
| | 16 | | Granadilla | 468 | 78 |
| | III | | | | |
| | | Sn Pedro Carchá: | | 4,692 | 782 |
| | 17 | | La Trinidad | 860 | 143 |
| | 18 | | La N. Esperanza | 2920 | 487 |

* The total of the population was divided into 6 to obtain an estimate of the number of households in the community



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For HOPE these were the strata :

**Table C : Strata in HOPE.**

| STRATA | Depto. | TYPE OF COMMUNITY | TIME IN THE PROGRAM | CLUSTERS TOTAL | CLUSTERS SELECTED |
|---|---|---|---|---|---|
| IV | Quetzalt | Rural | 3-5 years | 76 | 5 |
| V | San Marcos | Rural | 3-5 years | 99 | 5 |
| VI | Totonic. | Rural | 1-2 years | 85 | 5 |

The selected and visited communities for HOPE were : (Population data was obtained from the Program)

**Table D : Selected and visited communities in HOPE.**

| PROGRAM | STRATA | | State/ county | COMMUNITY | POPULATION Total | households* |
|---|---|---|---|---|---|---|
| HOPE | IV | | | | 97,770 | 16,295 |
| | | | Quetzaltenango: | | | |
| | | 19 | Sn Carlos Sija | Candelaria | 1,399 | 234 |
| | | 20 | Cantel | Xecam | 2,082 | 347 |
| | | 21 | El Palmar | Calaguache | 1,879 | 314 |
| | | 22 | Palestina | Sn Jose Buena Vista | 442 | 74 |
| | | 23 | Coatepeque | Bethania | 1,512 | 252 |
| | V | | | | 72,948 | 12,158 |
| | | | Sn Marcos: | | | |
| | | 25 | Sn Marcos | El Recreo | 486 | 81 |
| | | 26 | Esquipulas Palo Gordo | San Jose Las Islas | 620 | 104 |
| | | 28 | Ocos | La Blanca | 2,635 | 440 |
| | | 29 | Tacana | Tojchoc | 830 | 139 |
| | | 30 | San Lorenzo | La Caballeria | 310 | 52 |
| | VI | | | | 101,844 | 16,974 |
| | | | Totonicapán: | | | |
| | | 31 | Santa Maria Chiquimula | Xexaxejaj | 1,223 | 204 |
| | | 32 | Momostenango | Canquixaja | 551 | 92 |
| | | 34 | Totonicapán | Tzanixnam | 2,000 | 334 |
| | | 35 | Sn Fco El Alto | Paxixil | 2,365 | 395 |
| | | 36 | Sn Fco El Alto | Rancho de Teja | 6,244 | 1,041 |

* The total of the population was divided into 6 to obtain an estimate of the number of households in the community

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## II HANDLING OF THE DATA INTO THE COMPUTER

The quality of the data is very important, each questionnaire is not just expensive enough to loose it, but also in a way it is priceless, so besides the field quality control, there was a quality control in the data entry.

The data entry and quality control of the entry process was held with the software EPI-INFO version 6.04a (from Centers for Disease Control, Atlanta, Georgia, USA).

The entry process was done as a double entry one, were two people enter the same data, once each (each questionnaire was entered twice, once by every one of the data entry person).

The quality control of the data entry was held by means of the CHECK program (EPI-INFO) as well as the double entry process and validation, this last by means of the VALIDATE program (EPI-INFO). The data entry cleaning and validation process was finished when there was a 0% of differences among the double entry files.

After the data was cleaned of data entry error, **a second cleaning process was held,** this one was done to correct errors from the field (mainly related to bad coding). Once the data files were free of errors (from the entry and from the field), the analysis files were created.

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## III STATISTICAL ANALYSIS

The way that the data was collected in the field, was under a complex sampling design containing strata and clusters selected with probability proportional to size, therefore the statistical analysis was done taking the study design into account. The software used to handle the data to create the proposed indicators (see the results chapter with the indicators), was EPI-INFO versions 6.04a/b, by means of the ANALYSIS program. The files containing the indicators were analyzed also in EPI-INFO by its CSAMPLE program.

The statistical analysis of the indicators needed the definitions of strata, clusters and weight.
The strata have already been defined above, as well as the clusters.

***Weight*** is a variable that weights the indicators according with the probability of selection of the households that comply with the inclusion criteria. The objective of this weight is to give to all the selected households the same probability of selection. For example, one child from a village of 100 people has a smaller probability of being selected than one from a village with 50 people. So, by weighting the problem of unequal probabilities of selection is fixed.

The weights for this study were calculated in this way :

Let :

**T** = Total of households, that comply with the inclusion criteria, in a cluster

$$= THC \times \frac{TQF}{THS}$$

where : THC = Total of households in the cluster (data obtained in the field)

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TQF = Total of questionnaires filled
THS = Total of households selected in the field

**A** = Probability of selecting a household, that complies with the inclusion criteria, in a cluster

$$= \frac{TQF}{T}$$

**C** = Probability of selecting a cluster within the strata

$$= \frac{THCs}{THSs}$$

where : THCs = Total of households in the cluster (data obtained for the selection process)
THSs = Total of households selected in the selection process

Therefore,

$$\text{WEIGHT} = \frac{1}{A \times C}$$

The statistical analysis was held to obtain estimates of the indicators (mainly percentages), as true values for the sample; and confidence intervals (95%) as the values where the true mean for the population lies.

The ***design effects*** of the sampling design were also estimated. The meaning of ***these design effects*** is the amount that the variability among the sample increases or decreases with respect to a simple random sampling by using the complex sampling design described.

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There are two phases of analysis, the first one was made to obtain the mean estimates for the sample and the population (confidence intervals) of all the indicators. The results of this first phase are in the chapter called Results : Indicators Description. The second phase was made to complement the first one, by answering specific questions proposed by IEF, and consists mainly on making new indicators based on the first ones and making estimations for sub populations, for example participants and non participants, children under two years old.

## *IV Effectiveness of the sampling*

The calculated sample size for each Program was 900 households. This sample size expected a 23% of loses by non response and by households without children of 6 years old or younger. Also, this sample size was calculated assuming a design effect of three, a maximum variance, and a minimal statistical difference (MSD) of 10%. With these assumptions, the needed sample size (assuming maximum variance) is of 707 households per Program. Most of the indicators have a design effect less than three and a variance less than the maximum, so the proposed MSD has been successfully accomplished with the samples from the field.

As can be seen in Table A, the "non response" (including households without children under 6 years old) is larger than expected, as a result the number of selected households was modified during the field work (see field work report or the summary below).

**Table E : Effectivness of the sampling.**

| PROGRAM | HOUSEHOLDS | | PERCENTAGE OF NON RESPONSE |
|---|---|---|---|
| | TOTAL SELECTED | WITH KPC DONE | |
| AMPROS | 1,309 | 606 | 53.7 % |
| HOPE | 1,715 | 685 | 60.0 % |

It was necessary to visit some of the households more than once. The percentage of households visited at least twice in AMPROS was of 2.1%, and in HOPE it was of 5.2%.

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Summary of steps made during the field work to adjust the sample size

1) Once in a new community, the field workers work for 3 to 4 hours
2) After these first hours of work the supervisor check the amount of households with non response and without children under 6 year old
3) The new data of non response was entered into the computer for selection, to adjust the selection interval (See reference and a copy of it in the appendix).
4) Field workers went again into the community with the program for selection updated with the real non response data for that community.



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## 4) V REFERENCES

Matute J. , Fitch D & Flores R. **A Statistically Sound Alternative to EPI Sampling : HHCSM. 1992.** Published into the memories of Primer Congreso de la Sociedad Biométrica del Caribe y Centro América held in Trinidad. (see appendix)

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# SAMPLE DESCRIPTION

Tables 1 and 2 give a description of the sample according to the sampling design. Tables 3 to 5 give a general description of the type of people that live in the communities where AMPROS and HOPE work. The tables present mainly percentages and in some cases means. **The estimates of these percentages and means where NOT made taking the sampling design into account** (population estimates where not consider important for this data), so the percentages present the real proportions of the sample only with respect to the analyzed variable (no inferences about the population on these variables should be made).

In Table 6 there are population and sample estimates taking the sampling design into account, for some of the variables presented in Tables 4 and 5. These estimates are useful to make inferences about the population, by means of the confidence intervals. Table 7 presents the design effects for these estimates.

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SAMPLE DESCRIPTION

## I GENERAL INFORMATION

Table 1 Values related to sampling. AMPROS. The total of households is the total found in the field.

| Strata/cluster | Households: Total | Selected /visited | Respondents: KPC | CF | Non response | Sampling Weight |
|---|---|---|---|---|---|---|
| **AMPROS** | | | | | | |
| **I Rural 3-5 years in the Program :** | | | | | | |
| County : San Pedro Carchá: | | | | | | |
| 1 Chizón | 176 | 91 | 37 | 35 | 54 | 30.1 |
| 2 Chitaña | 86 | 86 | 37 | 33 | 49 | 32.1 |
| 3 Chiyo | 492 | 104 | 66 | 63 | 38 | 25.6 |
| 4 Pocolá | 232 | 64 | 23 | 22 | 41 | 38.0 |
| 5 Chiquixji | 480 | 107 | 63 | 60 | 44 | 25.8 |
| **II Rural 1-3 years in the Program :** | | | | | | |
| County : San Pedro Carchá: | | | | | | |
| 7 Chitap | 172 | 94 | 36 | 35 | 58 | 48.0 |
| 8 Yocbatz | 101 | 67 | 28 | 25 | 39 | 55.1 |
| 10 Muyha | 251 | 75 | 36 | 34 | 39 | 49.9 |
| 11 Chicojl | 193 | 93 | 50 | 49 | 43 | 42.0 |
| 12 Pequixul | 152 | 85 | 36 | 31 | 49 | 45.0 |
| 13 Coop. Samac | 86 | 86 | 33 | 30 | 53 | 42.3 |
| 14 Mestelá | 89 | 89 | 26 | 22 | 63 | 44.9 |
| County : Sn Juan Chamelco : | | | | | | |
| 16 Granadilla | 81 | 81 | 33 | | 48 | 47.8 |
| **III Quasiurban 1-3 years in the Program :** | | | | | | |
| County : San Pedro Carchá: | | | | | | |
| 17 La Trinidad | 176 | 87 | 49 | 45 | 38 | 10.4 |
| 18 La Nueva Esperanza | 591 | 100 | 53 | 49 | 47 | 9.5 |
| TOTAL | 3,358 | 1,309 | 606 | 566 | 703 | |



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**Table 2 Values related to sampling. HOPE.** The total of households is the total found in the field.

| Strata/cluster | Households: Total | Selected /visited | Respondents: KPC | CF | Non response | Sampling Weight |
|---|---|---|---|---|---|---|
| **HOPE** | | | | | | |
| **IV Rural Quetzaltenango 3-5 years in the Program :** | | | | | | |
| County : San Carlos Sija | | | | | | |
| 19 Candelaria | 405 | 125 | 35 | 31 | 90 | 225.6 |
| County : Cantel | | | | | | |
| 20 Xecam | 491 | 79 | 38 | 35 | 41 | 291.9 |
| County : El Palmar | | | | | | |
| 21 Calaguache | 358 | 66 | 28 | 25 | 38 | 281.5 |
| County : Palestina | | | | | | |
| 22 Sn Jose Buena Vista | 120 | 120 | 26 | 23 | 94 | 220.2 |
| County : Coatepeque | | | | | | |
| 23 Bethania | 426 | 215 | 87 | 81 | 128 | 128.1 |
| **V Rural San Marcos 3-5 years in the Program :** | | | | | | |
| County : Sn Marcos | | | | | | |
| 25 El Recreo | 90 | 90 | 33 | 29 | 57 | 150.1 |
| County : Esquipulas Palo Gordo | | | | | | |
| 26 San Jose Las Islas | 95 | 95 | 37 | 39 | 58 | 116.9 |
| County : Ocos | | | | | | |
| 28 La Blanca | 532 | 150 | 87 | 85 | 63 | 98.0 |
| County : Tacana | | | | | | |
| 29 Tojchoc | 267 | 187 | 45 | 43 | 142 | 124.9 |
| County : San Lorenzo | | | | | | |
| 30 La Caballeria | 62 | 62 | 24 | 24 | 38 | 233.8 |
| **VI Rural Totonicapán 1-3 years in the Program :** | | | | | | |
| County : Santa Maria Chiquimula | | | | | | |
| 31 Xexaxejaj | 220 | 79 | 34 | 31 | 45 | 231.7 |
| County : Momostenango | | | | | | |
| 32 Canquixaja | 104 | 104 | 43 | 39 | 61 | 184.5 |
| County : Totonicapán | | | | | | |
| 34 Tzanixnam | 650 | 111 | 60 | 58 | 51 | 297.6 |
| County : Sn Fco El Alto | | | | | | |
| 35 Paxixil | 394 | 116 | 46 | 44 | 70 | 146.0 |
| 36 Rancho de Teja | 1101 | 116 | 62 | 57 | 54 | 154.8 |
| TOTAL | | 1,715 | 685 | 644 | 1,030 | |

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## Effectiveness of the sampling

The calculated sample size for each Program was 900 households. This sample size expected a 23% of loses by non response and by households without children of 6 years old or younger. Also, this sample size was calculated assuming a design effect of three, a maximum variance, and a minimal statistical difference (MSD) of 10%. With these assumptions, the needed sample size (assuming maximum variance) is of 707 households per Program. Most of the indicators have a design effect less than three and a variance less than the maximum, so the proposed MSD has been successfully accomplished with the samples from the field.

As can be seen in Table E, the "non response" (including households without children under 6 years old) is larger than expected, as a result the number of selected households was modified during the field work (see field work report or the summary below).

**Table E : Effectivness of the sampling.**

| PROGRAM | HOUSEHOLDS TOTAL SELECTED | HOUSEHOLDS WITH KPC DONE | PERCENTAGE OF NON RESPONSE |
|---|---|---|---|
| AMPROS | 1,309 | 606 | 53.7 % |
| HOPE | 1,715 | 685 | 60.0 % |

It was necessary to visit some of the households more than once. The percentage of households visited at least twice in AMPROS was of 2.1%, and in HOPE it was of 5.2%.

## Summary of steps made during the field work to adjust the sample size

Once in a new community, the field workers work for 3 to 4 hours

After these first hours of work the supervisor check the amount of households with non response and without children under 6 year old

1) The new data of non response was entered into the computer for selection, to adjust the selection interval (See reference and a copy of it in the appendix).
2) Field workers went again into the community with the program for selection updated with the real non response data for that community.

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## II GENERAL DATA

The estimates of the General Data tables have been made with the following sample sizes :

**Total CAPS questionnaires from HOPE = 685**
**Total CAPS questionnaires from AMPROS = 606**
**Total CF questionnaires from HOPE = 644**
**Total CF questionnaires from AMPROS = 566**

**Table 3 Mother description .** In a very few cases the information was answered by the grandmother, so the eldest group contains these cases.

| Variable | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|
| **Mother age :** (Q. C13) | | | | |
| Less than or equal to 20 years | 79 | 13.0 | 81 | 11.8 |
| More than 20 years and less than or equal to 30 | 275 | 45.4 | 319 | 46.6 |
| More than 30 years and less than or equal to 40 | 197 | 32.5 | 219 | 32.0 |
| More than 40 years | 55 | 9.1 | 66 | 9.6 |
| **Mother reads :** (Q. C14) | | | | |
| Yes | 146 | 24.1 | 301 | 43.9 |
| No | 460 | 75.9 | 384 | 56.1 |
| **Mother writes :** (Q. C15) | | | | |
| Yes | 138 | 22.8 | 288 | 42.0 |
| No | 468 | 77.2 | 397 | 58.0 |
| **Mother has assisted to the school :** (Q. C16) | | | | |
| Yes | 158 | 26.1 | 324 | 47.3 |
| No | 448 | 73.9 | 361 | 52.7 |
| **From the mothers that have assisted to the school, last school grade :** (Q. C17) | | | | |
| Preschool to 3rd primary grade | 110 | 69.6 | 192 | 59.3 |
| 4th to 6th primary grade | 37 | 23.4 | 111 | 34.2 |
| secondary school | 11 | 7.0 | 21 | 6.5 |

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**Table 4 Index child description .** Information from the food consumption questionnaires. Very few children were a little less than 12 months old so they are included with the youngest group. Total index children for AMPROS = 566 and for HOPE = 646.

| Variable | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|
| **Age of the index children :** | | | | |
| 1 to less than 2 years | 102 | **18.0** | 127 | **19.7** |
| 2 to less than 3 years | 127 | **22.4** | 142 | **22.0** |
| 3 to less than 4 years | 121 | **21.4** | 148 | **22.9** |
| 4 to less than 5 years | 123 | **21.7** | 138 | **21.4** |
| 5 to 6 years | 93 | **16.4** | 91 | **14.1** |
| **Gender of the index children :** | | | | |
| Male | 276 | **48.8** | 327 | **50.6** |
| Female | 290 | **51.2** | 319 | **49.4** |

**Table 5 household description .**

| Variable | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|
| **Amount of people that live in the household :** (Q. C18) | | | | |
| Less than or equal to 4 persons | 105 | **17.3** | 123 | **18.0** |
| More than 4 persons and less than or equal to 9 | 424 | **70.0** | 472 | **68.9** |
| More than 9 persons | 77 | **12.7** | 90 | **13.1** |
| Mean (variance): | 6.8 | **(5.3)** | 6.8 | **(6.0)** |
| **Number of bedrooms in the household :** (Q. C19) | | | | |
| One | 340 | **56.1** | 427 | **62.3** |
| Two | 201 | **33.2** | 177 | **25.9** |
| Three or more | 65 | **10.7** | 81 | **11.8** |
| **Ownership of the household :** (Q. C20) | | | | |
| Owners | 575 | **94.9** | 622 | **90.8** |
| Rented | 14 | **2.3** | 12 | **1.8** |
| Borrow | 16 | **2.6** | 49 | **7.2** |
| Other | 1 | **0.2** | 2 | **0.3** |
| **Walls made of :** (Q. C21) *(the italic names are in Spanish)* | | | | |
| Block concrete | 70 | **11.6** | 162 | **23.6** |
| Brick | 0 | **0** | 0 | **0** |

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|---|---|---|---|---|
| *Bajareque* | 4 | 0.7 | 11 | 1.6 |
| Adobe | 2 | 0.3 | 378 | 55.2 |
| Wood | 428 | 70.6 | 72 | 10.5 |
| *Baras* | 93 | 15.3 | 40 | 5.8 |
| Other | 9 | 1.5 | 22 | 3.2 |

**Table 5 household description .** (continue..)

| Variable | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|
| **Ceiling made of :** (Q. C22) *(the italic names are in Spanish)* | | | | |
| Zinc lamina | 493 | 81.4 | 352 | 51.4 |
| *Palma/Pajón* | 112 | 18.5 | 112 | 16.4 |
| *Duralita* | 0 | 0 | 5 | 0.7 |
| *Teja manil* | 0 | 0 | 7 | 1.0 |
| *Teja de Barro* | 0 | 0 | 201 | 29.3 |
| Other | 1 | 0.2 | 8 | 1.2 |
| **Floor made of :** (Q. C23) *(the italic names are in Spanish)* | | | | |
| Soil | 529 | 87.3 | 449 | 65.5 |
| Soil brick | 0 | 0 | 1 | 0.1 |
| Concrete brick | 11 | 1.8 | 38 | 5.5 |
| Concrete | 66 | 10.9 | 197 | 28.8 |
| **Toilet services :** (Q. C24) | | | | |
| There are not | 23 | 3.8 | 114 | 16.6 |
| Latrine | 541 | 89.3 | 520 | 75.9 |
| Communal latrine | 1 | 0.2 | 3 | 0.4 |
| Toilet | 17 | 2.8 | 40 | 5.8 |
| Other | 24 | 4.0 | 8 | 1.2 |
| **Water comes from :** (Q. C25) | | | | |
| Inner faucet | 120 | 19.8 | 397 | 58.0 |
| Faucet from neighbor | 41 | 6.8 | 24 | 3.5 |
| Communal faucet | 52 | 8.6 | 23 | 3.4 |
| Own well | 0 | 0 | 166 | 24.2 |
| Well from neighbor | 2 | 0.3 | 36 | 5.3 |
| River | 4 | 0.7 | 1 | 0.1 |
| Spring | 111 | 18.3 | 18 | 2.6 |
| Raining | 233 | 38.4 | 2 | 0.3 |
| Other | 43 | 7.1 | 18 | 2.6 |
| **Presence of electricity :** (Q. C26) | | | | |



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SAMPLE DESCRIPTION

| | | | | |
|---|---|---|---|---|
| Yes | 53 | **8.7** | 428 | **62.5** |
| No | 553 | **91.3** | 257 | **37.5** |

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SAMPLE DESCRIPTION

| | | | | |
|---|---|---|---|---|
| From 11 to 25 | 198 | **32.6** | 101 | **14.7** |
| More than 25 | 67 | **11.1** | 16 | **2.3** |

* sample size for HOPE is 681

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**Table 5 household description .** (continue..)

| Variable | | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|---|
| **Products coming from animals :** (Q. C27a) | | | | | |
| Cows : (milk) | n | 5 | | 119 | |
| | Produce | 0 | **0.0** | 28 | **23.5** |
| | Drink | | | 28 | **23.5** |
| | Sales | | | 18 | **15.1** |
| | Other | | | 3 | **2.5** |
| Goats : (milk) | n | 0 | | 15 | |
| | Produce | 0 | **0.0** | 0 | **0.0** |
| Poultry : (eggs) | n | 544 | | 517 | |
| | Produce | 333 | **61.2** | 275 | **53.2** |
| | Eat | 323 | **59.4** | 266 | **51.5** |
| | Sales | 50 | **9.2** | 56 | **10.8** |
| | Other | 44 | **8.1** | 13 | **2.5** |

**Table 6 MOTHER AND HOUSEHOLD DESCRIPTION.** Total of households for AMPROS is 606 and for HOPE is 685. The estimates have the sampling design into account.

| VARIABLE | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Question | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| C 14 | Mother reads | 146 | 21.4 | 17.7 | 25.2 | 301 | 41.7 | 30.5 | 52.9 |
| C 15 | Mother writes | 138 | 20.1 | 16.9 | 23.4 | 288 | 39.8 | 28.5 | 51.1 |
| C 16 | Mother has assisted to the school | 158 | 23.4 | 20.0 | 26.7 | 324 | 44.2 | 33.6 | 54.9 |
| C 24 | Toilet services | | | | | | | | |
| | There are not | 23 | 4.9 | 1.7 | 8.1 | 114 | 17.9 | 12.7 | 23.1 |
| | Latrine | 541 | 88.3 | 81.7 | 95.0 | 520 | 74.6 | 67.0 | 82.2 |
| | Communal latrine | 1 | 0.2 | 0.0 | 0.7 | 3 | 0.6 | 0.0 | 1.5 |
| | Toilet | 17 | 1.3 | 0.5 | 2.2 | 40 | 6.0 | 0.5 | 11.6 |
| | Other | 24 | 5.2 | 0.0 | 10.9 | 8 | 0.9 | 0.1 | 1.7 |
| C 25 | Water comes from : | | | | | | | | |
| | Inner faucet | 120 | 11.9 | 1.6 | 22.2 | 397 | 64.3 | 43.9 | 84.7 |
| | Faucet from neighbor | 41 | 4.9 | 2.5 | 7.3 | 24 | 3.5 | 1.0 | 6.1 |
| | Communal faucet | 52 | 8.8 | 0.3 | 17.4 | 23 | 3.9 | 0.0 | 8.0 |
| | Own well | 0 | 0 | 0 | 0 | 166 | 19.0 | 4.0 | 33.9 |
| | Well from neighbor | 2 | 0.4 | 0.0 | 0.9 | 36 | 3.8 | 0.4 | 7.3 |
| | River | 4 | 0.6 | 0.0 | 1.3 | 1 | 0.2 | 0.0 | 0.6 |
| | Spring | 111 | 22.1 | 9.9 | 34.2 | 18 | 3.1 | 0.9 | 5.3 |
| | Raining | 233 | 44.0 | 24.7 | 63.4 | 2 | 0.4 | 0.0 | 0.9 |
| | Other | 43 | 7.4 | 2.6 | 12.1 | 18 | 1.8 | 0.0 | 4.2 |
| C 26 | Presence of electricity | 53 | 4.0 | 2.1 | 5.8 | 428 | 63.1 | 47.6 | 78.6 |

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**Table 7 Design Effects for MOTHER and HOUSEHOLD description variables.**

| VARIABLE | | AMPROS | HOPE |
|---|---|---|---|
| Question | Meaning | Design Effect | Design Effect |
| C 14 | Mother reads | 1.3 | 9.2 |
| C 15 | Mother writes | 1.0 | 9.5 |
| C 16 | Mother has assisted to the school | 1.0 | 8.2 |
| C 24 | Toilet services | 3.4 | 3.3 |
| | Water comes from | 15.9 | 32.3 |
| C 26 | Presence of electricity | 1.4 | 18.4 |

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## PROGRAM PARTICIPATION

The total of questionnaires obtained to evaluate the participation of the community in the Programs in AMPROS' is 606, and in HOPE is 675. Table 8 gives the results on the proposed questions for Program Participation.

Table 8 Questions related to Program Participation. Total of households for AMPROS is 606 and for HOPE is 675.

| QUESTION | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| C1 | Percentage of mothers that know the Program<br>Design Effect for AMPROS = 4.6<br>Design Effect for HOPE = 4.5 | 457 | 78.2 | 71.1 | 85.2 | 116 | 19.1 | 12.9 | 25.4 |
| C2 | Percentage of mothers that have participated in the activities of the Program.<br>" n" Design<br>Effect AMPROS 457 6.8<br>HOPE 116 2.0 | 225 | 49.7 | 37.8 | 61.7 | 64 | 53.5 | 40.7 | 66.4 |
| C2a | Percentage of mothers that have participated in the activities of the Program. Taking all the sample into account.<br>" n" Design<br>Effect AMPROS 606 7.2<br>HOPE 675 5.4 | 225 | 38.9 | 28.4 | 49.3 | 64 | 10.1 | 4.8 | 15.3 |
| C3 | Why have they not participated ? : | "n" = 232 | | | | "n" = 51** | | | |
| | Not interested | 53 | 22.7 | 17.4 | 28.0 | 5 | 11.5 | 0.0 | 24.1 |
| | Does not have time | 149 | 66.7 | 58.2 | 75.1 | 26 | 49.3 | 35.1 | 63.5 |
| | Does not have money | 1 | 0.3 | 0.0 | 0.9 | 0 | 0 | 0 | 0 |
| | Husband does not allow | 6 | 3.2 | 0.0 | 6.5 | 4 | 6.2 | 0.9 | 11.6 |
| | Gender of the Program person | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Does not understand / does not find a benefit | 0 | 0 | 0 | 0 | 1 | 2.8 | 0.0 | 8.1 |
| | Scare | 2 | 1.2 | 0.0 | 2.8 | 2 | 4.7 | 0.0 | 9.8 |
| | Does not know | 4 | 0.9 | 0.0 | 2.3 | 2 | 5.0 | 0.0 | 10.8 |
| | Other | 56 | 24.2 | 18.3 | 30.1 | 26 | 51.8 | 40.7 | 62.9 |
| C4 | Which activities have you participated in ? | "n" = 225 | | | | "n" = 63** | | | |
| | Vitamin A campaigns / Vaccination | | | | | | | | |
| | from 1 to 5 times | 10 | 4.5 | 2.3 | 6.7 | 30 | 46.8 | 29.0 | 64.7 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Educational meetings in health / nutrition | | | | | | | | |



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|---|---|---|---|---|---|---|---|---|
| from 1 to 5 times | 87 | 39.9 | 31.7 | 48.2 | 29 | 46.4 | 33.6 | 59.2 |
| more than 5 times | 57 | 25.3 | 21.2 | 29.5 | 4 | 5.8 | 0.0 | 13.8 |

* 95% confidence interval ** One questionnaire had no information



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Table 8 Questions related to Program Participation. (continuation...) Total of households for AMPROS is 606 and for HOPE is 675.

| QUESTION | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| C4 | Which activities? (continuation..) | "n" = 225 | | | | "n" = 63** | | | |
| | Cooking demonstrations | | | | | | | | |
| | from 1 to 5 times | 93 | 43.4 | 34.2 | 52.5 | 23 | 40.2 | 23.6 | 56.8 |
| | more than 5 times | 111 | 48.7 | 38.4 | 59.1 | 1 | 0.8 | 0.0 | 2.6 |
| | Demonstrations on gardens | | | | | | | | |
| | from 1 to 5 times | 67 | 32.5 | 26.0 | 39.0 | 13 | 19.1 | 8.4 | 29.9 |
| | more than 5 times | 37 | 17.2 | 9.7 | 24.7 | 0 | 0 | 0 | 0 |
| | Demonstrations on poultry | | | | | | | | |
| | from 1 to 5 times | 3 | 1.1 | 0.0 | 2.5 | 1 | 1.0 | 0.0 | 2.9 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Ophthalmologic campaigns | | | | | | | | |
| | from 1 to 5 times | 2 | 0.7 | 0.0 | 1.5 | 0 | 0 | 0 | 0 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | | | | | | | | |
| | from 1 to 5 times | 2 | 0.7 | 0.0 | 2.0 | 7 | 11.4 | 4.5 | 18.2 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C5 | Which of these is the most important activity for you ? | "n" = 225 | | | | "n" = 60*** | | | |
| | Vitamin A campaigns / Vaccination | 1 | 0.5 | 0.0 | 1.6 | 16 | 27.5 | 11.6 | 43.4 |
| | Educational meetings in health / nutrition | 43 | 18.0 | 12.9 | 23.1 | 21 | 32.3 | 16.0 | 48.6 |
| | Cooking demonstrations | 157 | 69.3 | 61.7 | 76.9 | 14 | 24.4 | 10.3 | 38.7 |
| | Demonstrations on gardens | 21 | 11.1 | 5.5 | 16.7 | 7 | 11.6 | 4.1 | 19.2 |
| | Demonstrations on poultry | 0 | 0 | 0 | 0 | 1 | 2.1 | 0.0 | 5.5 |
| | Ophthalmologic campaigns | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | 3 | 1.1 | 0.0 | 2.5 | 1 | 2.1 | 0.0 | 5.5 |
| C6 | Why have you participated in ? | "n" = 225 | | | | "n" = 60*** | | | |
| | Quality/ personality of the Program • personal | 5 | 2.4 | 0.0 | 5.3 | 9 | 13..1 | 5.9 | 20.4 |
| | Quality of the talk (teaching aids) | 2 | 0.5 | 0.0 | 1.2 | 2 | 3.8 | 0.0 | 9.3 |
| | Usefulness of the subject | 208 | 93.1 | 89.8 | 96.3 | 24 | 36.2 | 19.0 | 52.5 |
| | Nice time / an opportunity to see friends | 4 | 2.2 | 0.3 | 4.1 | 2 | 4.3 | 0.0 | 10.1 |
| | Does not know | 1 | 0.7 | 0.0 | 2.1 | 28 | 51.9 | 34.5 | 69.3 |
| | Other | 18 | 6.8 | 4.1 | 9.6 | 1 | 2.7 | 0.0 | 7.9 |
| C7 | Has your husband go to the Program activities with you ? | 25 | 11.6 | 4.8 | 18.4 | 5 | 7.9 | 1.0 | 14.8 |

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| C8 | Which activities ? | "n" = 25 | | | | "n" = 5 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Vitamin A campaigns / Vaccination** | | | | | | | | |
| | from 1 to 5 times | 0 | 0 | 0 | 0 | 2 | 39.6 | 0.0 | 85.4 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Educational meetings in health / nutrition | | | | | | | | |
| | from 1 to 5 times | 6 | 19.3 | 0.1 | 38.4 | 4 | 73.7 | 23.6 | 100 |
| | more than 5 times | 4 | 18.5 | 5.4 | 31.5 | 0 | 0 | 0 | 0 |

* 95% confidence interval ** One questionnaire had no information *** Four had no information

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Table 8 Questions related to Program Participation. (continuation...) Total of households for AMPROS is 606 and for HOPE is 675.

| QUESTION | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| C8 | Which activities? (continuation..) | "n" = 25 | | | | "n" = 5 | | | |
| | **Cooking demonstrations** | | | | | | | | |
| | from 1 to 5 times | 7 | 28.5 | 15.5 | 41.5 | 1 | 33.8 | 0.0 | 91.3 |
| | more than 5 times | 4 | 12.6 | 0.0 | 25.4 | 0 | 0 | 0 | 0 |
| | **Demonstrations on gardens** | | | | | | | | |
| | from 1 to 5 times | 10 | 40.8 | 26.5 | 55.1 | 2 | 39.6 | 0.0 | 85.4 |
| | more than 5 times | 3 | 13.8 | 0.0 | 33.8 | 0 | 0 | 0 | 0 |
| | **Demonstrations on poultry** | | | | | | | | |
| | from 1 to 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Ophthalmologic campaigns** | | | | | | | | |
| | from 1 to 5 times | 1 | 2.8 | 0.0 | 7.9 | 0 | 0 | 0 | 0 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | | | | | | | | |
| | from 1 to 5 times | 1 | 5.2 | 0.0 | 14.5 | 0 | 0 | 0 | 0 |
| | more than 5 times | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C9 | Do you have hens /chicken ? | "n" = 457 | | | | "n" = 81 | | | |
| | Criollas | 356 | 80.3 | 70.5 | 90.2 | 63 | 76.5 | 66.3 | 86.7 |
| | De granja | 60 | 13.7 | 4.7 | 22.7 | 9 | 11.9 | 1.0 | 22.8 |
| C10 | Percentage of families that got the granja hens /chicken from : | "n" = 60 | | | | "n" = 9** | | | |
| | Program (AMPROS/HOPE) | 38 | 68.9 | 54.2 | 83.7 | 1 | 12.7 | 0.0 | 26.1 |
| | DIGESEPE | 1 | 1.5 | 0.0 | 4.4 | 0 | 0 | 0 | 0 |
| | DIGESA | 1 | 1.4 | 0.0 | 3.9 | 0 | 0 | 0 | 0 |
| | Agropecuaria local | 14 | 20.1 | 6.8 | 33.4 | 0 | 0 | 0 | 0 |
| | Other institution | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | 6 | 8.1 | 2.0 | 14.3 | 7 | 71.4 | 45.0 | 97.7 |
| C11 | Percentage of houses where the granja hens /chicken are : | "n" = 60 | | | | "n" = 9** | | | |
| | Free around | 26 | 40.9 | 27.0 | 54.9 | 4 | 44.1 | 20.4 | 54.3 |
| | In corral | 24 | 42.3 | 33.1 | 51.4 | 3 | 31.7 | 9.2 | 54.3 |
| | In cages | 10 | 16.8 | 6.9 | 26.37 | 1 | 8.2 | 0.0 | 25.8 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

* 95% confidence interval ** One questionnaire had no information

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Table 9 Design effects, and questions from the KPC related to Program Participation.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| C1 | Percentage of mothers that know the Program | 4.6 | C1 | 4.5 | C1 |
| C2 | Percentage of mothers that have participate in the activities of the Program. | 6.8 | C2 | 2.0 | C2 |
| C2a | Percentage of mothers that have participate in the activities of the Program. Taking all the sample into account. | 7.2 | C2 | 5.4 | C2 |
| C3 | Why have they not participate ? : | | C3 | | C3 |
| | Not interested | 1.0 | | 2.1 | |
| | Does not have time | 1.9 | | 1.1 | |
| | Does not have money | 0.7 | | - | |
| | Husband does not allow | 2.0 | | 0.7 | |
| | Gender of the Program person | - | | - | |
| | Does not understand / does not find a benefit | - | | 1.3 | |
| | Scare | 1.2 | | 0.8 | |
| | Does not know | 1.3 | | 0.9 | |
| | Other | 1.2 | | 0.7 | |
| C4 | Which activities ? | | C4 | | C4 |
| | Jornadas de Vitamina A / Vaccination | 0.7 | | 2.1 | |
| | Educational meetings in health / nutrition | 2.7 | | 1.1 | |
| | Cooking demonstrations | 1.0 | | 2.0 | |
| | Demonstrations on gardens | 2.9 | | 1.2 | |
| | Demonstrations on poultry | 1.1 | | 0.6 | |
| | Jornadas oftalmologicas | 0.5 | | - | |
| | Other | 1.3 | | 0.8 | |
| C5 | Which of these is the most important activity for you ? | | C5 | | C5 |
| | Jornadas de Vitamina A / Vaccination | 1.2 | | 2.0 | |
| | Educational meetings in health / nutrition | 1.0 | | 1.9 | |
| | Cooking demonstrations | 1.6 | | 1.7 | |
| | Demonstrations on gardens | 1.9 | | 0.9 | |
| | Demonstrations on poultry | - | | 0.9 | |
| | Jornadas oftalmologicas | - | | - | |
| | Other | 1.2 | | 0.9 | |
| C6 | Why have you participated in ? | | C6 | | C6 |
| | Quality/ personality of the Program personal | 2.2 | | 0.7 | |
| | Quality of the talk (teaching aids) | 0.6 | | 1.3 | |
| | Usefulness of the subject | 1.0 | | 1.9 | |
| | Nice time / an opportunity to see friends | 1.0 | | 1.2 | |
| | Does not know | 1.7 | | 1.9 | |
| | Other | 0.7 | | 1.6 | |



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| | | | | | |
|---|---|---|---|---|---|
| C7 | Has your husband go to the Program activities with you ? | 2.6 | C7 | 1.0 | C7 |
| C8 | Which activities ? | | C8 | | C8 |
| | Jornadas de Vitamina A / Vaccination | - | | 1.1 | |
| | Educational meetings in health / nutrition | 0.9 | | 1.7 | |
| | Cooking demonstrations | 0.7 | | 1.9 | |
| | Demonstrations on gardens | 0.7 | | 1.1 | |
| | Demonstrations on poultry | - | | - | |

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Table 9 Design effects, and questions from the KPC related to Program Participation. (continuation...)

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| C8 | Which activities ? (continuation..) | | C8 | | C8 |
| | Jornadas oftalmologicas | 0.6 | | - | |
| | Other | 1.1 | | - | |
| C9 | Do you have hens /chicken ? | 5.1 | | 0.8 | |
| C10 | Percentage of families that got the granja hens /chicken from : | | C10 | | C10 |
| | Program (AMPROS/HOPE) | 1.6 | | 0.4 | |
| | DIGESEPE | 0.9 | | - | |
| | DIGESA | 0.8 | | - | |
| | Agropecuaria local | 1.7 | | - | |
| | Other institution | - | | - | |
| | Other | 0.8 | | 0.8 | |
| C11 | Percentage of houses where the granja hens /chicken are : | 1.3 | C11 | 1.8 | C11 |

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# KPC

The indicators for both Programs (AMPROS, HOPE) are placed together, to facilitate the comparison of the Programs when needed. Some of the indicators do not apply to both Programs so the corresponding places in the tables are filled with "x". The tables present mainly percents and in some cases means. There are population estimates of these percentages and means contained into 95% confidence intervals.

## *I GARDENS*

Table 10 gives the results on the proposed indicators for gardens, Table 11 contains design effects and questions from the questionnaire used to develop the gardens indicators. Table 12 contains the indicators that have been measure before and where to find them in previous evaluations.

**Table 10 : Indicators related to Gardens.** Total of households for AMPROS is 606 and for HOPE is 685.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 1 | Percentage of families that have a garden | 230 | 40.9 | 31.8 | 50.0 | 143 | 21.3 | 14.5 | 28.1 |
| | Reasons for not having a garden : | "n" = 376 | | | | "n" = 542 | | | |
| | Do not have land | 92 | 19.6 | 12.9 | 26.4 | 160 | 31.1 | 20.6 | 41.6 |
| | Do not know how to do it | 98 | 28.0 | 24.2 | 31.9 | 70 | 14.5 | 10.2 | 18.8 |
| | Do not have seeds | 42 | 12.0 | 8.2 | 15.9 | 97 | 20.0 | 13.4 | 26.5 |
| | Do not have time | 113 | 32.9 | 26.6 | 39.2 | 79 | 14.6 | 10.4 | 18.7 |
| | Do not have fertilizers | 0 | 0 | 0 | 0 | 6 | 1.2 | 0.0 | 2.5 |
| | Do not have tools | 1 | 0.4 | 0 | 1.2 | 1 | 0.2 | 0.0 | 0.5 |
| | The plants do not grow | 13 | 2.5 | 0.6 | 4.3 | 106 | 15.9 | 6.8 | 25.0 |
| | Does not like to plant | 17 | 5.7 | 3.4 | 8.1 | 8 | 1.7 | 0.7 | 2.8 |
| | Too many plagues | 1 | 0.2 | 0 | 0.8 | 8 | 1.3 | 0.3 | 2.3 |
| | Other | 42 | 11.2 | 7.5 | 15.0 | 95 | 17.3 | 12.9 | 21.7 |
| 2a | Percentage of families that have a family garden ("n" = total) | 220 | 39.1 | 29.4 | 48.7 | 92 | 14.4 | 9.2 | 19.6 |
| 2b | Percentage of families with children under 2 years old that have a family garden ("n" = total). "n"= 408 | 153 | 40.6 | 29.8 | 51.4 | x | x | x | x |
| | From here to the rest of the table "n" depends on indicator 1 | | | | | | | | |
| 2 | Percentage of families that have a family garden | 220 | 95.5 | 91.7 | 99.2 | 92 | 67.5 | 57.6 | 77.3 |
| 3 | Percentage of families that have a garden with the community | 10 | 4.5 | 0.8 | 8.3 | 12 | 9.1 | 4.4 | 13.8 |
| 4 | Percentage of families that have at least one plant with green leaves, or yellow vegetables/fruits, or other fruits. "n" = 217 | 217 | 100 | 100 | 100 | x | x | x | x |

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KPC : Gardens

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4a | Percentage of families with children under 2 years old that have at least one plant with green leaves, or yellow vegetables/fruits, or other fruits. "n" = 150 | 150 | 100 | 100 | 100 | x | x | x | x |

* 95% confidence interval

**Table 10 ; Indicators related to Gardens. (Continuation...)** Total of households for AMPROS is 606 and for HOPE is 685. Italic names are in Spanish.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 5 | Percentage of families that have plants with green leaves. "n" = 217 | 88 | 43.7 | 31.3 | 56.2 | x | x | x | x |
| | Percentage of families that have yellow vegetables/fruits: "n" = 217 | 155 | 74.4 | 65.9 | 82.8 | x | x | x | x |
| | Percentage of families that have other vegetables/fruits. "n" = 217 | 199 | 90.2 | 82.4 | 98.0 | x | x | x | x |
| 6 | Percentage of families that have at least one plant containing Vitamin A | 229 | 99.4 | 98.3 | 100 | 135 | 93.9 | 88.7 | 99.1 |
| Percentage of families that plant : *(names are in Spanish)* | | n = 230 | | | | n = 143 | | | |
| | *acelga* | 94 | 44.8 | 34.0 | 55.6 | 33 | 23.2 | 15.4 | 31.0 |
| | *brocoli* | 7 | 3.3 | 0.4 | 6.1 | 17 | 9.7 | 2.4 | 17.1 |
| | *berro* | 2 | 1.0 | 0.0 | 2.9 | 4 | 3.0 | 0.0 | 6.8 |
| | *camote* | 5 | 2.7 | 0.7 | 4.8 | 1 | 0.9 | 0.0 | 2.7 |
| | *chile pimiento* | 1 | 0.5 | 0.0 | 1.5 | 3 | 2.5 | 0.0 | 5.5 |
| | *coliflor* | 3 | 1.2 | 0.0 | 2.9 | 36 | 26.5 | 17.6 | 35.4 |
| | *colinabo* | 1 | 0.5 | 0.0 | 1.4 | 17 | 12.6 | 3.1 | 18.7 |
| | *culantro* | 148 | 64.0 | 55.4 | 72.5 | 59 | 42.5 | 35.4 | 49.6 |
| | *espinaca* | 8 | 4.0 | 0.0 | 8.2 | 14 | 11.1 | 4.1 | 18.2 |
| | *güicoy* | 20 | 10.0 | 5.2 | 14.7 | 22 | 16.6 | 9.5 | 23.6 |
| | *mostaza* | 0 | 0.0 | 0.0 | 0.0 | 14 | 9.5 | 2.3 | 16.7 |
| | *perejil* | 0 | 0.0 | 0.0 | 0.0 | 8 | 6.7 | 1.2 | 12.2 |
| | *quilete* | 9 | 4.7 | 0.4 | 9.1 | 10 | 7.2 | 4.5 | 9.9 |
| | *rábanos* | 153 | 68.0 | 61.2 | 74.8 | 73 | 53.6 | 39.8 | 67.4 |
| | *remolacha* | 50 | 23.3 | 17.3 | 29.3 | 37 | 26.0 | 17.2 | 34.8 |
| | *tomate* | 22 | 9.5 | 4.3 | 14.7 | 11 | 10.0 | 4.4 | 15.6 |
| | *zanahoria* | 161 | 72.8 | 64.2 | 81.4 | 60 | 43.2 | 31.3 | 55.2 |
| | *apio* | 6 | 2.2 | 0.2 | 4.3 | 15 | 11.2 | 2.3 | 19.6 |
| | *cebolla* | 44 | 19.6 | 15.6 | 23.6 | 23 | 17.9 | 8.5 | 27.4 |
| | *lechuga* | 3 | 0.9 | 0.0 | 1.8 | 23 | 15.7 | 7.1 | 24.3 |
| | *pepino* | 4 | 2.1 | 0.0 | 5.0 | 7 | 6.34 | 1.9 | 11.0 |
| | *repollo* | 39 | 17.7 | 7.8 | 27.7 | 40 | 31.4 | 19.5 | 43.4 |
| 7** | Percentage of families that have planted harvested and eaten at least one of the above | 204 | 89.4 | 85.2 | 93.6 | 118 | 87.5 | 81.2 | 93.8 |

* 95% confidence interval ** "n" depends on indicator 6

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**Table 10 : Indicators related to Gardens. (Continuation...)** Total of households for AMPROS is 606 and for HOPE is 685. Italic names are in Spanish.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 8 | Percentage of families that have planted , harvested and eaten: : *(names are in Spanish)* | "n" depends on planted (see above) | | | | | | | |
| | *acelga* | 75 | 78.7 | 67.9 | 89.6 | 26 | 77.1 | 68.0 | 86.1 |
| | *brocoli* | 4 | 57.8 | 25.8 | 89.7 | 16 | 91.1 | 74.4 | 100 |
| | *berro* | 2 | 100 | 100 | 100 | 3 | 83.8 | 51.4 | 100 |
| | *camote* | 4 | 79.0 | 49.6 | 100 | 1 | 100 | 100 | 100 |
| | *chile pimiento* | 1 | 100 | 100 | 100 | 1 | 36.8 | 0.0 | 94.2 |
| | *coliflor* | 3 | 100 | 100 | 100 | 25 | 70.1 | 59.3 | 80.8 |
| | *colinabo* | 1 | 100 | 100 | 100 | 15 | 88.2 | 74.4 | 100 |
| | *culantro* | 135 | 92.6 | 88.0 | 97.1 | 55 | 93.1 | 88.0 | 98.1 |
| | *espinaca* | 5 | 59.1 | 35.8 | 82.4 | 12 | 88.3 | 72.0 | 100 |
| | *güicoy* | 16 | 80.3 | 57.8 | 100 | 17 | 73.6 | 42.5 | 100 |
| | *mostaza* | 0 | 0 | 0 | 0 | 14 | 100 | 100 | 100 |
| | *perejil* | 0 | 0 | 0 | 0 | 6 | 73.2 | 47.0 | 99.3 |
| | *quilete* | 7 | 76.7 | 54.7 | 98.7 | 9 | 87.4 | 72.9 | 100 |
| | *rábanos* | 136 | 89.8 | 84.3 | 95.4 | 63 | 87.0 | 78.9 | 95.1 |
| | *remolacha* | 35 | 70.3 | 65.4 | 75.1 | 31 | 83.6 | 72.9 | 94.3 |
| | *tomate* | 18 | 78.1 | 62.0 | 94.3 | 7 | 61.5 | 28.1 | 95.0 |
| | *zanahoria* | 136 | 83.8 | 78.1 | 89.5 | 43 | 66.2 | 50.6 | 81.7 |
| | *apio* | 4 | 61.7 | 29.0 | 94.4 | 12 | 78.7 | 66.2 | 91.2 |
| | *cebolla* | 29 | 64.3 | 54.4 | 74.1 | 11 | 45.7 | 25.5 | 65.8 |
| | *lechuga* | 3 | 100 | 100 | 100 | 18 | 73.7 | 55.4 | 92.0 |
| | *pepino* | 3 | 76.1 | 55.6 | 96.7 | 2 | 25.4 | 2.8 | 48.1 |
| | *repollo* | 31 | 77.7 | 62.2 | 93.3 | 31 | 73.8 | 49.1 | 98.5 |
| 9 | Percentage of families that have planted harvested and eaten at least one of the above because of the Vitamin A | n = 229 | | | | n = 129 | | | |
| | | 94 | 42.6 | 32.2 | 52.9 | 26 | 22.2 | 9.2 | 35.3 |
| 9a | What are the advantages of having a garden : | n = 229 | | | | n = 133 | | | |
| | it is good for health | 99 | 45.7 | 37.1 | 54.3 | 28 | 23.5 | 15.2 | 31.8 |
| | the plants have Vitamin A | 66 | 28.9 | 22.3 | 35.5 | 15 | 12.5 | 6.9 | 18.1 |
| | the plants are cleaner | 4 | 1.5 | 0.2 | 2.8 | 7 | 6.6 | 2.8 | 10.3 |
| | to have vegetables without buying them | 96 | 42.4 | 33.1 | 51.7 | 68 | 51.4 | 39.4 | 63.3 |
| | to save money | 56 | 26.4 | 18.9 | 33.9 | 62 | 46.0 | 37.1 | 54.9 |
| | to sell vegetables | 27 | 13.3 | 5.5 | 21.0 | 16 | 10.2 | 5.7 | 14.8 |

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KPC : Gardens

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| does not know | 7 | 2.1 | 0.0 | 4.1 | 6 | 3.6 | 0.6 | 6.6 |
| other | 22 | 9.1 | 3.9 | 14.2 | 27 | 22.0 | 14.3 | 29.7 |

* 95% confidence interval

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**Table 11 : Design effects, and questions from KPC used to develop the Indicators related to Gardens.**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 1 | Percentage of families that have a garden | 5.4 | C29 | 4.9 | C29 |
| | Reasons for not having a garden : | | C30 | | C30 |
| | Do not have land | 2.8 | | 7.3 | |
| | Do not know how to do it | 0.7 | | 2.1 | |
| | Do not have seeds | 1.4 | | 3.8 | |
| | Do not have time | 1.8 | | 1.9 | |
| | Do not have fertilizers | - | | 1.9 | |
| | Do not have tools | 1.6 | | 0.9 | |
| | The plants do not grow | 1.4 | | 8.7 | |
| | Does not like to plant | 1.0 | | 0.9 | |
| | Too many plagues | 1.0 | | 1.2 | |
| | Other | 1.4 | | 1.9 | |
| 2a | Percentage of families that have a family garden ("n"= total) | 6.1 | A31 | 3.9 | H31 |
| 2b | Percentage of families with children under 2 years old that have a family garden ("n" = total). | 5.1 | A31 | x | x |
| 2 | Percentage of families that have a family garden | 2.0 | A31 | 1.7 | H31 |
| 3 | Percentage of families that have a garden with the community | 2.0 | A32 | 1.0 | H31 |
| 4 | Percentage of families that have at least one plant with green leaves, or yellow vegetables/fruits, or other fruits. | - | A33 | x | x |
| 4a | Percentage of families with children under 2 years old that have at least one plant with green leaves, or yellow vegetables/fruits, or other fruits. | - | A33 | x | x |
| 5 | Percentage of families that have plants with green leaves. | 3.6 | A33 | x | x |
| | Percentage of families that have yellow vegetables/fruits. | 2.1 | A33 | x | x |
| | Percentage of families that have other vegetables/fruits. | 3.9 | A33 | x | x |
| 6 | Percentage of families that have at least one plant containing Vitamin A | 1.3 | C34 | 1.7 | C33 |

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KPC : Gardens

| Percentage of families that plant : | C34 | C33 |
|---|---|---|
| chard | 2.8 | 1.3 |
| broccoli | 1.5 | 2.3 |
| water cress | 2.2 | 1.8 |
| • camote | 0.9 | 1.3 |
| chile pimiento | 1.1 | 1.4 |
| cauliflower | 1.3 | 1.5 |
| colinabo | 1.1 | 1.3 |

**Table 11 : Design effects, and questions from KPC used to develop the Indicators related to Gardens. (Continuation...)**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| | cilantro | 1.9 | | 0.8 | |
| | spinach | 2.7 | | 1.9 | |
| | pumpkin | 1.5 | | 1.3 | |
| | mustard | - | | 2.3 | |
| | perejil | - | | 1.8 | |
| | quilete | 2.5 | | 0.4 | |
| | rábanos | 1.3 | | 2.9 | |
| | remolacha | 1.2 | | 1.5 | |
| | tomato | 1.9 | | 1.3 | |
| | carrot | 2.2 | | 2.2 | |
| | celery | 1.2 | | 2.7 | |
| | onion | 0.6 | | 2.2 | |
| | lettuce | 0.6 | | 2.1 | |
| | cucumber | 2.4 | | 1.3 | |
| | cabbage | 4.1 | | 2.5 | |
| 7 | Percentage of families that have planted harvested and eaten at least one of the above | 1.1 | C34 | 2.0 | C33 |
| 8 | Percentage of families that have planted , harvested and eaten : | | C34 | | C33 |
| | chard | 1.7 | | 0.4 | |
| | broccoli | 0.8 | | 1.5 | |
| | water cress | - | | 0.8 | |
| | camote | 0.7 | | - | |
| | chile pimiento | - | | 1.1 | |
| | cauliflower | - | | 0.5 | |
| | colinabo | - | | 0.8 | |
| | cilantro | 1.1 | | 0.6 | |
| | spinach | 0.5 | | 0.9 | |
| | pumpkin | 1.7 | | 2.9 | |

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KPC : Gardens

| | | | | | |
|---|---|---|---|---|---|
| | mustard | - | | - | |
| | perejil | - | | 0.7 | |
| | quilete | 0.6 | | 0.5 | |
| | rábanos | 1.3 | | 1.1 | |
| | remolacha | 0.1 | | 0.8 | |
| | tomato | 0.9 | | 1.4 | |
| | carrot | 1.0 | | 1.7 | |
| | celery | 0.7 | | 0.4 | |
| | onion | 0.5 | | 1.0 | |
| | lettuce | - | | 1.0 | |
| | cucumber | 0.2 | | 0.5 | |
| | cabbage | 1.4 | | 3.3 | |
| 9 | Percentage of families that have planted harvested and eaten at least one of the above because of the Vitamin A | 2.6 | C35 | 3.3 | C34 |

**Table 11 : Design effects, and questions from KPC used to develop the Indicators related to Gardens. (Continuation...)**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 9a | What are the advantages of having a garden : | | C35a | | C34a |
| | it is good for health | 1.8 | | 1.3 | |
| | the plants have Vitamin A | 1.3 | | 1.0 | |
| | the plants are cleaner | 0.7 | | 0.8 | |
| | to have vegetables without buying them | 2.1 | | 2.0 | |
| | to save money | 1.7 | | 1.1 | |
| | to sell vegetables | 3.1 | | 0.8 | |
| | does not know | 1.2 | | 0.9 | |
| | other | 1.9 | | 1.2 | |

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KPC : Gardens

**Table 12 : Indicators related to Gardens evaluated before, and where to find them in previous evaluations. See references at the end of the table.**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Base line 1992/4 | Middle Line 1993 | Base line 1991 | Middle Line 1995 |
| 1 | Percentage of families that have a garden | | | | pp 4 midter |
| 2b | Percentage of families that have a family garden | pp 17 BSurv | pp17 EFSur | | |
| 4a | Percentage of families that have at least one plant with green leaves, or yellow vegetables/fruits, or other fruits. | pp 17 BSurv | pp17 EFSur | | |
| 5 | Percentage of families that have plants with green leaves. / yellow vegetables/fruits / vegetables/fruits. | pp 60 - 62 infLB | | | |
| 8 | Percentage of families that have planted , harvested and eaten: XXX | pp 60 - 62 infLB | | | pp 48 infMT |
| 9 | Percentage of families that have planted at least one of the above because of the Vitamin A | | | | pp 47 infMT |

REFERENCES

HOPE:

midter: Reducing Vit A deficiency in Western Guatemala an extension and replication project in three departaments. The People-to-people Helath Foundation Project HOPE. Mid Term Evaluation, May 1995.

infMT: Reducción del Problema Nutricional con Enfasis en la Deficiencia de Vit A en el Occidente de Guatemala. Informe de la Encuesta de Termino Medio, Borrador. Elaborado por Dr. Iván Mendoza, junio 1995

AMPROS:

Bsurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. BASELINE SURVEY. April 1994

EFSurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. FINAL EVALUTION SURVEY. Sept 1993

infLB: Informe de la Evaluación Inicial, Linea Basal, elaborado por Dr. Iván Mendoza, 1992. Proyecto: Vitamina A, Depto de Alta Verapáz, Guatemala

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**Table 5 household description .** (continue..)

| Variable | AMPROS cases | % | HOPE cases | % |
|---|---|---|---|---|
| **Presence or ownership of at least one:** (Q. C28) * | | | | |
| Radio | 313 | **51.7** | 206 | **30.3** |
| Television | 48 | **7.9** | 190 | **27.9** |
| Radio and recorder | 238 | **39.3** | 347 | **50.9** |
| Sewing machine | 35 | **5.8** | 180 | **26.2** |
| Gas stove | 46 | **7.7** | 124 | **18.2** |
| Car / small truck | 14 | **2.3** | 51 | **7.5** |
| Bicycle | 67 | **11.0** | 217 | **31.9** |
| Refrigerator | 8 | **1.4** | 46 | **6.8** |
| Motorcycle | 2 | **0.4** | 4 | **0.6** |
| Truck | 4 | **0.7** | 8 | **1.1** |
| Other | 13 | **2.1** | 26 | **3.8** |
| **Ownership of animals :** (Q. C27) | | | | |
| Horses : | | | | |
| None | 567 | **93.6** | 590 | **86.1** |
| One | 24 | **4.0** | 76 | **11.1** |
| More than one | 15 | **2.4** | 19 | **2.8** |
| Cows : | | | | |
| None | 601 | **99.5** | 566 | **82.6** |
| One | 4 | **0.7** | 72 | **10.5** |
| More than one | 1 | **0.2** | 47 | **6.9** |
| Sheep : | | | | |
| None | 603 | **99.5** | 536 | **78.2** |
| One | 3 | **0.5** | 16 | **2.3** |
| From two to five | 0 | **0** | 78 | **11.4** |
| More than five | 0 | **0** | 55 | **8.1** |
| Pigs : | | | | |
| None | 507 | **83.7** | 387 | **56.5** |
| One | 64 | **10.6** | 139 | **20.3** |
| More than one | 35 | **5.7** | 159 | **23.2** |
| Goats : | | | | |
| None | 606 | **100** | 670 | **97.8** |
| One or more | 0 | **0** | 15 | **2.2** |
| Poultry : | | | | |
| None | 62 | **10.2** | 168 | **24.5** |
| From one to five | 129 | **21.3** | 247 | **36.1** |
| From six to ten | 150 | **24.8** | 153 | **22.4** |

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## II KNOWLEDGE

The total of questionnaires obtained for KPC in AMPROS' communities is 606, and in HOPE is 685. But, because some of the interviews were stooped before they were finished (interviews interrupted by husband or mother in law) in some HOPE communities, there are less than 685 questionnaires for HOPE (there are 680 and in some cases a couple less). Table 13 gives the results on the proposed indicators for knowledge, Table 14 contains design effects and questions from the questionnaire used to develop the knowledge indicators. Table 15 contains the indicators that have been measure before and where to find them in previous evaluations.

**Table 13 Indicators related to Knowledge.** Total of households for AMPROS is 606 and for HOPE is 680.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 10a | Percentage mothers that know Vitamin A | 446 | 74.7 | 69.3 | 80.1 | 229 | 30.9 | 22.8 | 38.9 |
| 10b | Percentage of mothers who have heard something about Vitamin A | 465 | 78.9 | 72.5 | 85.3 | 296 | 42.5 | 35.7 | 49.4 |
| | Who talk you about Vitamin A : ("n" depends on above) | | | | | | | | |
| | AMPROS/HOPE personal | 390 | 86.1 | 79.9 | 92.2 | 12 | 5.4 | 0.0 | 11.7 |
| | People from the Health Center | 26 | 4.6 | 1.5 | 7.6 | 218 | 70.8 | 60.3 | 81.4 |
| | Radio or TV | 34 | 7.3 | 5.2 | 9.5 | 11 | 4.5 | 0.7 | 8.4 |
| | midwife | x | x | x | x | 3 | 1.5 | 0.0 | 3.6 |
| | DIGESA personal | x | x | x | x | 5 | 1.5 | 0.2 | 2.8 |
| | Other | 35 | 6.7 | 3.4 | 10.0 | 68 | 24.2 | 16.3 | 32.1 |
| 11 | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 474 | 79.4 | 72.7 | 86.1 | 319 | 48.6 | 39.1 | 58.1 |
| | By plants | 467 | 78.2 | 71.3 | 85.1 | 290 | 44.8 | 35.5 | 54.1 |
| | By animals | 100 | 18.1 | 11.7 | 24.5 | 78 | 12.6 | 9.3 | 15.9 |
| | Sugar | 0 | 0 | 0 | 0 | 9 | 1.8 | 0.0 | 4.1 |
| 12 | Capsules | 11 | 1.9 | 1.0 | 2.8 | 28 | 3.5 | 1.7 | 5.3 |
| | Does not know | 121 | 19.1 | 12.9 | 25.2 | 302 | 41.5 | 31.4 | 51.5 |
| | Other | 14 | 2.2 | 1.0 | 3.4 | 69 | 10.8 | 6.9 | 14.8 |
| 13 | Percentage of mothers that say that vitamin A could be obtained by food | 565 | 94.1 | 91.8 | 96.4 | 531 | 76.9 | 71.4 | 82.5 |
| 14 | Percentage of mothers that know at least one benefit obtained by vitamin A | 458 | 77.6 | 71.0 | 84.3 | 359 | 54.9 | 48.2 | 61.6 |
| | Helps to grow | 117 | 19.2 | 15.4 | 23.1 | 161 | 23.5 | 19.8 | 27.3 |
| | To have good sight | 58 | 10.5 | 5.7 | 15.2 | 54 | 9.0 | 3.3 | 14.6 |
| | To keep good health | 293 | 51.2 | 43.4 | 59.0 | 150 | 22.5 | 17.8 | 27.2 |
| | To prevent diarrhea | 34 | 5.7 | 2.6 | 8.9 | 21 | 3.2 | 1.8 | 4.7 |
| | To prevent colds | 37 | 6.5 | 2.9 | 10.2 | 17 | 2.7 | 1.2 | 4.1 |

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KPC : Knowledge

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Helps with mental development | 9 | 1.6 | 0.6 | 2.6 | 47 | 8.1 | 4.7 | 11.5 |
| To have good milk (breastfeeding) | 10 | 1.9 | 0.5 | 3.4 | 4 | 0.9 | 0.0 | 1.8 |
| To grow healthy | 198 | 33.5 | 26.3 | 40.7 | 86 | 14.2 | 11.0 | 17.4 |
| Does not know | 101 | 16.1 | 10.8 | 21.4 | 226 | 30.8 | 24.0 | 37.7 |
| Other | 89 | 13.5 | 11.8 | 15.1 | 133 | 19.1 | 15.9 | 22.3 |

* 95% confidence interval

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**Table 13 Indicators related to Knowledge.** (continuation...) Total of households for AMPROS is 606 and for HOPE is 680.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 15 | Percentage of mothers that know the vitamin A capsules | 440 | 72.6 | 66.0 | 79.3 | 332 | 44.2 | 33.9 | 54.6 |
| 16 | Percentage of mothers that know at least one animal food that have Vitamin A *"n" = 531* | x | x | x | x | 301 | 56.1 | 47.4 | 64.8 |
| 17 | Percentage of mothers that know at least two animal foods that have Vitamin A *"n" = 531* | x | x | x | x | 201 | 37.5 | 29.5 | 45.4 |
| 18 | Percentage of mothers that know three animal foods that have Vitamin A *"n" = 531* | x | x | x | x | 85 | 16.4 | 12.1 | 20.8 |
| 19 | Percentage of mothers that know at least one vegetable food that have Vitamin A *"n" = 531* | x | x | x | x | 468 | 88.3 | 84.4 | 92.2 |
| 20 | Percentage of mothers that know at least two vegetable foods that have Vitamin A *"n" = 531* | x | x | x | x | 98 | 21.4 | 13.2 | 29.7 |
| 21 | Percentage of mothers that know three vegetable foods that have Vitamin A *"n" = 531* | x | x | x | x | 11 | 2.4 | 0.5 | 4.3 |
| 22 | Percentage of mothers that know at least one herbal food that have Vitamin A *"n" = 531* | x | x | x | x | 475 | 87.8 | 81.7 | 93.8 |
| 23 | Percentage of mothers that know at least two herbal foods that have Vitamin A *"n" = 531* | x | x | x | x | 394 | 69.9 | 61.2 | 78.6 |
| 24 | Percentage of mothers that know three herbal foods that have Vitamin A *"n" = 531* | x | x | x | x | 246 | 42.3 | 35.1 | 49.5 |
| 25 | Percentage of mothers that know at least one fruit that have Vitamin A *"n" = 531* | x | x | x | x | 320 | 59.6 | 54.5 | 64.7 |
| 26 | Percentage of mothers that know at least two fruits that have Vitamin A *"n" = 531* | x | x | x | x | 112 | 21.5 | 18.2 | 24.9 |
| 27 | Percentage of mothers that know three fruits that have Vitamin A *"n" = 531* | x | x | x | x | 20 | 4.3 | 1.9 | 6.8 |
| 28 | Percentage of mothers that think their children need vitamin A *"n" = 678* | x | x | x | x | 661 | 96.9 | 95.1 | 98.6 |
| 29 | Percentage of mothers that say that vitamin A is needed for : *"n" = 661* | | | | | | | | |
| | To grow | x | x | x | x | 333 | 49.4 | 43.0 | 55.7 |
| | The eyes | x | x | x | x | 39 | 6.5 | 2.9 | 10.1 |
| | The health | x | x | x | x | 184 | 27.6 | 22.9 | 32.2 |
| | To prevent diseases | x | x | x | x | 191 | 29.8 | 26.0 | 33.5 |
| | To be strong | x | x | x | x | 211 | 33.9 | 27.1 | 40.6 |
| | To mental development | x | x | x | x | 63 | 9.7 | 7.1 | 12.2 |
| | Does not know | x | x | x | x | 42 | 6.0 | 3.9 | 8.1 |
| | Other | x | x | x | x | 86 | 13.3 | 10.6 | 16.0 |
| 30 | Percentage of mothers that know at least one green vegetable or leave that have vitamin A *"n" = 565* | 531 | 94.7 | 92.5 | 96.9 | x | x | x | x |

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|---|---|---|---|---|---|---|---|---|---|
| 30a | Percentage of mothers with children under 2 years old that know at least one green vegetable or leave that have vitamin A *"n" = 379* | 358 | 94.6 | 92.6 | 96.6 | x | x | x | x |
| 31 | Percentage of mothers who know at least one yellow vegetable or fruit that have Vit. A *"n" = 565* | 444 | 78.4 | 72.6 | 84.1 | x | x | x | x |

* 95% confidence interval

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**Table 13 Indicators related to Knowledge.** (continuation...) Total of households for AMPROS is 606 and for HOPE is 680.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 31a | Percentage of mothers **with children under 2 years old** who know at least one yellow vegetable or fruit that have Vit. A *"n" = 379* | 296 | 77.9 | 72.2 | 83.6 | x | x | x | x |
| 32 | Percentage of mothers that know that meet/fish/liver have vitamin A *"n" = 565* | 143 | 28.4 | 21.4 | 35.4 | x | x | x | x |
| 32a | Percentage of mothers **with children under 2 years old** that know that meet/fish/liver have vitamin A *"n" = 379* | 93 | 27.6 | 19.8 | 35.5 | x | x | x | x |
| 33 | Percentage of mothers that know that there is vitamin A in breast milk *"n" = 565* | 74 | 13.2 | 8.6 | 17.8 | x | x | x | x |
| 33a | Percentage of mothers **with children under 2 years old** that know that there is vitamin A in breast milk *"n" = 379* | 53 | 13.2 | 9.4 | 17.0 | x | x | x | x |
| 34 | Percentage of mothers that know that cheese have vitamin A *"n" = 565* | 52 | 8.0 | 2.4 | 13.5 | x | x | x | x |
| 34a | Percentage of mothers **with children under 2 years old** that know that cheese have vitamin A *"n" = 379* | 35 | 7.7 | 1.8 | 13.6 | x | x | x | x |
| 35 | Percentage of mothers that know that eggs have vitamin A *"n" = 565* | 210 | 38.8 | 35.5 | 42.2 | x | x | x | x |
| 35a | Percentage of mothers **with children under 2 years old** that that know that eggs have vitamin A *"n" = 379* | 134 | 36.1 | 30.5 | 41.6 | x | x | x | x |
| 36 | Percentage of mothers that say to know what happens with the health in vitamin A absence | 453 | 76.0 | 68.9 | 83.2 | 456 | 66.4 | 63.3 | 69.6 |
| | *"n" for indicators 37, 38, and 39 depends on indicator 36* | | | | | | | | |
| 37 | Percentage of mothers that know at least one health problem related to vitamin A deficiency | 266 | 61.8 | 55.7 | 68.0 | 260 | 58.5 | 54.4 | 62.6 |
| 38 | Percentage of mothers that know at least two health problems related to vitamin A deficiency | 110 | 26.8 | 19.2 | 34.5 | 88 | 20.9 | 17.0 | 24.8 |
| 39 | Percentage of mothers that know at least three health problems related to vitamin A deficiency | 24 | 6.4 | 1.9 | 11.0 | 4 | 0.9 | 0.0 | 1.9 |
| | Which are the health problems related to vitamin A deficiency : | | | | | | | | |
| | *Ceguera de noche* | 40 | 10.3 | 6.6 | 14.0 | 14 | 2.9 | 1.2 | 4.6 |
| | *Ojos resecos* | 10 | 2.3 | 1.0 | 3.7 | 2 | 0.3 | 0.0 | 0.9 |
| | Children do not grow normally | 41 | 9.8 | 5.5 | 14.1 | 69 | 15.9 | 11.4 | 20.4 |
| | Skin diseases | 19 | 4.0 | 2.3 | 5.8 | 24 | 5.9 | 3.6 | 8.2 |
| | Frequent diarrhea | 168 | 39.1 | 32.5 | 45.7 | 141 | 32.4 | 25.2 | 39.7 |
| | Frequent colds | 124 | 30.0 | 19.8 | 40.1 | 102 | 23.0 | 20.2 | 25.6 |
| | Does not know | 0 | 0 | 0 | 0 | 6 | 1.6 | 0.3 | 2.9 |
| | Other | 291 | 61.4 | 56.2 | 66.6 | 309 | 66.5 | 61.7 | 71.3 |

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|---|---|---|---|---|---|---|---|---|---|
| | | | | | | "n" = 678 ↓ | | | |
| 40 | Percentage of mothers that know at least one way to prevent vitamin A deficiency | 351 | 57.2 | 50.3 | 64.1 | 473 | 69.3 | 63.9 | 74.8 |
| 41 | Percentage of mothers that know at least two ways to prevent vitamin A deficiency | 146 | 23.3 | 19.9 | 26.7 | 253 | 36.6 | 31.6 | 41.5 |

* 95% confidence interval

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**Table 13 Indicators related to Knowledge.** (continuation...) Total of households for AMPROS is 606 and for HOPE is 680. *Names in italic are in Spanish.*

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 42 | Percentage of mothers that know at least three ways to prevent vitamin A deficiency | 33 | 5.5 | 3.8 | 7.2 | 60 | 8.9 | 6.4 | 11.3 |
| | How to prevent vitamin A deficiency : | | | | | | | | |
| | Consumption of Vitamin A capsules | 32 | 5.4 | 2.1 | 8.7 | 61 | 9.1 | 6.5 | 11.6 |
| | Consumption of Fortified food | 37 | 5.5 | 3.5 | 7.5 | 91 | 13.8 | 10.7 | 16.8 |
| | Consumption of Green, yellow, orange vegetables | 305 | 49.8 | 43.6 | 56.0 | 343 | 51.0 | 45.6 | 56.5 |
| | Consumption of yellow/orange fruits | 45 | 6.8 | 4.4 | 9.2 | 138 | 19.0 | 14.1 | 23.9 |
| | Consumption of Diary products | 33 | 5.0 | 3.1 | 6.8 | 72 | 9.9 | 6.1 | 13.7 |
| | Consumption of Animal products | 85 | 14.8 | 11.3 | 18.4 | 98 | 14.8 | 11.5 | 18.2 |
| | Plant and consumption of vegetables from an orchard | 123 | 22.1 | 14.8 | 29.5 | 71 | 10.8 | 8.7 | 12.9 |
| | Preventing infectious diseases by healthy habits, vaccination | 98 | 16.7 | 13.2 | 20.2 | 19 | 3.1 | 1.9 | 4.4 |
| | Does not know | 122 | 19.6 | 13.8 | 25.4 | 131 | 19.0 | 13.4 | 24.6 |
| | Other | 81 | 13.3 | 9.2 | 17.4 | 97 | 14.8 | 12.3 | 17.3 |
| 43 | Percentage of mothers that know at least one reason why they need vitamin A after childbirth | 270 | 45.6 | 38.7 | 52.5 | "n" = 671 247 | 36.0 | 32.1 | 39.9 |
| | To have milk rich in vitamin A | 50 | 8.5 | 6.0 | 11.0 | 47 | 6.6 | 5.3 | 7.9 |
| | To give strength to the baby | 170 | 28.8 | 22.5 | 34.6 | 159 | 22.9 | 19.2 | 26.2 |
| | To get back the vitamin A lost during childbirth | 94 | 16.5 | 13.7 | 19.2 | 69 | 11.2 | 9.0 | 13.4 |
| | Does not know | 148 | 23.9 | 17.2 | 30.6 | 219 | 33.5 | 29.7 | 37.4 |
| | Other | 223 | 36.4 | 33.0 | 39.8 | 216 | 30.9 | 26.4 | 35.4 |
| 43a | Percentage of mothers that know that they need vitamin A after childbirth because : *To have milk rich in Vitamin A or to give strength to the baby* | 209 | 35.1 | 28.8 | 41.4 | 196 | 28.0 | 24.2 | 31.9 |
| 44 | What do you think makes the child at risk of vitamin A deficiency : | | | | | "n" = 675 | | | |
| | Being younger than 6 years old | x | x | x | x | 167 | 24.4 | 21.8 | 27.0 |
| | Being sick by chicken pox | x | x | x | x | 8 | 1.2 | 0.1 | 2.4 |
| | Being sick by measles | x | x | x | x | 8 | 1.5 | 0.0 | 3.4 |
| | Have not being breast fed | x | x | x | x | 19 | 3.1 | 1.5 | 4.6 |
| | • Not to have brothers | x | x | x | x | 0 | 0 | 0 | 0 |
| | Does not understand the question | x | x | x | x | 45 | 7.7 | 4.9 | 10.4 |
| | Does not know | x | x | x | x | 312 | 47.2 | 42.4 | 51.9 |
| | Other | x | x | x | x | 151 | 20.7 | 15.9 | 25.4 |

* 95% confidence interval

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**Table 14** Design effects, and questions from KPC used to develop the Indicators related to Knowledge.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 10a | Percentage mothers that know the Vitamin A | 2.5 | C36 | 5.4 | C35 |
| 10b | Percentage of mothers who have heard something about Vitamin A | 3.9 | C37 | 3.4 | C36 |
| | Who talk you about Vitamin A : | | C37a | | H36a |
| | AMPROS/HOPE personal | 3.8 | | 6.0 | |
| | People from the Health Center | 2.5 | | 4.1 | |
| | Radio or TV | 0.8 | | 2.7 | |
| | midwife | x | | 2.4 | |
| | DIGESA personal | x | | 0.9 | |
| | Other | 2.1 | | 2.6 | |
| 11 | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 4.3 | C38 | 6.4 | C37 |
| | By plants | 4.4 | C38 | 6.2 | C37 |
| | By animals | 4.3 | C38 | 1.8 | C37 |
| | Sugar | - | C38 | 5.1 | C37 |
| 12 | Capsules | 0.7 | C38 | 1.6 | C37 |
| | Does not know | 3.8 | C38 | 7.4 | C37 |
| | Other | 1.1 | C38 | 2.9 | C37 |
| 13 | Percentage of mothers that say that vitamin A could be obtained by food | 1.5 | C40 | 1.5 | C39 |
| 14 | Percentage of mothers that know at least one benefit obtained by vitamin A | 4.0 | C39 | 3.2 | C38 |
| | Helps to grow | 1.5 | C39 | 1.4 | C38 |
| | To have good sight | 3.8 | C39 | 6.9 | C38 |
| | To keep good health | 3.8 | C39 | 2.2 | C38 |
| | To prevent diarrhea | 2.9 | C39 | 1.2 | C38 |
| | To prevent colds | 3.4 | C39 | 1.4 | C38 |
| | Helps with mental development | 1.0 | C39 | 2.7 | C38 |
| | To have good milk (breastfeeding) | 1.7 | C39 | 1.7 | C38 |
| | To grow healthy | 3.7 | C39 | 1.5 | C38 |
| | Does not know | 3.2 | C39 | 3.9 | C38 |
| | Other | 0.4 | C39 | 1.2 | C38 |
| 15 | Percentage of mothers that know the vitamin A capsules | 3.5 | C36a | 7.6 | C35a |
| 16 | Percentage of mothers that know at least one animal food that have Vitamin A | x | x | 4.3 | H40 |
| 17 | Percentage of mothers that know at least two animal foods that have Vitamin A | x | x | 3.7 | H40 |
| 18 | Percentage of mothers that know three animal foods that have Vitamin A | x | x | 1.9 | H40 |

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|---|---|---|---|---|---|
| 19 | Percentage of mothers that know at least one vegetable food that have Vitamin A | x | x | 2.0 | H41 |
| 20 | Percentage of mothers that know at least two vegetable foods that have Vitamin A | x | x | 5.6 | H41 |
| 21 | Percentage of mothers that know three vegetable foods that have Vitamin A | x | x | 2.1 | H41 |

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**Table 14** Design effects, and questions from KPC used to develop the Indicators related to Knowledge. (continuation...)

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 22 | Percentage of mothers that know at least one herbal food that have Vitamin A | x | x | 4.7 | H42 |
| 23 | Percentage of mothers that know at least two herbal foods that have Vitamin A | x | x | 5.0 | H42 |
| 24 | Percentage of mothers that know three herbal foods that have Vitamin A | x | x | 2.9 | H42 |
| 25 | Percentage of mothers that know at least one fruit that have Vitamin A | x | x | 1.5 | H43 |
| 26 | Percentage of mothers that know at least two fruits that have Vitamin A | x | x | 0.9 | H43 |
| 27 | Percentage of mothers that know three fruits that have Vitamin A | x | x | 2.0 | H43 |
| 28 | Percentage of mothers that think their children need vitamin A | x | x | 1.8 | H44 |
| 29 | Percentage of mothers that say that vitamin A is needed for : | x | x | | H45 |
| | To grow | x | x | 2.7 | H45 |
| | The eyes | x | x | 3.7 | H45 |
| | The health | x | x | 1.9 | H45 |
| | To prevent diseases | x | x | 1.1 | H45 |
| | To be strong | x | x | 3.5 | H45 |
| | To mental development | x | x | 1.3 | H45 |
| | Does not know | x | x | 1.3 | H45 |
| | Other | x | x | 1.1 | H45 |
| 30 | Percentage of mothers that know at least one green vegetable or leave that have vitamin A | 1.4 | A41 | x | x |
| 30a | Percentage of mothers **with children under 2 years old** that know at least one green vegetable or leave that have vitamin A | 0.8 | A41 | x | x |
| 31 | Percentage of mothers who know at least one yellow vegetable or fruit that have vitamin A | 2.9 | A41 | x | x |
| 31a | Percentage of mothers **with children under 2 years old** who know at least one yellow vegetable or fruit that have vitamin A | 1.9 | A41 | x | x |
| 32 | Percentage of mothers that know that meet/fish/liver have vitamin A | 3.6 | A41 | x | x |

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|---|---|---|---|---|---|
| 32a | Percentage of mothers with children under 2 years old that know that meet/fish/liver have vitamin A | 3.0 | A41 | x | x |
| 33 | Percentage of mothers that know that there is vitamin A in breast milk | 2.7 | A41 | x | x |
| 33a | Percentage of mothers with children under 2 years old that know that there is vitamin A in breast milk | 1.3 | A41 | x | x |



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**Table 14** Design effects, and questions from KPC used to develop the Indicators related to Knowledge. (continuation...)

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 34 | Percentage of mothers that know that cheese have vitamin A | 6.2 | A41 | x | x |
| 34a | Percentage of mothers with children under 2 years old that know that cheese have vitamin A | 4.8 | A41 | x | x |
| 35 | Percentage of mothers that know that eggs have vitamin A | 0.7 | A41 | x | x |
| 35a | Percentage of mothers with children under 2 years old that know that eggs have vitamin A | 1.3 | A41 | x | x |
| 36 | Percentage of mothers that say to know what happens with the health in vitamin A absence | 4.4 | C42 | 0.8 | C46 |
| 37 | Percentage of mothers that know at least one health problem related to vitamin A deficiency | 1.9 | C43 | 0.8 | C47 |
| 38 | Percentage of mothers that know at least two health problems related to vitamin A deficiency | 3.5 | C43 | 1.1 | C47 |
| 39 | Percentage of mothers that know at least three health problems related to vitamin A deficiency | 4.0 | C43 | 1.2 | C47 |
| | Which are the health problems related to vitamin A deficiency : | | C43 | | C47 |
| | *Ceguera de noche* | 1.7 | | 1.2 | |
| | *Ojos resecos* | 0.9 | | 1.4 | |
| | Children do not grow normally | 2.4 | | 1.8 | |
| | Skin diseases | 1.0 | | 1.1 | |
| | Frequent diarrhea | 2.2 | | 2.9 | |
| | Frequent colds | 5.8 | | 0.5 | |
| | Does not know | - | | 1.3 | |
| | Other | 1.4 | | 1.2 | |
| 40 | Percentage of mothers that know at least one way to prevent vitamin A deficiency | 3.1 | C44 | 2.5 | C48 |
| 41 | Percentage of mothers that know at least two ways to prevent vitamin A deficiency | 1.0 | C44 | 1.9 | C48 |
| 42 | Percentage of mothers that know at least three ways to prevent vitamin A deficiency | 0.9 | C44 | 1.3 | C48 |
| | How to prevent vitamin A deficiency : | | C44 | | C48 |
| | Consumption of Vitamin A capsules | 3.4 | | 1.4 | |
| | Consumption of Fortified food | 1.2 | | 1.4 | |
| | Consumption of Green, yellow, orange vegetables | 2.4 | | 2.1 | |
| | Consumption of yellow/orange fruits | 1.4 | | 2.7 | |
| | Consumption of Diary products | 1.1 | | 2.9 | |
| | Consumption of Animal products | 1.5 | | 1.6 | |
| | Plant and consumption of vegetables from an orchard | 4.9 | | 0.8 | |

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KPC : Knowledge

| | | |
|---|---|---|
| Preventing infectious diseases by healthy habits, vaccination | 1.4 | 0.9 |
| Does not know | 3.4 | 3.6 |
| Other | 2.3 | 0.9 |

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**Table 14** **Design effects, and questions from KPC used to develop the Indicators related to Knowledge. (continuation...)**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 43 | Percentage of mothers that know at least one reason why they need vitamin A after childbirth | 3.0 | C48 | 1.1 | C52 |
| | To have milk rich in vitamin A | 1.3 | C48 | 0.5 | C52 |
| | To give strength to the baby | 2.7 | C48 | 1.1 | C52 |
| | To get back the vitamin A lost during childbirth | 0.9 | C48 | 0.8 | C52 |
| | Does not know | 3.9 | C48 | 1.1 | C52 |
| | Other | 0.8 | C48 | 1.7 | C52 |
| 43a | Percentage of mothers that know that they need vitamin A after childbirth because : *To have milk rich in Vitamin A or to give strength to the baby* | 2.8 | C48 | 1.3 | C52 |
| 44 | What do you think makes the child at risk of vitamin A deficiency : | | | | H48a |
| | Being younger than 6 years old | x | x | 0.6 | |
| | Being sick by chicken pox | x | x | 1.9 | |
| | Being sick by measles | x | x | 4.4 | |
| | Have not being breast fed | x | x | 1.4 | |
| | Not to have brothers | x | x | - | |
| | Does not understand the question | x | x | 1.9 | |
| | Does not know | x | x | 1.6 | |
| | Other | x | x | 2.4 | |

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**Table 15** **Indicators related to Knowledge evaluated before, and where to find them in previous evaluations.** See references at the end of the table.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Base line 1992/4 | Middle Line 1993 | Base line 1991 | Middle Line 1995 |
| 14 | Percentage of mothers that know at least one benefit obtained by vitamin A | | | | pp 31 infMT |
| 16 | Percentage of mothers that know at least one animal food that have Vitamin A | | | | pp 30 infMT |
| 17 | Percentage of mothers that know at least two animal foods that have Vitamin A | | | | pp 30 infMT |
| 18 | Percentage of mothers that know three animal foods that have Vitamin A | | | | pp 30 infMT |
| 19 | Percentage of mothers that know at least one vegetable food that have Vitamin A | | | | pp 30 infMT |
| 20 | Percentage of mothers that know at least two vegetable foods that have Vitamin A | | | | pp 30 infMT |
| 21 | Percentage of mothers that know three vegetable foods that have Vitamin A | | | | pp 30 infMT |
| 22 | Percentage of mothers that know at least one herbal food that have Vitamin A | | | | pp 30 infMT |
| 23 | Percentage of mothers that know at least two herbal foods that have Vitamin A | | | | pp 30 infMT |
| 24 | Percentage of mothers that know three herbal foods that have Vitamin A | | | | pp 30 infMT |
| 25 | Percentage of mothers that know at least one fruit that have Vitamin A | | | | pp 30 infMT |
| 26 | Percentage of mothers that know at least two fruits that have Vitamin A | | | | pp 30 infMT |
| 27 | Percentage of mothers that know three fruits that have Vitamin A | | | | pp 30 infMT |
| 30a | Percentage of mothers that know at least one green vegetable or leave that have vitamin A | pp 12 BSurv | | | |
| 31a | Percentage of mothers who know at least one yellow vegetable or fruit that have Vit. A | pp 12 BSurv | | | |
| 32a | Percentage of mothers that know that meet/fish/liver have vitamin A | pp 12 BSurv | | | |
| 33a | Percentage of mothers that know that there is vitamin A in breast milk | pp 12 BSurv | | | |
| 34a | Percentage of mothers that know that cheese have vitamin A | pp 12 BSurv | | | |
| 35a | Percentage of mothers that know that eggs have vitamin A | pp 12 BSurv | | | |
| 44 | What do you think makes the child at risk of vitamin A deficiency | | | | pp 32 infMT |

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EFSurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. FINAL EVALUTION SURVEY. Sept 1993

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## III EXPOSURE TO VITAMIN A CAPSULES

The total of questionnaires obtained for KPC in AMPROS' communities is 606, and in HOPE is 685. But, because some of the interviews were stooped before they were finished (interviews interrupted by husband or mother in law) in some HOPE communities, there are less than 685 questionnaires for HOPE (there are 677 cases). **The total of index children for AMPROS is 566, and for HOPE is 616.** Table 16 gives the results on the proposed indicators for Exposure to Vitamin A Capsules, Table 17 contains design effects and questions from the questionnaire used to develop the Exposure to Vitamin A Capsules indicators. Table 18 contains the indicators that have been measure before and where to find them in previous evaluations.

**Table 16 Indicators related to Exposure to Vitamin A Capsules.** Total of households for AMPROS is 606 and for HOPE is 677. The total of index children for AMPROS is 566, and for HOPE is 616.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 45 | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 403 | 69.0 | 59.9 | 78.1 | 247 | 34.8 | 26.5 | 43.0 |
| 45a | Percentage of mothers with children under 2 years old that say that at least one of their children has received Vitamin A capsules during 1995 or 1996. "n" = 408 | 268 | 67.9 | 57.8 | 78.0 | x | x | x | x |
| 46 | Percentage of mothers that say all of their children have received Vitamin A capsules during 1995 or 1996 | 281 | 48.2 | 38.8 | 57.6 | 144 | 20.0 | 14.4 | 25.6 |
| 46a | Percentage of mothers with children under 2 years old that that say all of their children have received Vitamin A capsules during 1995 or 1996. "n" = 408 | 153 | 38.9 | 29.8 | 47.9 | x | x | x | x |
| 47 | Percentage of mothers that say the index child has received Vitamin A capsules during 1995 or 1996 | 371 | 68.1 | 58.1 | 78.1 | 212 | 32.8 | 24.3 | 41.2 |
| 47a | Percentage of mothers with children under 2 years old that that say the index child has received Vitamin A capsules during 1995 or 1996. "n" = 370 | 240 | 67.1 | 56.4 | 77.9 | x | x | x | x |
| 48 | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996<br>sample size for AMPROS = 1138<br>sample size for HOPE = 1264 | 651 | 59.3 | 49.4 | 69.1 | 359 | 27.0 | 19.6 | 34.4 |

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KPC : Exposure to Vitamin A capsules

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48a | Percentage of children under 2 years old that mother says to have received Vitamin A capsules during 1995 or 1996 sample size for AMPROS = 439 | 189 | 44.7 | 36.3 | 53.2 | x | x | x | x |

* 95% confidence interval ** one mother had no answer of who she received it from.

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**Table 16 Indicators related to Exposure to Vitamin A Capsules.** (continuation...) Total of households for AMPROS is 606 and for HOPE is 677. The total of index children for AMPROS is 566, and for HOPE is 616.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 49 | Percentage of mothers that say to have received Vitamin A after her last childbirth | 88 | 15.3 | 8.8 | 21.8 | 29 | 4.2 | 2.6 | 5.8 |
| 50 | Percentage of mothers that say to have received Vitamin A after her last childbirth, and was confirmed: ("n" depends on indicator 49) | 88 | 100 | 100 | 100 | 26 | 89.3 | 76.4 | 100 |
| | Where did she received the Vitamin A: | n = 88 | | | | n = 26 | | | |
| | **Community / Home** | 74 | 86.4 | 78.4 | 94.3 | 13 | 54.4 | 36.6 | 72.3 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 72 | 96.9 | 92.3 | 100 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 9 | 72.3 | 48.2 | 96.4 |
| | Health Center Personal | 1 | 2.0 | 0.0 | 6.1 | 3 | 15.3 | 0.4 | 30.1 |
| | Other | 1 | 1.1 | 0.0 | 3.2 | 1 | 12.4 | 0.0 | 34.0 |
| | **Hospital** | 13 | 12.4 | 4.8 | 20.1 | 8** | 25.6 | 6.0 | 45.1 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 0 | 0 | 0 | 0 |
| | Health Center Personal | 4 | 18.3 | 0.0 | 38.5 | 1 | 13.3 | 0.0 | 35.9 |
| | Other | 9 | 81.7 | 61.5 | 100 | 6 | 66.6 | 25.8 | 100 |
| | **Other** | 1 | 1.2 | 0.0 | 3.7 | 3 | 9.7 | 0.0 | 21.9 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 1 | 100 | 100 | 100 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 0 | 0 | 0 | 0 |
| | Health Center Personal | 0 | 0 | 0 | 0 | 3 | 100 | 100 | 100 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | Percentage of mothers that say to have received Vitamin A after her **index child** | 29 | 5.1 | 2.5 | 7.8 | 7 | 1.6 | 0.3 | 2.9 |

* 95% confidence interval ** one mother had no answer of who she received it from.



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**Table 16 Indicators related to Exposure to Vitamin A Capsules.** (continuation...) Total of households for AMPROS is 606 and for HOPE is 677. The total of index children for AMPROS is 566, and for HOPE is 616.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 52 | Percentage of mothers that say to have received Vitamin A after her **index child**, and was confirmed: ("n" depends on indicator 51) | 29 | 100 | 100 | 100 | 5 | 65.4 | 13.9 | 100 |
| | She received the Vitamin A from : | n = 29 | | | | n = 7** | | | |
| | **Community / Home** | **26** | **93.2** | 82.2 | 100 | **5**** | **72.9** | 38.4 | 100 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 24 | 89.8 | 69.7 | 100 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 3 | 52.5 | 0.0 | 100 |
| | Health Center Personal | 0 | 0 | 0 | 0 | 1 | 23.7 | 0.0 | 51.5 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Hospital** | **2** | **2.1** | 0.0 | 6.1 | **1**** | **13.4** | 0.0 | 40.9 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 0 | 0 | 0 | 0 |
| | Health Center Personal | 1 | 50.0 | 50.0 | 50.0 | 0 | 0 | 0 | 0 |
| | Other | 1 | 50.0 | 50.0 | 50.0 | 0 | 0 | 0 | 0 |
| | **Other** | **1** | **4.8** | 0.0 | 14.7 | **0** | **0** | 0 | 0 |
| | She received it from : ("n" depends on above) | | | | | | | | |
| | AMPROS / HOPE Personal | 1 | 100 | 100 | 100 | 0 | 0 | 0 | 0 |
| | Midwife | x | x | x | x | 0 | 0 | 0 | 0 |
| | Health Center Personal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

* 95% confidence interval ** one mother had no answer of who she received it from.

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**Table 17** Design effects, and questions from KPC used to develop the Indicators related to Exposure to Vitamin A Capsules.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 45 | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 6.1 | C45 TABLE | 5.3 | H49 TABLE |
| 45a | Percentage of mothers with children under 2 years old that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 4.9 | C45 TABLE | x | x |
| 46 | Percentage of mothers that say all of their children have received Vitamin A capsules during 1995 or 1996 | 5.6 | C45 TABLE | 3.5 | H49 TABLE |
| 46a | Percentage of mothers with children under 2 years old that say all of their children have received Vitamin A capsules during 1995 or 1996 | 3.6 | C45 TABLE | x | x |
| 47 | Percentage of mothers that the index child has received Vitamin A capsules during 1995 or 1996 | 6.8 | C45 TABLE | 5.2 | H49 TABLE |
| 47a | Percentage of mothers with children under 2 years old that the index child has received Vitamin A capsules during 1995 or 1996 | 5.0 | C45 TABLE | x | x |
| 48 | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996 | 11.9 | C45 TABLE | 9.1 | H49 TABLE |
| 48a | Percentage of children under 2 years old that mother says to have received Vitamin A capsules during 1995 or 1996 | 3.3 | C45 TABLE | x | x |
| 49 | Percentage of mothers that say to have received Vitamin A after her last childbirth | 5.2 | C47 | 1.3 | C51 |
| 50 | Percentage of mothers that say to have received Vitamin A after her last childbirth, and was confirmed | - | C47 TABLE | 1.3 | C51 TABLE |
| | She received the Vitamin A from : | | C47 TABLE | | C51 TABLE |
| | Community / Home | 1.2 | | 0.9 | |
| | AMPROS / HOPE Personal | 1.3 | | - | |
| | Midwife | - | | 1.0 | |
| | Health Center Personal | 1.6 | | 0.6 | |
| | Other | 0.8 | | 1.5 | |
| | Hospital | 1.2 | | 1.4 | |
| | AMPROS / HOPE Personal | - | | - | |
| | Midwife | - | | - | |
| | Health Center Personal | 0.9 | | 0.9 | |

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. KPC : Exposure to Vitamin A capsules

| | | |
|---|---|---|
| Other | 0.9 | 1.6 |
| Other | 1.2 | 1.1 |
| AMPROS / HOPE Personal | - | - |
| Midwife | - | - |
| Health Center Personal | - | - |
| Other | - | - |

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**Table 17** **Design effects, and questions from KPC used to develop the Indicators related to Exposure to Vitamin A Capsules. (Continuation...)**

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 51 | Percentage of mothers that say to have received Vitamin A after her index child | 2.2 | C47a | 1.8 | C51a |
| 52 | Percentage of mothers that say to have received Vitamin A after her index child, and was confirmed | - | C47a TABLE | 2.1 | C51a TABLE |
| | She received the Vitamin A from : | | C47a TABLE | | C51a TABLE |
| | Community / Home | 1.4 | | 1.1 | |
| | AMPROS / HOPE Personal | 3.0 | | - | |
| | Midwife | - | | 1.6 | |
| | Health Center Personal | - | | 0.6 | |
| | Other | - | | - | |
| | Hospital | 0.6 | | 1.2 | |
| | AMPROS / HOPE Personal | - | | - | |
| | Midwife | - | | - | |
| | Health Center Personal | - | | - | |
| | Other | - | | - | |
| | Other | 1.6 | | - | |
| | AMPROS / HOPE Personal | - | | - | |
| | Midwife | - | | - | |
| | Health Center Personal | - | | - | |
| | Other | - | | - | |

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**Table 18 Indicators related to Exposed to Vitamin A Capsules evaluated before, and where to find them in previous evaluations.** See references at the end of the table.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Base line 1992/4 | Middle Line 1993 | Base line 1991 | Middle Line 1995 |
| 45a | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | pp 21 BSurv | pp17, 22 EFSur | | |
| 46a | Percentage of mothers that say all of their children have received Vitamin A capsules during 1995 or 1996 | pp 21 BSurv | | | |
| 47a | Percentage of mothers that the index child has received Vitamin A capsules during 1995 or 1996 | pp 21 BSurv | pp17, 22 EFSur | | |
| 48a | Percentage of children that have received Vitamin A capsules during 1995 or 1996 | pp 21 BSurv | | | pp 2 midter / pp29 infMT |
| 49 | Percentage of mothers that say to have received Vitamin A after her last childbirth | | | | pp 2 midter / pp29 infMT |

REFERENCES

HOPE:

midter: Reducing Vit A deficiency in Western Guatemala an extension and replication project in three departaments. The People-to-people Helath Foundation Project HOPE.

Mid Term Evaluation, May 1995.

infMT: Reducción del Problema Nutricional con Enfasis en la Deficiencia de Vit A en el Occidente de Guatemala. Informe de la Encuesta de Termino Medio, Borrador. Elaborado por Dr. Iván Mendoza, junio 1995

AMPROS:

Bsurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. BASELINE SURVEY. April 1994

EFSurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. FINAL EVALUTION SURVEY. Sept 1993

infLB: Informe de la Evaluación Inicial, Linea Basal, elaborado por Dr. Iván Mendoza, 1992. Proyecto: Vitamina A, Depto de Alta Verapáz

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## *IV BREAST-FEEDING*

Table 19 gives the results on the proposed indicators for Breastfeeding, Table 20 contains design effects and questions from the questionnaire used to develop the Breastfeeding indicators. Table 21 contains the indicators that have been measure before and where to find them in previous evaluations.

**Table 19 Indicators related to Breastfeeding.**

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 53 | Percentage of mothers with children under 24 months old that say to be Breast-feeding "n" for AMPROS = 408 "n" for HOPE = 437 | 356 | 88.0 | 84.9 | 91.1 | 349 | 82.5 | 77.8 | 87.2 |
| 54 | Percentage of mothers with children under 6 months old that say to be Breast-feeding "n" for AMPROS = 110 "n" for HOPE = 134 | 110 | 100 | 100 | 100 | 121 | 90.6 | 85.4 | 95.8 |
| 55 | Percentage of mothers with children under 12 months old that say to be Breast-feeding "n" for AMPROS = 221 "n" for HOPE = 247 | 217 | 98.3 | 96.6 | 100 | 225 | 91.7 | 88.5 | 94.9 |
| 56 | Percentage of mothers with children under 18 months old that say to be Breast-feeding "n" for AMPROS = 319 "n" for HOPE = 364 | 302 | 95.3 | 92.1 | 98.4 | 314 | 88.1 | 84.5 | 91.6 |
| 57 | Percentage of mothers that say to have breast feed her child during his first hour after delivery "n" for AMPROS = 600 "n" for HOPE = 669 | 254 | 43.7 | 37.0 | 50.5 | 195 | 29.9 | 25.9 | 33.9 |
| 58 | Percentage of mothers that say to have breast feed her child between his first and eight hours after delivery "n" for AMPROS = 600 "n" for HOPE = 669 | 154 | 24.8 | 20.7 | 29.0 | 182 | 27.3 | 23.3 | 31.4 |
| 59 | Percentage of mothers that say to have breast feed her index child during his first hour after delivery "n" for AMPROS = 566 "n" for HOPE = 616 • | 224 | 40.3 | 33.7 | 46.9 | 128 | 21.1 | 17.5 | 24.7 |

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|---|---|---|---|---|---|---|---|---|---|
| 59a | Percentage of mothers with children under 2 years old that say to have breast feed her index child during his first hour after delivery<br>"n" for AMPROS = 370 | 138 | 37.7 | 29.6 | 45.9 | x | x | x | x |

* 95% confidence interval

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**Table 19** Indicators related to Breastfeeding.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| 60 | Percentage of mothers that say to have breast feed her index child between his first and eight hours after delivery<br>"n" for AMPROS = 566<br>"n" for HOPE = 616 | 148 | 26.1 | 21.7 | 30.5 | 102 | 18.1 | 14.5 | 21.6 |
| 60a | Percentage of mothers with children under 2 years old that say to have breast feed her index child between his first and eight hours after delivery<br>"n" for AMPROS = 370 | 91 | 25.1 | 19.5 | 30.6 | x | x | x | x |

* 95% confidence interval

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**Table 20** Design effects, and questions from KPC used to develop the Indicators related to Breast-feeding.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Design effect | Questions | Design effect | Questions |
| 53 | Percentage of mothers with children under 24 months old that say to be Breast-feeding | 1.0 | C45 TABLE | 1.8 | H49 TABLE |
| 54 | Percentage of mothers with children under 6 months old that say to be Breast-feeding | - | C45 TABLE | 1.1 | H49 TABLE |
| 55 | Percentage of mothers with children under 12 months old that say to be Breast-feeding | 1.0 | C45 TABLE | 0.9 | H49 TABLE |
| 56 | Percentage of mothers with children under 18 months old that say to be Breast-feeding | 1.8 | C45 TABLE | 1.2 | H49 TABLE |
| 57 | Percentage of mothers that say to have breast feed her child during his first hour after delivery | 2.9 | C46 | 1.3 | C50 |
| 58 | Percentage of mothers that say to have breast feed her child between his first and eight hours after delivery | 1.4 | C46 | 1.5 | C50 |
| 59 | Percentage of mothers that say to have breast feed her **index child** during his first hour after delivery | 2.7 | C46a | 1.2 | C50a |
| 59a | Percentage of mothers with children **under 2 years old** that say to have breast feed her **index child** during his first hour after delivery | 2.7 | C46a | x | x |
| 60 | Percentage of mothers that say to have breast feed her **index child** between his first and eight hours after delivery | 1.5 | C46a | 1.4 | C50a |
| 60a | Percentage of mothers with children **under 2 years old** that say to have breast feed her **index child** between his first and eight hours after delivery | 1.6 | C46a | x | x |

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**Table 21** **Indicators related to Breastfeeding evaluated before, and where to find them in previous evaluations.** See references at the end of the table.

| INDICATOR | | AMPROS | | HOPE | |
|---|---|---|---|---|---|
| Number | Meaning | Base line 1992/4 | Middle Line 1993 | Base line 1991 | Middle Line 1995 |
| 53 | Percentage of mothers with children under 24 months old that are Breast-feeding | pp 11 BSurv | pp 11 EFSur | | pp 35 infMT |
| 54 | Percentage of mothers with children under 6 months old that are Breast-feeding | | | pp 6 midterm | pp 35 infMT |
| 55 | Percentage of mothers with children under 12 months old that are Breast-feeding | | | | pp 35 infMT |
| 59a | Percentage of mothers that say to have breast feed her index child during his first hour after delivery | pp 11 BSurv | pp 11 EFSur | | |
| 60a | Percentage of mothers that say to have breast feed her index child between his first and eight hours after delivery | pp 11 BSurv | pp 11 EFSur | | |

## REFERENCES

HOPE:

midter: Reducing Vit A deficiency in Western Guatemala an extension and replication project in three departaments. The People-to-people Helath Foundation Project HOPE.

Mid Term Evaluation, May 1995.

infMT: Reducción del Problema Nutricional con Enfasis en la Deficiencia de Vit A en el Occidente de Guatemala. Informe de la Encuesta de Termino Medio, Borrador. Elaborado por Dr. Iván Mendoza, junio 1995

AMPROS:

Bsurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. BASELINE SURVEY. April 1994

EFSurv: International Eye Foundation, Alta Verapaz, Guatemala. Vitamin A For Child Survival. FINAL EVALUTION SURVEY. Sept 1993

infLB: Informe de la Evaluación Inicial, Linea Basal, elaborado por Dr. Iván Mendoza, 1992. Proyecto: Vitamina A, Depto de Alta Verapáz

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## V FURTHER ANALYSIS

### Participants versus Non Participants

Because there is a desire in knowing not just how the Programs affected the communities but also to know the direct effect in people who participate on them, a further analysis of the data was held. These analysis consisted in estimating some of the indicators mentioned in the above sections for two sub-populations :

Participants of the Program
- Non participants of the Program

Table 22 gives the results for AMPROS and Table 23 for HOPE.

**Table 22 AMPROS : Indicators by Participation in the Program.** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 1 N | Percentage of families that have a garden | 381 | 66 | 18.0 | 11.5 | 24.5 | 225 | 164 | 77.0 | 69.8 | 84.2 |
| 2a N | Percentage of families that have a familiar garden | 381 | 65 | 17.5 | 10.7 | 24.3 | 225 | 155 | 72.9 | 64.4 | 81.5 |
| 6 | Percentage of families that have at least one plant containing Vitamin A | 66 | 65 | 97.9 | 94.0 | 100 | 164 | 164 | 100 | 100 | 100 |
| 10a N | Percentage mothers that know Vitamin A | 381 | 247 | 65.2 | 58.0 | 72.3 | 225 | 199 | 89.7 | 86.7 | 92.7 |
| 10b N | Percentage of mothers who have heard something about Vitamin A | 381 | 245 | 66.2 | 57.6 | 74.8 | 225 | 220 | 98.7 | 97.9 | 99.5 |
| 11 N | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 381 | 260 | 69.2 | 60.7 | 77.7 | 225 | 214 | 95.4 | 91.9 | 99.0 |
| 14 N | Percentage of mothers that know at least one benefit obtained by vitamin A | 381 | 250 | 67.6 | 60.1 | 75.1 | 225 | 208 | 93.4 | 88.4 | 98.4 |
| 30 | Percentage of mothers that know at least one green vegetable or leave that have vitamin A | 340 | 316 | 93.8 | 91.0 | 96.7 | 225 | 215 | 95.8 | 92.5 | 99.2 |
| 31 N | Percentage of mothers who know at least one yellow vegetable or fruit that have Vit. A | 340 | 247 | 71.7 | 62.2 | 81.2 | 225 | 197 | 87.9 | 84.6 | 91.2 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 N | Percentage of mothers that know that meet/fish/liver have vitamin A | 340 | 44 | 14.8 | 7.3 | 22.3 | 225 | 99 | 47.7 | 37.8 | 57.6 |
| 33 | Percentage of mothers that know that there is vitamin A in breast milk | 340 | 44 | 13.3 | 6.2 | 20.4 | 225 | 30 | 13.1 | 8.2 | 17.9 |
| 34 N | Percentage of mothers that know that cheese have vitamin A | 340 | 15 | 2.8 | 1.5 | 4.2 | 225 | 37 | 15.2 | 4.5 | 26.0 |

* 95% confidence interval

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**Table 22 AMPROS : Indicators by Participation in the Program. (continuation...)** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 35 N | Percentage of mothers that know that eggs have vitamin A | 340 | 102 | **30.6** | 26.7 | 34.5 | 225 | 108 | **50.6** | 48.4 | 52.7 |
| 36 N | Percentage of mothers that say to know what happens with the health in vitamin A absence | 381 | 242 | **64.1** | 56.2 | 71.9 | 225 | 211 | **94.9** | 92.1 | 97.6 |
| 37 | Percentage of mothers that know at least one health problem related to vitamin A deficiency | 242 | 129 | **57.1** | 48.7 | 65.6 | 211 | 137 | **66.8** | 57.6 | 76.0 |
| 40 N | Percentage of mothers that know at least one way to prevent vitamin A deficiency | 381 | 187 | **47.9** | 41.3 | 54.5 | 225 | 164 | **71.9** | 61.7 | 82.1 |
| 43 N | Percentage of mothers that know at least one reason why they need vitamin A after childbirth | 381 | 139 | **36.1** | 28.5 | 43.7 | 225 | 131 | **60.5** | 52.4 | 68.7 |
| 43a N | Percentage of mothers that know that they need vitamin A after childbirth because : *To have milk rich in Vitamin A or to give strength to the baby* | 381 | 93 | **23.3** | 16.3 | 30.4 | 225 | 116 | **53.6** | 45.7 | 61.5 |
| 45 N | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 381 | 215 | **58.6** | 47.6 | 69.5 | 225. | 188 | **85.5** | 79.6 | 91.5 |
| 47 N | Percentage of mothers that say the index child has received Vitamin A capsules during 1995 or 1996 | 354 | 196 | **57.4** | 45.8 | 69.1 | 212 | 175 | **84.8** | 77.7 | 91.8 |
| 49 N | Percentage of mothers that say to have received Vitamin A after her last childbirth | 381 | 44 | **11.5** | 5.9 | 17.1 | 225 | 44 | **21.3** | 12.0 | 30.5 |
| 51 N | Percentage of mothers that say to have received Vitamin A after her index child | 354 | 8 | **1.8** | 0.6 | 3.0 | 212 | 20 | **10.1** | 5.4 | 14.8 |
| 53 | Percentage of mothers with children under 24 months old that say to be Breast-feeding | 259 | 227 | **88.4** | 84.5 | 92.2 | 149 | 129 | **87.4** | 82.6 | 92.1 |
| 54 | Percentage of mothers with children under 6 months old that say to be Breast-feeding | 71 | 71 | **100** | 100 | 100 | 39 | 39 | **100** | 100 | 100 |
| 57 | Percentage of mothers that say to have breast feed her child during his first hour after delivery | 380 | 155 | **41.9** | 35.5 | 48.3 | 220 | 99 | **46.6** | 35.5 | 57.8 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | Percentage of mothers that say to have breast feed her child between his first and eight hours after delivery | 380 | 96 | 24.5 | 20.2 | 28.7 | 220 | 58 | 25.4 | 17.4 | 33.4 |

* 95% confidence interval

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**Table 22 AMPROS : Indicators by Participation in the Program. (continuation...)** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 59 | Percentage of mothers that say to have breast feed her **index child** during his first hour after delivery | 354 | 136 | **38.5** | 33.5 | 43.6 | 212 | 88 | **43.0** | 30.3 | 55.7 |
| 60 | Percentage of mothers that say to have breast feed her **index child** between his first and eight hours after delivery | 354 | 94 | **26.7** | 22.3 | 31.1 | 212 | 54 | **25.1** | 16.8 | 33.5 |

* 95% confidence interval

**Table 23 HOPE : Indicators by Participation in the Program.** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 1 N | Percentage of families that have a garden | 621 | 104 | **17.1** | 11.1 | 23.1 | 64 | 39 | **58.7** | 46.0 | 71.4 |
| 2a N | Percentage of families that have a familiar garden | 621 | 63 | **11.0** | 6.2 | 15.8 | 64 | 29 | **44.3** | 28.2 | 60.3 |
| 6 | Percentage of families that have at least one plant containing Vitamin A | 104 | 101 | **96.4** | 92.7 | 100 | 39 | 34 | **87.4** | 73.7 | 100 |
| 10a N | Percentage mothers that know Vitamin A | 616 | 189 | **27.6** | 19.7 | 35.4 | 64 | 40 | **60.1** | 47.2 | 73.0 |
| 10b N | Percentage of mothers who have heard something about Vitamin A | 616 | 241 | **37.9** | 33.2 | 42.6 | 64 | 55 | **83.5** | 69.8 | 97.1 |
| 11 N | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 616 | 270 | **45.4** | 35.7 | 55.2 | 64 | 49 | **77.2** | 67.3 | 87.0 |
| 14 N | Percentage of mothers that know at least one benefit obtained by vitamin A | 616 | 307 | **51.8** | 45.9 | 57.7 | 64 | 52 | **82.4** | 69.4 | 95.5 |
| 16 | Percentage of mothers that know at least one animal food that have Vitamin A | 468 | 265 | **56.2** | 47.9 | 64.5 | 63 | 36 | **55.6** | 37.9 | 73.3 |
| 19 | Percentage of mothers that know at least one vegetable food that have Vitamin A | 468 | 409 | **87.4** | 83.9 | 91.0 | 63 | 59 | **93.9** | 86.1 | 100 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Percentage of mothers that know at least one herbal food that have Vitamin A | 468 | 419 | 87.9 | 81.6 | 94.3 | 63 | 56 | 86.5 | 76.2 | 96.8 |
| 25 | Percentage of mothers that know at least one fruit that have Vitamin A | 468 | 283 | 59.9 | 54.8 | 65.0 | 63 | 37 | 57.9 | 46.0 | 69.7 |
| 36 N | Percentage of mothers that say to know what happens with the health in vitamin A absence | 614 | 400 | 64.3 | 61.0 | 67.6 | 64 | 56 | 85.2 | 76.7 | 93.7 |
| 37 N | Percentage of mothers that know at least one health problem related to vitamin A deficiency | 400 | 218 | 55.6 | 51.2 | 60.3 | 56 | 42 | 76.7 | 66.0 | 87.3 |
| 45 N | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 613 | 202 | 30.8 | 24.5 | 37.1 | 64 | 45 | 69.8 | 51.3 | 88.3 |
| 47 N | Percentage of mothers that say the **index child** has received Vitamin A capsules during 1995 or 1996 | 556 | 170 | 28.6 | 22.4 | 34.8 | 60 | 42 | 68.5 | 49.2 | 87.7 |
| 49 N | Percentage of mothers that say to have received Vitamin A after her last childbirth | 613 | 23 | 3.5 | 2.1 | 4.9 | 64 | 6 | 10.1 | 5.1 | 15.2 |
| 51 | Percentage of mothers that say to have received Vitamin A after her **index child** | 556 | 5 | 1.3 | 0.0 | 2.5 | 60 | 2 | 4.1 | 0.0 | 10.8 |

* 95% confidence interval

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**Table 23 HOPE : Indicators by Participation in the Program. (continuation...)** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 53 | Percentage of mothers with children under 24 months old that say to be Breast-feeding | 398 | 315 | 81.7 | 77.1 | 86.3 | 39 | 34 | 90.0 | 79.2 | 100 |
| 54 | Percentage of mothers with children under 6 months old that say to be Breast-feeding | 125 | 112 | 89.7 | 84.2 | 95.2 | 9 | 9 | 100 | 100 | 100 |
| 57 | Percentage of mothers that say to have breast feed her child during his first hour after delivery | 605 | 181 | 30.7 | 26.3 | 35.2 | 64 | 14 | 22.7 | 14.4 | 31.0 |
| 58 | Percentage of mothers that say to have breast feed her child between his first and eight hours after delivery | 605 | 161 | 26.4 | 22.4 | 30.4 | 64 | 21 | 35.5 | 20.6 | 50.5 |
| 59 | Percentage of mothers that say to have breast feed her **index child** during his first hour after delivery | 556 | 119 | 21.6 | 17.4 | 25.8 | 60 | 9 | 17.2 | 9.2 | 25.1 |
| 60 | Percentage of mothers that say to have breast feed her **index child** between his first and eight hours after delivery | 556 | 89 | 17.4 | 13.5 | 21.3 | 60 | 13 | 23.8 | 13.5 | 34.1 |

* 95% confidence interval

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## Participants versus Non Participants : ODDS RATIO

In Epidemiology there is an estimator of risk (of having a disease given an exposure) called odds ratio, which is also a measure of the strength of association between the disease and the exposure. Applying this estimate to the above significant associations, this odds ratio could be interpreted as follows :

For example, the ***percentage of families that have a garden*** is associated with the participation in the Program of AMPROS (see Table 22, indicator 1)

**Table 22 AMPROS : Indicators by Participation in the Program.** Indicators with "N" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 1 N | Percentage of families that have a garden | 381 | 66 | 18.0 | 11.5 | 24.5 | 225 | 164 | 77.0 | 69.8 | 84.2 |

It is easy to see that the association is given the difference between participating or not into the Program : 77% of the participants have a garden, while just 18% of non participants do. **The odds ratio for this association is 15.3, meaning that by participating in the Program there is 15.3 times the probability that a person has a garden compared with someone who does not participate.**

So, the odds ratios could be interpreted this way, as an effect of the Program among participants. Tables 24 and 25 present the odds ratios for those indicators that presented association with participation. Table 24 is for AMPROS and Table 25 is for HOPE.

**Table 24 AMPROS : Odds Ratios for Indicators associated with Participation in the Program.**

| INDICATOR | | ODDS RATIO | | |
|---|---|---|---|---|
| Number | Meaning | OR | Lower level* | Upper level* |
| 1 | Percentage of families that have a garden | 15.3 | 10.7 | 21.8 |
| 2a | Percentage of families that have a familiar garden | 12.7 | 8.4 | 19.1 |
| 10a | Percentage mothers that know Vitamin A | 4.6 | 3.3 | 6.6 |
| 10b | Percentage of mothers who have heard something about Vitamin A | 39.4 | 18.7 | 82.7 |
| 11 | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 9.3 | 3.9 | 22.4 |
| 14 | Percentage of mothers that know at least one benefit obtained by vitamin A | 6.8 | 3.1 | 15.1 |
| 31 | Percentage of mothers who know at least one yellow vegetable or fruit that have Vit. A | 2.9 | 1.5 | 5.4 |
| 32 | Percentage of mothers that know that meet/fish/liver have vitamin A | 5.3 | 2.4 | 11.6 |
| 34 | Percentage of mothers that know that cheese have vitamin A | 6.2 | 2.8 | 13.5 |

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| | | | | |
|---|---|---|---|---|
| 35 | Percentage of mothers that know that eggs have vitamin A | 2.3 | 1.9 | 2.9 |
| 36 | Percentage of mothers that say to know what happens with the health in vitamin A absence | 10.4 | 6.7 | 16.2 |
| 40 | Percentage of mothers that know at least one way to prevent vitamin A deficiency | 2.8 | 1.6 | 4.8 |

* 95% confidence interval

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**Table 24 AMPROS : Odds Ratios for Indicators associated with Participation in the Program. (continuation...)**

| INDICATOR | | ODDS RATIO | | |
|---|---|---|---|---|
| Number | Meaning | OR | Lower level* | Upper level* |
| 43 | Percentage of mothers that know at least one reason why they need vitamin A after childbirth | 2.7 | 1.7 | 4.4 |
| 43a | Percentage of mothers that know that they need vitamin A after childbirth because : *To have milk rich in Vitamin A or to give strength to the baby* | 3.8 | 2.2 | 6.7 |
| 45 | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 4.2 | 2.8 | 6.3 |
| 47 | Percentage of mothers that say the index child has received Vitamin A capsules during 1995 or 1996 | 4.1 | 2.5 | 6.8 |
| 49 | Percentage of mothers that say to have received Vitamin A after her last childbirth | 2.1 | 1.2 | 3.7 |
| 51 | Percentage of mothers that say to have received Vitamin A after her index child | 6.2 | 3.0 | 12.8 |

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**Table 25 HOPE : Odds Ratios for Indicators associated with Participation in the Program.**

| INDICATOR | | ODDS RATIO | | |
|---|---|---|---|---|
| Number | Meaning | OR | Lower level* | Upper level* |
| 1 | Percentage of families that have a garden | 6.9 | 3.9 | 12.3 |
| 2a | Percentage of families that have a familiar garden | 6.4 | 2.8 | 14.5 |
| 10a | Percentage mothers that know Vitamin A | 4.0 | 2.4 | 6.5 |
| 10b | Percentage of mothers who have heard something about Vitamin A | 8.3 | 3.4 | 20.3 |
| 11 | Percentage of mothers who know how to get Vitamin A (by food : plants/animals , sugar, or capsules) | 4.1 | 2.0 | 8.2 |
| 14 | Percentage of mothers that know at least one benefit obtained by vitamin A | 4.4 | 1.8 | 10.9 |
| 36 | Percentage of mothers that say to know what happens with the health in vitamin A absence | 3.2 | 1.6 | 6.5 |
| 37 | Percentage of mothers that know at least one health problem related to vitamin A deficiency | 2.6 | 1.3 | 5.2 |
| 45 | Percentage of mothers that say that at least one of their children has received Vitamin A capsules during 1995 or 1996 | 5.2 | 2.6 | 10.3 |
| 47 | Percentage of mothers that say the index child has received Vitamin A capsules during 1995 or 1996 | 5.4 | 2.7 | 11.1 |
| 49 | Percentage of mothers that say to have received Vitamin A after her last childbirth | 3.1 | 1.6 | 6.0 |

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## AMOUNT OF MOTHERS

Besides looking at the indicators, that are mainly percentages, there is another way of looking at the effect of the Programs into the communities. This other way responds to the question : How many mothers ... ?

The amount of mothers that have a good response to the indicators is useful for further cost/benefit analysis. Table 26 presents four indicators in terms of total of mothers instead of percentages. The totals were estimated using the software PC-CARP (Iowa State University), which enables estimates to be adjusted by the sampling design.

**Table 26 AMOUNT OF MOTHERS.**

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Sample size | TOTAL | Lower level* | Upper level* | Sample size | TOTAL | Lower level* | Upper level* |
| 2a | TOTAL of families that have a familiar garden | 606 | 7,982 | 6,122 | 9,842 | 685 | 17,151 | 10,903 | 23,399 |
| 48 | TOTAL of children that mother says to have received Vitamin A capsules during 1995 or 1996 | 1138 | 23,069 | 15,721 | 30,417 | 1264 | 59,859 | 41,627 | 78,091 |
| 48a | TOTAL of children under 2 years old that mother says to have received Vitamin A capsules during 1995 or 1996 | 439 | 6,587 | 5,333 | 7,841 | x | x | x | x |
| 49 | TOTAL of mothers that say to have received Vitamin A after her last childbirth | 606 | 3,129 | 1,917 | 4,341 | 677 | 4,928 | 2,812 | 7,044 |
| C2 | TOTAL of mothers that have participate in the activities of the Program. | 606 | 7,940 | 6,044 | 9,836 | 685 | 12,026 | 6,242 | 17,810 |

According with Tables "C" and "D" in Statistical Methodology, there are approximately 43,014 women in the total area of AMPROS, and a total of 272,562 women in HOPE. Assuming that only 25% of them meet the criteria for being in the Programs, then there are 10,753 women in AMPROS and 68,140 in HOPE that are target of the Programs.

Also, according with the data, there are a total of 1,138 children under six years old in AMPROS, so for every women (606 in the sample), there are 1.878 children as a mean. For HOPE this mean is 1.845 children by woman. Therefore the approximately amount of children under six years old for AMPROS is 10,753 x 1.878 = 20,194 ; and in HOPE is 68,140 x 1.845 = 125,718.

These two estimates of total women and children in the Program Areas are presented as an alternative in case there is no recent and good information for them at a national level.

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# SEVEN DAY - CONSUMPTION FREQUENCY

## I Analysis methodology

The data gathered for each food is expressed in different units of measurements, for example tablespoons, units (as in fruits), ounces, etc., therefore for every child in the sample (age 12 to 72 months) all their consumed food data was converted into grams, according to Table 27: (information given by Lic. Héctor Gámero)

**Table 27. Foods, their measurement units converted to grams.** Names of the foods are given in Spanish, as well as some measurement units.

| Food | Measurement unit | Grams |
|---|---|---|
| ANIMAL FOOD : | | |
| *Hígado de res* | Ounce | 28.75 |
| | *Porción* (for HOPE) | 57.00 |
| *Carne de cangrejo* | Ounce | 28.75 |
| | *Porción* (for HOPE) | 26.00 |
| *Sesos de res :* | Ounce | 28.75 |
| | Cup | 150.00 |
| | *Porción* (for HOPE) | 44.00 |
| *Panza de res :* | Ounce | 28.75 |
| | Cup | 150.00 |
| | *Porción* (for HOPE) | 29.00 |
| *Pulmón de res :* | Ounce | 28.75 |
| | Cup | 150.00 |
| | *Porción* (for HOPE) | 35.00 |
| *Salchicha :* | Unit | 39.00 |
| | Ounce | 28.75 |
| *Huevo de gallina* | Unit | 47.00 |
| *Huevo de chunto* | Unit | 53.00 |
| *Huevo de pato* | Unit | 53.00 |
| *Sardinas* | Ounce | 28.75 |
| *Hígado de carnero* | Ounce | 28.75 |
| *Hígado de cerdo* | Ounce | 28.75 |
| *Hígado o menudos de pollo* | Ounce | 28.75 |
| | *Porción* (for HOPE) | 32.00 |
| *Leche fluida vaca :* | Small cup | 210.00 |
| | Cup | 260.00 |
| | Glass | 240.00 |
| | Liter | 1000.00 |
| | Bottle | 750.00 |
| *Leche en polvo vaca* | Tablespoon | 10.00 |

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**Seven day-Consumption Frequency**

| | |
|---|---|
| teaspoon | 3.00 |
| Measure | 4.00 |
| Cup | 130.00 |



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**Table 27. Foods, their measurement units converted to grams (continuation...).** Names of the foods are given in Spanish, as well as some measurement units.

| Food | Measurement unit | Grams |
|---|---|---|
| *Queso duro :* | Ounce | 28.75 |
| | Tablespoon | 12.00 |
| | teaspoon | 5.00 |
| *Queso fresco :* | Ounce | 28.75 |
| | Tablespoon | 16.00 |
| | *Cuarteron* | 115.00 |
| *Crema espesa :* | Tablespoon | 23.00 |
| | teaspoon | 8.00 |
| | Glass | 230.00 |
| *Crema Rala* | Tablespoon | 15.00 |
| | teaspoon | 5.00 |
| | Glass | 130.00 |
| *Mantequilla lavada o mantequilla de leche* | Tablespoon | 23.00 |
| | teaspoon | 5.00 |
| | Ounce | 28.75 |
| *Manteca de cerdo* | Tablespoon | 16.00 |
| | teaspoon | 6.00 |
| | Ounce | 28.75 |
| **CEREALS :** | | |
| *Incaparina, Protina, Bienestarina, polenta* | Tablespoon | 12.00 |
| | teaspoon | 4.00 |
| | Cup | 100.00 |
| | Unit-Bag | 264.00 |
| **VEGETABLES :** | | |
| *Chipilin, quilete, bledo, espinaca, acelga, puntas y hojas de guisquil, mostaza, puntas y hojas de ayote, hojas de nabo, tomate de árbol, quixtan, pata de paloma, chaya, puntas de ayote, verdulaga, berro, brocoli* | Tablespoon | 8.00 |
| | teaspoon | 3.00 |
| | Large Cup | 83.00 |
| | Cup | 65.00 |
| | *Porción* (for brocoli HOPE) | 63.00 |
| *Camote anaranjado, Camote blanco* | Unit | 250.00 |
| | Cup | 170.00 |
| | Large cup | 265.00 |
| | *Porción* (for HOPE) | 78.00 |
| *Chile pimiento* | Unit | 36.00 |
| | Cup | 104.00 |
| | Large cup | 164.00 |

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**Seven day-Consumption Frequency**

| | | |
|---|---|---|
| | Tablespoon | 12.00 |
| | teaspoon | 5.00 |
| *Cebollino* | Unit | 10.00 |
| | Cup | 100.00 |
| | Tablespoon | 10.00 |



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**Table 27. Foods, their measurement units converted to grams (continuation...).** Names of the foods are given in Spanish, as well as some measurement units.

| Food | Measurement unit | Grams |
|---|---|---|
| *Lechuga (no arrepollada)* | Unit | 130.00 |
| | Cup | 65.00 |
| | Large cup | 83.00 |
| | *Porción* (for HOPE) | 12.00 |
| *Tomate maduro* | Unit | 48.00 |
| *Arveja* | Unit | 1.0 |
| | Tablespoon | 11.00 |
| | Cup | 174.00 |
| | Large cup | 274.00 |
| *Zanahoria* | Unit | 108.00 |
| | Tablespoon | 12.00 |
| | teaspoon | 5.00 |
| | Cup | 104.00 |
| | Large cup | 164.00 |
| *Guicoy sazón* | *Porción* (for HOPE) | 212.00 |
| **FRUITS :** | | |
| *Mango maduro* | Unit | 78.00 |
| *Plátano maduro* | Unit | 210.00 |
| *Melón* | Unit | 472.00 |
| | Slice | 78.00 |
| *Mandarina* | Unit | 264.00 |
| *Marañon* | Unit | 40.00 |
| *Zapote* | Unit | 272.00 |
| *Papaya madura* | Unit | 460.00 |
| | Slice | 78.00 |
| *Mamey* | Unit | 340.00 |
| *Durazno amarillo* | Unit (for AMPROS) | 51.00 |
| *(melocotón)* | Unit (for HOPE) | 98.00 |
| *Jocote maduro* | Unit | 15.00 |
| **OTHER :** | | |
| *Aceite* | Tablespoon | 7.00 |
| | teaspoon | 3.00 |
| | *Octavo* | 120.00 |
| | Glass | 140.00 |
| *Azúcar* | Tablespoon | 16.00 |
| | teaspoon | 6.00 |
| | Cup | 170.00 |
| | Ounce | 28.75 |
| | Large cup | 268.00 |
| *Margarina* | Ounce | 28.75 |
| | Tablespoon | 16.00 |
| | teaspoon | 5.00 |
| | *Barra* | 115.00 |

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**Seven day-Consumption Frequency**

| | | |
|---|---|---|
| *Panela* | Tablespoon | 10.00 |
| | teaspoon | 5.00 |
| | Cup | 130.00 |



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Afterwards, by using the "Tabla Latinoamericana de Alimentos (INCAP)", the Equivalents of Retinc (RE) were calculated for each of them. The table gives, for 100 grams of food :

Vitamin A (micrograms) : VA
- Beta carotene (micrograms) : BC
- Other carotene (micrograms) : OC

Therefore, the Retinol Equivalents for 100 grams of each food was calculated by : (information giver by Lic. Héctor Gámero)

$$RE=VA+\frac{BC}{6}+\frac{OC}{12}$$

There were two foods that did not have the VA, BC, and OC data in Tabla Latinoamericana de Alimentos :

Egg from turkey
Egg from duck

Information for ducks eggs was found in the data base of the software Nutritionist 4. Information for turkey egg was not found (in the database of the software Nutritionionist $ or in the Food and Nutrition Information Center : http ://www.nal.usda.gov/fnic), so it was taken as the same as chicken eggs.

The adequacy of the RE consumed by the children was established by comparing the dietary recommendations given in "Recomendaciones Dietéticas para Centro América y Panamá, INCAP, 1994" . See Table 28 (information given by Lic. Héctor Gámero).

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**Table 28 Daily recommended amount of retinol equivalents**

| Age of the child | Daily recommended amount of RE |
|---|---|
| 0 - 2.9 months | 350 |
| 3 - 5.9 months | 350 |
| 6 - 11.9 months | 350 |
| 1 - 3.9 years | 400 |
| 4 - 6.9 years | 400 |
| 7 - 9.9 years | 400 |

In Table 29 are the equivalents of retinol for 100 grams of food, for each of the evaluated food. The foods *salchicha, aceite, manteca de cerdo, and panela* have 0.0 RE, so they do not appear in the table. The vegetable *pata de paloma* does not appear in "Tabla Latino-americana de alimentos", so it was dropped from the analysis.

**Table 29. Foods and their retinol equivalents. For 100 grams of food.** Names of the foods are given in Spanish

| Food | Retinol Equivalents |
|---|---|
| ANIMAL FOOD : | |
| *Hígado de res* | 8082.67 |
| *Carne de cangrejo* | 606.67 |
| *Sesos de res* | 163.67 |
| *Panza de res* | 65.33 |
| *Pulmón de res* | 51.67 |
| *Huevo de gallina y chunto* | 100.33 |
| *Huevo de pato* | 182.00 |
| *Sardinas* | 9.33 |
| *Hígado de carnero* | 1850.00 |
| *Hígado de cerdo* | 3920.00 |
| *Hígado o menudos de pollo* | 1200.83 |
| *Leche fluida vaca* | 28.33 |
| *Leche en polvo vaca* | 204.33 |
| *Queso duro* | 192.00 |
| *Queso fresco* | 205.67 |
| *Crema espesa* | 292.33 |
| *Crema Rala* | 160.00 |
| *Mantequilla lavada o de leche* | 400.00 |
| CEREALS : | |
| *Incaparina, Protina, Bienestarina* | 1200.00 |
| *polenta* | 497.00 |
| VEGETABLES : | |
| *Chipilin* | 1021.67 |
| *quilete* | 549.17 |

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**Seven day-Consumption Frequency**

| | |
|---|---|
| *bledo* | 533.33 |
| *espinaca* | 390.00 |
| *acelga* | 291.67 |
| *puntas y hojas de guisquil* | 205.00 |
| *mostaza* | 203.33 |
| *puntas y hojas de ayote* | 271.67 |
| *hojas de nabo* | 773.33 |
| *tomate de árbol* | 76.67 |
| *quixtan* | 728.58 |
| *chaya* | 790.00 |
| *brocoli* | 186.67 |
| *Chile pimiento* | 217.08 |
| *verdulaga* | 250.00 |

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**Table 29. Foods and their retinol equivalents. For 100 grams of food. (continuation...)** Names of the foods are given in Spanish

| Food | Retinol Equivalents |
|---|---|
| *Lechuga (no arrepollada)* | 86.67 |
| *Tomate maduro* | 60.00 |
| *Zanahoria* | 1066.67 |
| *Guicoy sazón* | 248.5 |
| *Berro* | 368.33 |
| *Camote blanco* | 10.00 |
| *Cebollino* | 200.00 |
| *Camote anaranjado* | 605.00 |
| *Arveja* | 41.67 |
| **FRUITS :** | |
| *Mango maduro* | 210.00 |
| *Plátano maduro* | 58.33 |
| *Melón* | 116.67 |
| *Mandarina* | 13.33 |
| *Marañon* | 40.00 |
| *Zapote* | 38.33 |
| *Papaya madura* | 36.67 |
| *Mamey* | 30.00 |
| *Durazno amarillo (melocotón)* | 30.83 |
| *Jocote maduro* | 23.83 |
| **OTHER :** | |
| *Margarina* | 1229.00 |
| *Leche materna* | 64.00 |

## SUGAR

Most of the sugar in Guatemala is fortified with Vitamin A, so in order to estimate the amount of retinol equivalents given by sugar consumption, data obtained by IEF-Guatemala / INCAP in a previous study was used to estimate the median of retinol equivalents in 100 grams of sugar at the household level. The median was preferred over the mean because there were samples with a very large amount of retinol, as well as some others with a very small amount of it (that were reported with a "less than 1.0"). This median was used to calculate the amount of RE in sugar consumed by the children in both AMPROS and HOPE communities. The following is a summary of this statistical analysis for this data:

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**Table 30 : Amount of RE in sugar**

| | Mean | Std. error of the mean | Median or 50% percentile | Std. Dev. of the median | Percentiles 10% | 25% | 75% | 90% |
|---|---|---|---|---|---|---|---|---|
| Retinol | 9.4 | 0.9 | 8.0 | 7.2 | 1.8 | 4.7 | 11.4 | 21.2 |

**BREAST MILK**

For children that were breast feed an amount of daily milk consumed was calculated according to their age (reference : "Cantidad y calidad de la leche materna. Informe sobre el estudio en colaboración con OMS acerca de la lactancia natural, OMS, Ginebra". Information given by Lic. Héctor Gámero), and the quantity of times the child was breast feed.

**Table 31 Amount of daily milk intake (in grams) according to age.**

| | | | | | | | Ages of the study | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Age (months)** | 1 | 2 | 3 | 4 | 6 | 9 | 12 | 15 | 18 | 24 & over |
| **Daily milk intake (Grams)** | 530 | 573 | 617 | 602 | 587 | 594 | 593 | 592 | 569 | 546 |

Based on the assumption that the data on Table 31 come from a study and represent the estimated means of daily milk intake, it is also valid to assume that the mean of breast feeding times in a day match closely the figures in this table. So for this study, the quantity of milk intake by child was calculated this way :

1) Children were grouped according to age :
   1) 12 to 15 months included
   2) older than 51 to 18 months included
   3) older than 18 to 24 months included
   4) older than 24 months and over

2) To estimate the amount of daily milk intake, the following formula was used : Value in Table 31 for age

$$DMI = \frac{Daily\ breast\ feeding \times}{Mean\ of\ Daily\ breast\ feeding \times\ age\ group} \times Value \in Table\ 31\ for\ age$$

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= grams of daily milk intake

1) The retinol for seven day consumption coming from breast milk was then calculated this way :

$$\text{RE from breast milk} = \frac{DMIgrs \times 64 \times 7}{100grs}$$

## 3) STATISTICAL ANALYSIS

The statistical analysis consisted in the estimation of means or percentages (according to the indicators) for the sample and for the whole population, the latest by confidence intervals. The software used was EPI-INFO versions 6.04a and 6.04b with its module CSAMPLE which enables the estimation to take the sampling design into account. Only when stated, some estimations were made as simple random sampling.

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3) *II Indicators*

There are eight indicators measuring the seven day food consumption of the children :

a) Mean of Retinol Equivalents, **without sugar or breast milk** included, for seven days of consumption : ***RE***

b) Mean of Retinol Equivalents, **with sugar** included, for seven days of consumption : ***REs***

c) Mean of Retinol Equivalents, **with breast milk** included, for seven days of consumption : ***REbm***

d) Mean of Retinol Equivalents, **with sugar and breast milk** included, for seven days of consumption : ***REsbm***

e) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption), **without sugar or breast milk** included : ***GRE***

f) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption), **with sugar** included : ***GREs***

g) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption), **with breast milk** included : ***GREbm***

h) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption), **with sugar and breast milk** included : ***GREsbm***

Note : The variables used to estimate the group indicators (GRE, GREs GREbm, GREsbm) were calculated by comparing the seven day consumption of RE against what should be the seven day requirement of RE.

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h) *III Results*

h) **INDICATORS**

Table 32 presents mean (or percentage) estimates of the sample, mean (or percentage) estimates of the population by a 95% confidence interval, sample size, standard error of the mean, and design effect (DE = the effect of the sampling design in the variability), for the eight indicators.

**Table 32 Seven-day Consumption Frequency**

| INDICATOR | Sample Size (n) | Mean (or Percentage) | | | Standard Error | Design Effect |
|---|---|---|---|---|---|---|
| | | Sample | Population Lower Level | Population Upper Level | | |
| **AMPROS** | | | | | | |
| *RE* | 566 | 3,398.8 RE | 3,092.6 RE | 3,705.0 RE | 156.2 RE | 1.14 |
| *REs* | 566 | 6,579.0 RE | 6,111.6 RE | 7,046.4 RE | 238.5 RE | 1.38 |
| *REbm* | 566 | 3,879.6 RE | 3,514.1 RE | 4,245.0 RE | 186.5 RE | 1.49 |
| *REsbm* | 566 | 7,059.8 RE | 6,629.8 RE | 7,489.9 RE | 219.4 RE | 1.16 |
| *GRE* | 566 | 44.0 % | 37.7 % | 50.2 % | 3.2 % | 2.31 |
| *GREs* | 566 | 77.8 % | 73.3 % | 82.4 % | 2.3 % | 1.7 |
| *GREbm* | 566 | 51.0 % | 45.7 % | 56.3 % | 2.7 % | 1.69 |
| *GREsbm* | 566 | 82.6 % | 78.8 % | 86.3 % | 1.9 % | 1.43 |
| **HOPE** | | | | | | |
| *RE* | 646 | 2,983.9 RE | 2,639.9 RE | 3,327.9 RE | 175.5 RE | 2.01 |
| *REs* | 646 | 5,296.1 RE | 4,660.1 RE | 5,932.1RE | 324.5 RE | 3.79 |
| *REbm* | 646 | 3,308.7 RE | 2,977.6 RE | 3,639.9 RE | 169.0 RE | 1.85 |
| *REsbm* | 646 | 5,620.9 RE | 5,007.9 RE | 6,233.9 RE | 312.8 RE | 3.59 |
| *GRE* | 646 | 38.4 % | 32.4 % | 44.4 % | 3.1 % | 2.55 |
| *GREs* | 646 | 69.1 % | 60.6 % | 77.5 % | 4.3 % | 5.61 |
| *GREbm* | 646 | 46.0 % | 40.3 % | 51.6 % | 2.9 % | 2.17 |
| *GREsbm* | 646 | 73.7 % | 65.3 % | 82.0 % | 4.3 % | 6.06 |

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FOODS

Table 33 has a summary of the amount of RE consumed by food.

**Table 33. Amount of RE consumed by food.** Names of the foods are given in Spanish . *"n" for AMPROS = 566, "n" for HOPE= 646.*

| Food | AMPROS | | | HOPE | | |
|---|---|---|---|---|---|---|
| | RE mean | Lower level* | Upper level* | RE mean | Lower level* | Upper level* |
| **ANIMAL FOOD :** | | | | | | |
| *Hígado de res* | 1,611.3 | 1,379.1 | 1,843.4 | 676.0 | 503.1 | 848.9 |
| *Carne de cangrejo* | 0.7 | 0.0 | 1.7 | 6.3 | 2.8 | 9.8 |
| *Sesos de res* | 5.9 | 3.3 | 8.5 | 2.1 | 0.7 | 3.6 |
| *Panza de res* | 11.3 | 9.1 | 13.4 | 4.3 | 2.8 | 5.8 |
| *Pulmón de res* | 5.6 | 4.7 | 6.5 | 0.6 | 0.3 | 0.8 |
| *Huevo de gallina y chunto* | 108.8 | 93.5 | 124.2 | 114.0 | 98.1 | 129.9 |
| *Huevo de pato* | 0.6 | 0.0 | 1.5 | 1.9 | 0.7 | 3.0 |
| *Sardinas* | 0.02 | 0.0 | 0.05 | 0.001 | 0.0 | 0.002 |
| *Hígado de carnero* | 0 | 0 | 0 | 4.0 | 0.0 | 9.4 |
| *Hígado de cerdo* | 0 | 0 | 0 | 2.5 | 0.0 | 7.3 |
| *Hígado o menudos de pollo* | 8.3 | 2.4 | 14.2 | 107.2 | 83.4 | 131.0 |
| *Leche fluida vaca* | 8.3 | 1.7 | 14.9 | 71.7 | 40.9 | 102.5 |
| *Leche en polvo vaca* | 17.1 | 8.5 | 25.7 | 25.4 | 17.5 | 33.4 |
| *Queso duro* | 4.7 | 1.8 | 7.5 | 8.7 | 5.4 | 12.1 |
| *Queso fresco* | 24.5 | 17.3 | 31.7 | 50.2 | 32.5 | 68.0 |
| *Crema espesa* | 9.0 | 4.9 | 13.1 | 15.1 | 8.5 | 21.6 |
| *Crema Rala* | 1.7 | 0.8 | 2.6 | 3.0 | 1.6 | 4.5 |
| *Mantequilla lavada o de leche* | 0.05 | 0.0 | 0.13 | 1.7 | 0.2 | 3.1 |
| **CEREALS :** | | | | | | |
| *Incaparina, Protina, Bienestarina* | 299.5 | 209.6 | 389.4 | 256.5 | 135.8 | 377.3 |
| *polenta* | 0 | 0 | 0 | 1.3 | 0.0 | 3.8 |
| **VEGETABLES :** | | | | | | |
| *Chipilin* | 6.6 | 0.0 | 13.8 | 59.8 | 24.9 | 94.7 |
| *quilete* | 196.6 | 159.6 | 233.7 | 105.2 | 77.3 | 133.1 |
| *bledo* | 44.1 | 30.8 | 57.4 | 27.5 | 13.4 | 41.5 |
| *espinaca* | 2.5 | 0.2 | 4.7 | 2.8 | 0.6 | 5.1 |
| *acelga* | 15.6 | 6.0 | 25.2 | 6.8 | 4.5 | 9.1 |
| *puntas y hojas de guisquil* | 91.8 | 76.3 | 107.3 | 18.6 | 11.0 | 26.2 |
| *mostaza* | 0 | 0 | 0 | 0.4 | 0.0 | 1.0 |
| *puntas y hojas de ayote* | 6.7 | 1.8 | 11.7 | 25.7 | 13.8 | 37.7 |
| *hojas de nabo* | 0 | 0 | 0 | 1.1 | 0.0 | 2.2 |
| *tomate de árbol* | 0 | 0 | 0 | 0 | 0 | 0 |
| *quixtan* | 0 | 0 | 0 | 0 | 0 | 0 |
| *chaya* | 0 | 0 | 0 | 3.6 | 0.2 | 7.1 |
| *brocoli* | 0.2 | 0.0 | 0.5 | 4.2 | 2.7 | 6.0 |
| *Chile pimiento* | 3.1 | 1.9 | 4.3 | 4.1 | 2.4 | 5.8 |

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**Seven day-Consumption Frequency**

| | | | | | | |
|---|---|---|---|---|---|---|
| *verdulaga* | 0 | 0 | 0 | 0.6 | 0.0 | 1.8 |
| *Lechuga (no arrepollada)* | 0.1 | 0.0 | 0.3 | 2.3 | 0.9 | 3.7 |
| *Tomate maduro* | 67.2 | 58.2 | 76.3 | 90.7 | 83.5 | 97.9 |
| *Zanahoria* | 494.1 | 388.5 | 599.6 | 957.1 | 758.6 | 1,155.6 |


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**Table 33. Amount of RE consumed by food.** *(continuation...)* Names of the foods are given in Spanish . *"n" for AMPROS = 566, "n" for HOPE= 646.*

| Food | AMPROS | | | HOPE | | |
|---|---|---|---|---|---|---|
| | RE mean | Lower level* | Upper level* | RE mean | Lower level* | Upper level* |
| *Guicoy sazón* | 6.7 | 2.8 | 10.7 | 20.7 | 11.7 | 29.7 |
| *Berro* | 0.8 | 0.0 | 1.6 | 29.3 | 21.4 | 37.2 |
| *Camote blanco* | 0 | 0 | 0 | 0.1 | 0.0 | 0.2 |
| *Cebollino* | 4.3 | 3.2 | 5.3 | 1.3 | 0.7 | 1.8 |
| *Camote anaranjado* | 50.7 | 15.2 | 86.1 | 61.2 | 36.1 | 86.2 |
| *Arveja* | 0.3 | 0.0 | 0.5 | 2.8 | 0.0 | 5.6 |
| **FRUITS :** | | | | | | |
| *Mango maduro* | 2.1 | 0.0 | 4.7 | 5.6 | 1.7 | 9.6 |
| *Plátano maduro* | 221.1 | 175.7 | 266.4 | 79.3 | 25.6 | 133.1 |
| *Melón* | 3.2 | 1.2 | 5.2 | 5.8 | 3.9 | 7.7 |
| *Mandarina* | 9.1 | 3.9 | 14.3 | 0.4 | 0.1 | 0.8 |
| *Marañon* | 0.004 | 0.000 | 0.012 | 0 | 0 | 0 |
| *Zapote* | 2.0 | 0.0 | 4.9 | 2.2 | 1.0 | 3.5 |
| *Papaya madura* | 1.0 | 0.1 | 1.8 | 2.9 | 1.2 | 4.7 |
| *Mamey* | 0 | 0 | 0 | 0.1 | 0.0 | 0.3 |
| *Durazno amarillo (melocotón)* | 0 | 0 | 0 | 12.5 | 6.7 | 18.3 |
| *Jocote maduro* | 0.1 | 0.0 | 0.4 | 0 | 0 | 0 |
| **OTHER :** | | | | | | |
| *Azúcar* | 3,180.3 | 2,789.6 | 3,570.9 | 2,312.2 | 1,887.8 | 2,736.5 |
| *Margarina* | 68.2 | 42.1 | 94.2 | 79.8 | 28.7 | 130.9 |
| *Leche materna* | 480.8 | 359.5 | 602.1 | 324.8 | 235.2 | 414.4 |

Table 34 gives a summary of RE given by group of food, sugar and breast milk are excluded.

**Table 34. Amount of RE consumed by group of food.** *"n" for AMPROS = 566, "n" for HOPE= 646.*

| Group of Food | AMPROS | | | HOPE | | |
|---|---|---|---|---|---|---|
| | RE mean | Lower level* | Upper level* | RE mean | Lower level* | Upper level* |
| Animal food | 1,817.7 | 1,590.0 | 2,045.4 | 1,094.8 | 904.7 | 1,284.8 |
| Cereals | 299.5 | 209.6 | 389.4 | 257.8 | 136.6 | 378.9 |
| Vegetables | 974.8 | 842.6 | 1,107.1 | 1,442.6 | 1,245.4 | 1,639.9 |
| Fruits | 238.5 | 189.7 | 287.4 | 108.9 | 58.3 | 159.5 |

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## h) Frequency of Food Consumption

Table 35 presents the Frequency of Food Consumption, understanding for it as the number of children that have eaten a determined food at least once. The percentage estimates are only for the sample, and are not adjusted by the sampling design.

**Table 35. Frequency of Food Consumption.** Names of the foods are given in Spanish
Sample size for AMPROS= 566, for HOPE = 646

| Food | Number of children in the sample that have eaten at least once | | | |
|---|---|---|---|---|
| | AMPROS | | HOPE | |
| | Cases | % | Cases | % |
| **ANIMAL FOOD :** | | | | |
| *Hígado de res* | 206 | 36.4 | 101 | 15.6 |
| *Carne de cangrejo* | 2 | 0.4 | 26 | 4.0 |
| *Sesos de res* | 47 | 8.3 | 25 | 3.9 |
| *Panza de res* | 191 | 33.7 | 98 | 15.2 |
| *Pulmón de res* | 117 | 20.7 | 14 | 2.2 |
| *Salchicha* | 69 | 12.2 | 132 | 20.4 |
| *Huevo de gallina* | 520 | 91.9 | 565 | 87.5 |
| *Huevo de chunto* | 14 | 2.5 | 8 | 1.2 |
| *Huevo de pato* | 2 | 0.4 | 13 | 2.0 |
| *Sardinas* | 3 | 0.5 | 1 | 0.2 |
| *Hígado de carnero* | 0 | 0 | 3 | 0.5 |
| *Hígado de cerdo* | 0 | 0 | 1 | 0.2 |
| *Hígado o menudos de pollo* | 7 | 1.2 | 135 | 20.9 |
| *Leche fluida vaca* | 45 | 8.0 | 237 | 36.7 |
| *Leche en polvo vaca* | 81 | 14.3 | 67 | 10.4 |
| *Queso duro* | 37 | 6.5 | 84 | 13.0 |
| *Queso fresco* | 166 | 29.3 | 244 | 37.8 |
| *Crema espesa* | 42 | 7.4 | 66 | 10.2 |
| *Crema Rala* | 19 | 3.4 | 32 | 5.0 |
| *Mantequilla lavada o de leche* | 1 | 0.2 | 8 | 1.2 |
| **CEREALS :** | | | | |
| *Incaparina, Protina, Bienestarina* | 214 | 37.8 | 212 | 32.8 |
| *polenta* | 0 | 0 | 1 | 0.2 |
| **VEGETABLES:** | | | | |
| *Chipilin* | 11 | 1.9 | 92 | 14.2 |
| *quilete* | 354 | 62.5 | 263 | 40.7 |
| *bledo* | 48 | 8.5 | 115 | 17.8 |
| *espinaca* | 7 | 1.2 | 11 | 1.7 |
| *acelga* | 64 | 11.3 | 38 | 5.9 |
| *puntas y hojas de guisquil* | 438 | 77.4 | 106 | 16.4 |

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**Seven day-Consumption Frequency**

| | | | | |
|---|---|---|---|---|
| *mostaza* | 0 | 0 | 3 | 0.5 |
| *puntas y hojas de ayote* | 16 | 2.8 | 103 | 15.9 |
| *hojas de nabo* | 0 | 0 | 3 | 0.5 |

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**Table 35. Frequency of Food Consumption. (continuation...)** Names of the foods are given in Spanish. Sample size for AMPROS= 566, for HOPE = 646

| Food | Number of children in the sample that have eaten at least once | | | |
|---|---|---|---|---|
| | AMPROS | | HOPE | |
| | Cases | % | Cases | % |
| *tomate de árbol* | 0 | 0 | 0 | 0 |
| *quixtan* | 0 | 0 | 0 | 0 |
| *chaya* | 0 | 0 | 8 | 1.2 |
| *brocoli* | 1 | 0.2 | 24 | 3.7 |
| *Chile pimiento* | 61 | 10.8 | 66 | 10.2 |
| *verdulaga* | 0 | 0 | 1 | 0.2 |
| *Lechuga (no arrepollada)* | 5 | 0.9 | 34 | 5.3 |
| *Tomate maduro* | 513 | 90.6 | 548 | 84.8 |
| *Zanahoria* | 214 | 37.8 | 365 | 56.5 |
| *Guicoy sazón* | 27 | 4.8 | 60 | 9.3 |
| *Berro* | 7 | 1.2 | 111 | 17.2 |
| *Camote blanco* | 0 | 0 | 7 | 1.1 |
| *Cebollino* | 67 | 11.8 | 28 | 4.3 |
| *Camote anaranjado* | 14 | 2.5 | 30 | 4.6 |
| *Arveja* | 14 | 2.5 | 37 | 5.7 |
| **FRUITS :** | | | | |
| *Mango maduro* | 4 | 0.7 | 17 | 2.6 |
| *Plátano maduro* | 302 | 53.4 | 285 | 44.1 |
| *Melón* | 13 | 2.3 | 26 | 4.0 |
| *Mandarina* | 41 | 7.2 | 7 | 1.1 |
| *Marañon* | 1 | 0.2 | 0 | 0 |
| *Zapote* | 7 | 1.2 | 18 | 2.8 |
| *Papaya madura* | 18 | 3.2 | 45 | 7.0 |
| *Mamey* | 0 | 0 | 1 | 0.2 |
| *Durazno amarillo (melocotón)* | 0 | 0 | 47 | 7.3 |
| *Jocote maduro* | 6 | 1.1 | 0 | 0 |
| **OTHER :** | | | | |
| *Azúcar* | 551 | 97.3 | 591 | 91.5 |
| *Margarina* | 114 | 20.1 | 99 | 15.3 |
| *Leche materna* | 105 | 18.6 | 78 | 12.1 |
| *Aceite* | 408 | 72.1 | 590 | 91.3 |
| *Manteca de cerdo* | 131 | 23.1 | 7 | 1.1 |

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h) **Fats**

Table 36 presents the grams of fat consumed during the seven days, understanding for fat the amount of *margarina, manteca de cerdo, mantequilla lavada* and *aceite* together :

Fat = *margarina* + *manteca de cerdo* + *mantequilla lavada* + *aceite*

Because the mean of fat (in grams) consumed by itself gives little information, another indicator was created, that groups the children by the amount of fat consumed :

1) 0 grams of fat
2) 1 to 25 grams of fat
3) 26 to 50 grams of fat
4) 51 to 100 grams of fat
5) 101 to 200 grams of fat
6) more than 200 grams of fat

The estimation of the indicators was made taking the sampling design into account, so the confidence intervals could be used for population inference.

**Table 36. Amount of FAT consumed (in grams).** ***"n" for AMPROS = 566, "n" for HOPE= 646.***

| | AMPROS | | | HOPE | | |
|---|---|---|---|---|---|---|
| | mean or % | Lower level* | Upper level* | mean or % | Lower level* | Upper level* |
| Mean | 17.9 | 14.7 | 21.1 | 27.5 | 20.7 | 34.4 |
| | | | | | | |
| **Group :** | Design effect = 2.0 | | | Design effect = 2.4 | | |
| 0 grams of fat | 8.9 | 5.5 | 12.2 | 7.2 | 4.1 | 10.3 |
| 1 to 25 grams of fat | 71.2 | 66.1 | 76.3 | 61.1 | 53.4 | 68.7 |
| 26 to 50 grams of fat | 13.3 | 8.6 | 18.0 | 16.7 | 12.9 | 20.5 |
| 51 to 100 grams of fat | 3.4 | 1.8 | 4.9 | 11.1 | 7.4 | 14.8 |
| 101 to 200 grams of fat | 3.1 | 1.3 | 4.9 | 2.9 | 1.4 | 4.3 |
| more than 200 grams of fat | 0.2 | 0.0 | 0.5 | 1.1 | 0.0 | 2.4 |

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## IV Further Analysis

### Participants versus Non Participants

Because there is a desire in knowing not just how the Programs affected the communities but also to know the direct effect in people who participate on them, a further analysis of the data was held. These analysis consisted in estimating the amount of grams consumed by group of food for two sub-populations :

- Participants of the Program
- Non participants of the Program

Table 37 gives the results for AMPROS and Table 38 for HOPE.

**Table 37 AMPROS : Amount of GRAMS CONSUMED by Participation in the Program.**
"n" Non Participants = 353, "n" Participants = 213.

| GROUP OF FOOD | NON PARTICIPANTS | | | PARTICIPANTS | | |
|---|---|---|---|---|---|---|
| | Mean | Lower level* | Upper level* | Mean | Lower level* | Upper level* |
| Animal | 192.0 | 158.6 | 225.4 | 256.8 | 205.2 | 308.4 |
| Cereals | 27.5 | 15.2 | 39.7 | 21.0 | 15.4 | 26.7 |
| Sugar | 407.3 | 366.0 | 448.7 | 382.3 | 306.2 | 458.5 |
| Breast Milk | 102.7 | 69.4 | 136.0 | 114.4 | 74.8 | 154.1 |
| Vegetables | 125.0 | 107.1 | 142.9 | 197.1 | 175.5 | 218.8 |
| Fruits | 346.4 | 260.3 | 432.5 | 445.6 | 345.1 | 546.1 |
| Margarine | 4.9 | 1.8 | 8.0 | 6.6 | 4.9 | 8.2 |

**Table 38 HOPE : Amount of GRAMS CONSUMED by Participation in the Program.**
"n" Non Participants = 584, "n" Participants = 62.

| GROUP OF FOOD | NON PARTICIPANTS | | | PARTICIPANTS | | |
|---|---|---|---|---|---|---|
| | Mean | Lower level* | Upper level* | Mean | Lower level* | Upper level* |
| Animal | 435.4 | 302.9 | 567.8 | 510.3 | 266.0 | 754.5 |
| Cereals | 20.0 | 11.3 | 28.6 | 36.0 | 9.2 | 62.8 |
| Sugar | 292.2 | 236.5 | 347.9 | 261.5 | 188.7 | 334.3 |
| Breast Milk | 69.2 | 45.8 | 92.6 | 101.2 | 50.1 | 152.3 |
| Vegetables | 173.2 | 151.0 | 195.5 | 244.9 | 183.2 | 306.5 |
| Fruits | 154.5 | 55.8 | 253.1 | 78.5 | 39.4 | 117.6 |
| Margarine | 6.8 | 2.2 | 11.3 | 4.2 | 0.3 | 8.1 |

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## ■ Percentage of RE by Group of Food

This section responds to the question : What percentage of RE is given by a group of food. The way this was answered was to calculate first the percentages for every child, and what is presented in Table 39 are the means of the percentages obtained by the children for all the group foods related to the RE indicators in Table 32.

**Table 39 Means of the percentages of RE by group of food.**
"n" AMPROS = 566, "n" HOPE = 646.

| GROUP OF FOOD | AMPROS | | | HOPE | | |
|---|---|---|---|---|---|---|
| | Mean (%) | Lower level* | Upper level* | Mean (%) | Lower level* | Upper level* |
| **Related to RE :** | | | | | | |
| Animal | 38.9 | 35.2 | 42.6 | 31.1 | 27.2 | 35.0 |
| Cereals | 8.0 | 6.2 | 9.7 | 7.0 | 5.4 | 8.7 |
| Vegetables | 40.0 | 35.4 | 44.6 | 53.3 | 49.1 | 57.5 |
| Fruits | 10.5 | 8.5 | 12.6 | 5.1 | 2.5 | 7.7 |
| Margarine | 2.4 | 1.4 | 3.4 | 2.2 | 0.9 | 3.5 |
| **Related to REs :** | | | | | | |
| Animal | 22.2 | 19.3 | 25.0 | 16.8 | 14.0 | 19.6 |
| Cereals | 3.5 | 2.9 | 4.2 | 4.0 | 2.8 | 5.1 |
| Sugar | 53.0 | 48.2 | 57.8 | 44.6 | 39.3 | 49.9 |
| Vegetables | 16.4 | 13.0 | 19.7 | 30.1 | 25.4 | 34.8 |
| Fruits | 4.0 | 3.4 | 4.6 | 2.3 | 1.3 | 3.3 |
| Margarine | 0.9 | 0.6 | 1.3 | 1.2 | 0.6 | 1.8 |
| **Related to REbm :** | | | | | | |
| Animal | 35.0 | 31.4 | 38.7 | 28.2 | 24.7 | 31.7 |
| Cereals | 7.3 | 5.7 | 9.0 | 6.5 | 4.9 | 8.1 |
| Breast Milk | 9.7 | 7.4 | 12.0 | 9.2 | 7.7 | 10.7 |
| Vegetables | 35.9 | 31.7 | 40.2 | 48.9 | 44.4 | 53.5 |
| Fruits | 9.6 | 7.7 | 11.5 | 4.5 | 2.1 | 6.9 |
| Margarine | 2.2 | 1.2 | 3.2 | 2.1 | 0.9 | 3.2 |
| **Related to REsbm :** | | | | | | |
| Animal | 20.3 | 17.8 | 22.7 | 15.8 | 13.3 | 18.3 |
| Cereals | 7.3 | 5.7 | 9.0 | 3.8 | 2.7 | 4.9 |
| Sugar | 49.5 | 44.5 | 54.6 | 42.0 | 37.0 | 47.0 |
| Breast Milk | 6.9 | 5.0 | 8.8 | 6.4 | 5.3 | 7.5 |
| Vegetables | 15.3 | 12.2 | 18.5 | 28.4 | 24.2 | 32.7 |
| Fruits | 3.7 | 3.1 | 4.3 | 2.1 | 3.4 | 2.9 |
| Margarine | 0.9 | 0.6 | 1.2 | 1.2 | 0.5 | 1.8 |

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## *FURTHER ANALYSIS II*

In order to evaluate the effect of the AMPROS and HOPE Programs, the following results are presented.

New indicators:
**IND3035:** This indicator belongs to AMPROS only. Is the percentage of mothers that are able to identify two or more Vitamin A rich foods. Constructed with indicators 30 to 35.

**GREsGroup:** This indicator classifies children according with the amount of RE related to the recommended:

1. Less than 50%
2. From 50% to less than 75%
3. From 75% to less than 100%
4. From 100% and over

**Table 40 Indicator IND3035.** Total of households for AMPROS is 565.

| INDICATOR | | AMPROS | | | | |
|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Design effect |
| IND3035 | Percentage of mothers that are able to identify two or more Vitamin A | 476 | 85.0 | 80.5 | 89.4 | 2.3 |

* 95% confidence interval

**Table 41 Indicator GREsGroup.** Total of households for AMPROS is 566 and for HOPE are 646. Design effect for AMPROS is 3.7, and for HOPE is 6.1.

| INDICATOR | | AMPROS | | | | HOPE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | Cases | % | Lower level* | Upper level* | Cases | % | Lower level* | Upper level* |
| GREs GROUP | | | | | | | | | |
| | Less than 50% | 31 | 5.9 | 2.2 | 9.6 | 78 | 12.9 | 6.6 | 19.3 |
| | From 50% to less than 75% | 37 | 7.3 | 5.0 | 9.6 | 47 | 7.6 | 4.8 | 10.4 |
| | From 75% to less than 100% | 49 | 8.9 | 6.7 | 11.3 | 65 | 10.4 | 7.6 | 13.2 |
| | From 100% and over | 449 | 77.8 | 73.3 | 82.4 | 456 | 69.1 | 60.6 | 77.5 |

* 95% confidence interval

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**Table 42 AMPROS: Indicators by Participation in the Program.** Indicators with "★" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 48 ★ | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996 | 710 | 344 | **50.6** | 39.3 | 61.9 | 428 | 307 | **73.1** | 64.8 | 81.3 |
| GREs ★ | Percentage of children that have the recommended RE or more in their diet | 353 | 267 | **73.8** | 68.8 | 78.9 | 213 | 182 | **84.0** | 78.2 | 89.9 |
| Ind3035 ★ | Percentage of mothers that are able to identify two or more Vitamin A rich foods | 340 | 264 | **77.7** | 71.4 | 84.0 | 225 | 212 | **95.2** | 92.0 | 98.5 |

* 95% confidence interval

**Table 43 HOPE: Indicators by Participation in the Program.** Indicators with "★" presented a statistically difference between the two sub-populations (P-value < 0.05)

| INDICATOR | | NON PARTICIPANTS | | | | | PARTICIPANTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | Meaning | n | Cases | % | Lower level* | Upper level* | n | Cases | % | Lower level* | Upper level* |
| 48 ★ | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996 | 1140 | 278 | **23.4** | 18.0 | 28.8 | 124 | 72 | **58.0** | 39.9 | 76.1 |
| GREs | Percentage of children that have the recommended RE or more in their diet | 584 | 410 | **68.4** | 59.6 | 77.1 | 62 | 46 | **75.2** | 60.8 | 89.6 |

- 95% confidence interval
-

## Participants versus Non Participants: ODDS RATIO

**Table 24 AMPROS : Odds Ratios for Indicators associated with Participation in the Program.**

| INDICATOR | | ODDS RATIO | | |
|---|---|---|---|---|
| Number | Meaning | OR | Lower level* | Upper level* |
| 48 | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996 | **2.6** | 1.8 | 3.9 |
| GREs | Percentage of children that have the recommended RE or more in their diet | **1.9** | 1.3 | 2.7 |
| Ind3035 | Percentage of mothers that are able to identify two or more Vitamin A rich foods | **5.7** | 2.3 | 14.1 |

* 95% confidence interval

**Table 25 HOPE : Odds Ratios for Indicators associated with Participation in the Program.**

| INDICATOR | | ODDS RATIO | | |
|---|---|---|---|---|
| Number | Meaning | OR | Lower level* | Upper level* |
| 48 | Percentage of children that mother says to have received Vitamin A capsules during 1995 or 1996 | **4.5** | 2.6 | 7.8 |

* 95% confidence interval



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# Appendix

# A Statistically Sound Alternative to the EPI Sampling Method: HHCSM

Presented at the 1st Meeting of the Biometric Society Central America and Caribbean Network, 1992

Jorge Matute, David Fitch, Rafael Flores[1]

## ABSTRACT

Selecting households within a village requires a map showing the location of every household. To make maps and lists of individuals (sampling frame) in the case of developing countries is usually considered too expensive. A practical solution that did not require these sampling frames was provided by a method called EPI (Expanded Programme on Immunization) Survey (based on a two stage cluster sampling design). However this method has at least six problems related to bias and variances. Instead of using the EPI method we propose an alternative method which is also practical in the developing world but, as opposed to EPI, is much more statistically sound. We are focus on solving a practical problem in the field and not developing a new sampling procedure. This new methodology requires the use of a hand held computer, and from it its name Hand Held Computer Sampling Method (HHCSM). Compared with the EPI sampling method, the proposed method has been shown to be unbiased, and to produce smaller variances even compared to a Simple Random Sample.

KEY WORDS: Hand Held Computer, Systematic Sampling, Sampling Frame, Household Selection, Selection Bias.

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## 1. THE PROBLEM

On making surveys in the developing countries, it is feasible to use a clusters design, lets say a two stage one, where most of the times the first stage is well accomplished but for selecting households within a village (or a cluster), the traditional method requires one to make a map showing the location of every household (sampling frame), which is time consuming, difficult and in the case of developing countries it usually is considered prohibitively expensive. Practical solutions have been raised, as it is to use a sistematic sampling or the EPI methodology.

## 2. SISTEMATIC SAMPLING SOLUTION

To think on implementing a systematic sampling may be easy, per example researchers train interviewers in selecting, per example, every three households. The problems related to this are that the interviewers are on their own deciding which house is the "third" one, introducing what is called selection bias. Besides, most of the times the interviewers work on quotas which makes them to select households from a sector of the community and not from the whole.

## 3. EPI SOLUTION

A solution that did not require these maps in developing countries was given through a method called EPI (from Expanded Programme on Immunization), which has been used in U.S.A. to measure immunization coverage. This procedure was updated in 1978 for use in the Smallpox Eradication Programme in West Africa (Lemeshow and Stroh, 1988), and is the one known as the EPI survey; see Henderson R et al (1973), Henderson & Sundaresan (1982 ), Lemeshow & Robinson (1985), and Bennet et al (1991).

The EPI method is based on a two stage cluster sampling design. Villages are selected with probability proportional to size (PPS). This first stage of the sampling is usually quite feasible even in developing countries, and rather easily done as size estimates, for example of villages, are generally available,

although they may not be accurate and/or be out of date. On the other hand, in the second stage, researchers face the problem of choosing the households within the selected village; and as was noted above, the solution of creating detailed maps or lists does not work well in developing countries. So it is in the second stage where the problems of selecting the sampling units (i.e. households) arise.

The EPI method (modified to be used in developing countries) gave a practical solution to the above problem. Generally the manner in which EPI has been implemented is as follows (Lemeshow and Stroh 1988, p. 10):

> *EPI suggests that the interviewer go to a centrally located landmark (such as a church, school or market), randomly select a direction in which to walk (e.g., north, south, east, or west), and count the number or households (L) found in that direction from the central point to the town boundary. Finally, select a random number between 1 and L, which will identify the randomly selected starting household.*
>
> .....
>
> *After the first household is visited, whether there is an individual in the target group or not, the interviewer proceeds to the "next" household. This is defined as that residence whose front door is physically closest to the one just visited. The process of visiting households is repeated...*

## 4. EPI'S PROBLEMS

By not being randomly selected the households in the clusters, the EPI method has problems related with bias and variances; see Lemeshow & Robinson (1985), and Fitch et al (1992 and 1993). Fitch (1993) identified some of these problems which are increased variance due to homogeneity and four potential sources of bias (see table 1):

> **Off road under selection.** Those houses which are off the main paths or roads in a village will never be selected as the starting house in the EPI method and would be expected to have a lower probability in subsequent selections.

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**Village-Center over selection.** EPI sampling would tend to oversample houses where there is a concentration of houses such as one might find in the center of a village. Such houses would almost surely be on one of the main roads and hence have a chance of being the first house selected.

**Under selection on the periphery of the village.** As compared with other house, houses located on the periphery could be selected only trhough moving either out or in, which seldom occurs in the EPI method.

**Under selection on more populated routes.** Houses located on populated routes will tend to be underselected, both as the first house an in subsequent selections.

**TABLE 1. Variances and means for three methods of sampling, by simulation.** Simulated Guatemalan villages, with five modifications of the data for 100 sets, each of 30 villages. Each village has a mean set at 200 and standar deviation at 50. The modifications are to increase or reduce the mean of a village sector (i.e: Center-low stands for a lower mean in the center of the village, Center-high stands for a higher mean in the center of the village).

| | EPI | | SYSTEMATIC | | SIMPLE RANDOM SAMPLING | |
|---|---|---|---|---|---|---|
| Problems | Mean | V(mean) | Mean | V(mean) | Mean | V(mean) |
| Center-low | 199.15 | 19.98 | 199.71 | 10.33 | 199.96 | 10.48 |
| Center-high | 207.70 | 21.31 | 199.91 | 10.21 | 199.96 | 10.40 |
| Off Road-low | 204.28 | 18.07 | 200.21 | 9.96 | 200.21 | 11.09 |
| Off Road-high | 188.69 | 20.26 | 200.30 | 9.49 | 200.30 | 10.89 |
| Periphery-low | 202.22 | 18.30 | 199.14 | 10.00 | 199.27 | 10.73 |
| Periphery-high | 198.29 | 20.08 | 199.86 | 9.84 | 200.06 | 10.66 |
| Populated Routes-low | 202.22 | 20.79 | 199.95 | 10.19 | 200.13 | 10.99 |
| Populated Routes-high | 197.82 | 21.83 | 199.86 | 9.84 | 200.06 | 10.66 |
| Mixed-unsorted | 199.86 | 20.07 | 200.68 | 9.49 | 200.29 | 10.47 |
| Mixed-sorted | 199.86 | 21.13 | 200.28 | 9.96 | 200.71 | 10.71 |

## 5. OUR SOLUTION

Instead of using EPI to select households within a village we propose an alternative method called Hand Hold Computer Sampling Method (HHCSM), which will be practical in the developing world but, as opposed to EPI, is statistically sound. Our method is not a new sampling method but a new way of selecting households where there is a lack of sampling frames. We are focus on solving a practical problem in the field and not developing a new sampling procedure. This new methodology requires the use of a hand held computer or calculator (approximately $100.00), and a person who may be a good guide (which is almost always available from the closest health center). The advantage, as with the EPI, is that there is no need on making maps or sampling frames in advance, household selection is done directly in the village.

Opposed to EPI, HHCSM is based on a systematic sampling in the second stage of selection; a program in the computer estimates an interval based on the probability of selecting a household within the village.

The probability of selecting a household, for all households in the population is given by:

$$P(\text{HOUSEHOLD}) = \frac{m}{M} \qquad (1)$$

where:

m: Total Sample Size
M: Total Population

$$P(\text{HOUSEHOLD}) = P(\text{village})_i \; x \; P(\text{HOUSEHOLD} \mid \text{village}) \qquad (2)$$

where:

$P(\text{village})_i$ = probability of selecting a village (PPS)

$$= \frac{M_i}{M} \; x \; n$$

where:

$M_i$: Total people in the village
n : Total villages to be sampled

$$P(\text{HOUSEHOLD} \mid \text{village}) = \text{probability to select a household within the selected village} = \frac{k}{M_i}$$

therefore,

$$P(\text{HOUSEHOLD}) = \left[\frac{M_i}{M} \times n\right] \times \left[\frac{k}{M_i}\right] \tag{3}$$

where: k : Constant to obtain a desired sample size

$$k = \frac{m}{n} \tag{4}$$

Example, With EPI:

m = 210

n = 30

$$k = \frac{210}{30} = 7$$

Using the above information (equations 3 and 4) an equation can easily be derived that estimates the probability to select a household within a village, independent of the total population size:

$$P(\text{HOUSEHOLD} \mid \text{village}) = \frac{k}{M_i} = \frac{m}{M_i \times n} \tag{5}$$

With EPI: $P(\text{HOUSEHOLD} \mid \text{village}) = \frac{210}{M_i \times 30} = \frac{7}{M_i}$

The size of the intervals to pick a household within each is defined by

$$\text{Interval} = \frac{1}{P(\text{HOUSEHOLD} \mid \text{village})} \tag{6}$$

With EPI: $\text{Interval} = \frac{M_i}{7}$

Within each interval a random selection of a household is made (random selection is important so that the fieldworker cannot detect patterns of selection of the following household to be selected). To do this, within each interval the program selects a random number between one and the integer part of the interval.

This HHCSM methodology has been field tested with several health surveys. Experience indicates that a person or crew should be sent in advance to perform the household selection, listing corresponding names and addresses, and then the interviewers should be sent, working from the list. One of the reazons to do this selection in advance is the fact that there usually is a need of a guide to cover the whole village, whom may colaborate for a limited time. Although, by sending a crew in advance the original costs may increase a little, it is worthwhile because of a list of selected people is obtained at this stage, giving at least three advantages: the interviewers know exactly where to go; the researcher in charge of the survey may verify the work of the interviewers; and if per example there is a quota to be collected, then a random sample size the quota could be obtained from the list of the selected ones.

We have made the selection by foot and using motorcycles. As an example, by foot the sampling of households on a village in Guatemala as large as 500 households required approximately two hours. The selection process can start on any part of the village, and from it go on any direction, the only requirement is to cover the whole town; which could be accomplish by using the help of a knowledge person on the village's boundaries, per example a health worker.

## 6. ADVANTAGES OF HHCSM:

HHCSM, as is EPI, is very practical. Neither requires actualized maps or lists in advance. While both methods require that you define a starting point, the difference between the methods is that instead of sampling a fraction of the village with EPI, HHCSM samples from the whole village.

As simulation work has showed, compared with EPI, HHCSM is unbiased, and it gets smaller variances even compared to a Simple Random Sample (Fitch, Matute, and Flores, 1992, 1993).

HHCSM simplifies household selection for interviewers and significantly decreases the possibility of selection biases on the part of interviewers.

In order to keep the same probability of selection defined at the beginning of the study, the method we proposed takes into account the real size of the village, so the sample size within the village depends on its real size. Suppose, for example, that the village selected has increased 15% from the population size actually used to make the selection of the village. If you are using 7 as a sample size, then our method is going to select 8 instead of 7 due to the population increase:

$$P(\text{HOUSEHOLD} \mid \text{village}) = \frac{7}{M_i} \neq \frac{7}{M_i + 15\% \text{ of } M_i} = \frac{8}{M_i + 15\% \text{ of } M_i}$$

If the researchers could not afford an increase in the sample (or have a quota), then sending a crew in advance to perform the household selection, as was pointed out at the end of section 5 may be a solution. The real total number of households in the village could be used to weight the data, however the issue of weighting is very complex and the reader should be awarded of this. The program keeps track of how many households the person in charge of the selection has pointed out, and how many have been selected. So besides getting the actual size of the population, these values might help to have a control on the selection of the households.

## 6. WEAKNESSES OF HHCSM

As noted, the probability of selection and therefore the Interval is based on the size of the population, but our interest is to sample households so a correction factor must be input into equation 6 in order to base the selection on households:

$$\text{Interval} = \frac{1}{P(\text{HOUSEHOLD} \mid \text{village}) \times \text{NPH}} \qquad (8)$$

Where: NPH = number of persons per household, this figure could easely be obtained from a census report or as a common knowledge of people who work in the field.

Of course any method of sampling that has only population figures but not information on number of households faces this problem.

A present weakness of HHCSM is that in the program the Interval is rounded, which means that if you round up you may get a smaller sample size than you should, and the contrary occurs if you round down. We have modified our program to round the intervals down, and while doing that it also adds the fractions of the intervals, so as soon as the addition gets a value of one or over it adds 'one' to the next interval. This procedure tries to achieve nearly the exact probabilities desired and the original sample size.

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NOMBRE ENCUESTADOR: _____ CODIGO: ___

ID: __ __ 0 __ __
Aldea Casa

CAPS HOPE
(EDI)

FILTRO:

1. Departamento 01: Quetzaltenango 1.____
02: San Marcos
03: Totonicapán
04: Alta Verpaz

2. Fecha: __ __ / __ __ / __ __
Dia Mes Año

3. Cómo se llama usted? _____

4. Nombre del Jefe de la Familia: _____

5. Hay niños menores de seis años que viven en esta casa? 5.____

01: Si (continue)
99: No (termine)

6. Quién cuida y les dá de comer a los niños? _____

7. Cuál es su relación familiar con los niños? 7.____

01: Madre ---> PASE A DATOS GENERALES: C 12
02: Hermana Continúe
03: Tía Continúe
04: Otro: Continúe _____
05: Ninguna Continúe (Especifique)

8. Está la madre de los niños en casa? 8.____

01: Si Continúe
99: No ---> PASE A LA 10

9. Se le puede entrevistar ahora? 9.____

01: Si ---> PASE A DATOS GENERALES: C 12
99: No ---> PASE A LA 11

10. Por qué tuvo que salir la madre? _____
(Especifique)

11. Se le puede entrevistar más tarde? 11.____

01: Si (regrese más tarde)
99: No (termine)

NOMBRE ENCUESTADOR:_____ CODIGO:___

ID:___ ___ _0_ ___ ___
Aldea Casa

DATOS GENERALES:

C 12. Cómo se llama usted (la madre)? _____

C 13. Cuántos años tiene? _____

C 14. Sabe leer usted? 14._

01: Si
99: No

C 15. Sabe escribir usted? 15._

01: Si
99: No

C 16. Usted ha estudiado en la escuela? 16.___

01: Si
99: No ---> PASE A LA C 18

C 17. Hasta qué grado llegó? _____

C 18. Cuántas personas viven en la casa? _____

C 19. Cuántos cuartos tienen para dormir en la casa?_____

C 20. La casa en que usted vive es: 20.__

01: Propia
02: Alquilada
03: Prestada
04: Otro_____ (Especifique)

C 21. Observe: que material predomina en las paredes de la casa: 21.__

01: Block
02: Ladrillo
03: Bajareque
04: Adobe
05: Madera (tablas)
06: Baras
07: Otro_____ (Especifique)

C 22. Observe: qué material predomina en el techo de la casa: 22.__

01: Lámina de Zinc
02: Palma/Pajón
03: Duralita
04: Teja manil
05: Teja de Barro
06: Otro_____ (Especifique)

C 23. Observe: qué material predomina en el piso de la casa: 23.__

01: Tierra
02: Ladrillo de barro
03: Ladrillo de cemento
04: Torta de cemento
05: Otro_____ (Especifique)

C 24 Observe/Pregunte por el tipo de servicio Sanitario: 24.____

01: No hay
02: Letrina
03: Letrina comunal
04: Inodoro
05: Otro_____ (Especifique)

C 25. Pregunte donde obtiene el agua que toma: 25.____

01: Chorro en casa
02: Chorro de Vecino
03: Llena cantaro/pila pública
04: Pozo propio
05: Pozo del vecino
06: Rio
07: Manantial o nacimiento
08: Agua de lluvia
09: Otro:_____ (Especifique)

C 26. Observe/Pregunte si tienen luz eléctrica: 26.____

01: Si
99: No

C 27. Tiene usted animales? **(CUÁNTOS, ANOTE CANTIDAD)** 27.

01: Caballos/bestias _____ 01.____

02: Vacas _____*Si tiene PASE A LA C 27a. 02.____

03: Ovejas _____ 03.____

04: Cerdos _____ 04.____

05: Cabras _____*Si tiene PASE A LA C 27a. 05.____

06: Gallinas/pavos/patos____*Si tiene PASE A LA C 27a. 06.____

-----> **SI LA RESPUESTA ES "SI" COLOQUE UNA (X). SI LA RESPUESTA ES NEGATIVA COLOQUE UN (-).**
**SI NO TIENE UNO DE ESTOS ANIMALES, DEJE EN BLANCO ( ).** 27a.___

C 27a. Esta o estas:

| | | Produce | Come | Vende | Otro |
|---|---|---|---|---|---|
| Vacas | leche | ( ) | ( ) | ( ) | ( ) |
| Cabras | leche | ( ) | ( ) | ( ) | ( ) |
| Gallinas/pavos/patos | huevos | ( ) | ( ) | ( ) | ( ) |

C 28. Observe/Pregunte si tienen: **(CUANTOS, ANOTE CANTIDAD)** 28.____

01: Radio ____ 01.____
02: Televisión ____ 02.____
03: Radiograbadora ____ 03.____
04: Máquina de Coser ____ 04.____
05: Estufa de Gas ____ 05.____
06: Carro/pickup ____ 06.____
07: Bicicleta ____ 07.____
08: Refrigerador ____ 08.____
09: Moto ____ 09.____
10: Camión ____ 10.____
11: Otro:_____ ____ 11.____
(Especifique)

---> INTRODUCCION: "AHORITA VAMOS A CAMBIAR DE TEMA. VAMOS A PLATICAR UN POCO SOBRE LAS HORTALIZAS/VERDURAS".

PRACTICAS:

C 29. Siembra usted hortalizas? 29.____

01: Si ---> PASE A LA C 31

99: No Continúe

C 30. Porqué no siembra una hortaliza? [01: Si 99: No] 30.

01: Falta de Terreno ---> PASE A LA C 35 01.____
02: No sabe cómo 02.____
03: No tiene semillas 03.____
04: Falta de tiempo 04.____
05: No tiene abono 05.____
06: No tiene herramientas 06.____
07: No se dan las verduras 07.____
08: No le gusta sembrar 08.____
09: Mucha Plaga 09.____
10: Otro_____ 10.____
(Especifique)

-----> PASE A LA C 33

H 31. La hortaliza es propia o la trabaja en grupo? 31.____

01: Propio (familiar) 03: Los dos anteriores
02: Con un grupo (comunal) 04: Ajeno ----> PASE A LA C 33

H 31a. Cuantos años ha sembrado usted un huerto con el Proyecto? 31a.___

H 31b. Que problemas tuvo usted con su huerto el año pasado (1995)? 31b.

01: Plagas o Control de Plagas 01.____
02: Demasiada lluvia 02.____
03: Los cultivos no crecieron 03.____
04: La semilla no nace 04.____
05: Poca semilla (semilla insuficiente) 05.____
06: Falta de experiencia con huertos u hortalizas 06.____
07: Falta de lluvia 07.____
08: Problemas con la organización del grupo 08.____
09: Falta de abono 09.____
10: Ninguno 10.____
11: No sabe 11.____
12: Otro_____ 12.____
(Especifique)

H 32. Tiene hortalizas sembradas ahora? 32.____

01: Si
99: No

| OBSERVE HUERTO ____ |
|---|
| 01: Si 99: No |

C 33. **PARA CADA CULTIVO QUE APARECE EN LA LISTA, HAGA LAS SIGUIENTES PREGUNTAS:**

Sembró usted_____en la hortaliza? En el ultimo año (jul.95 para aca)
Cosechó usted_____en la hortaliza? En el ultimo año (jul.95 para aca)
Comió usted_____de la hortaliza? En el ultimo año (jul.95 para aca)
Vendió usted_____de la hortaliza? En el ultimo año (jul.95 para aca)

Si la respuesta es "SI", coloque una (X). Si la respuesta es negativa coloque un (-).

| | SEMBRO | COSECHO | COMIO | VENDIO | OTROS |
|---|---|---|---|---|---|
| a. acelga | *( ) | ( ) | *( ) | ( ) | ( ) |
| b. brocoli | *( ) | ( ) | *( ) | ( ) | ( ) |
| c. berro | *( ) | ( ) | *( ) | ( ) | ( ) |
| d. camote | *( ) | ( ) | *( ) | ( ) | ( ) |
| e. chile pimiento | *( ) | ( ) | *( ) | ( ) | ( ) |
| f. coliflor | *( ) | ( ) | *( ) | ( ) | ( ) |
| g. colinabo | *( ) | ( ) | *( ) | ( ) | ( ) |
| h. culantro | *( ) | ( ) | *( ) | ( ) | ( ) |
| i. espinaca | *( ) | ( ) | *( ) | ( ) | ( ) |
| j. guicoy | *( ) | ( ) | *( ) | ( ) | ( ) |
| k. mostaza | *( ) | ( ) | *( ) | ( ) | ( ) |
| l. perejil | *( ) | ( ) | *( ) | ( ) | ( ) |
| m. quilete | *( ) | ( ) | *( ) | ( ) | ( ) |
| n. rábanos | *( ) | ( ) | *( ) | ( ) | ( ) |
| o. remolacha | *( ) | ( ) | *( ) | ( ) | ( ) |
| p. tomate | *( ) | ( ) | *( ) | ( ) | ( ) |
| q. zanahoria | *( ) | ( ) | *( ) | ( ) | ( ) |
| +r. apio | *( ) | ( ) | *( ) | ( ) | ( ) |
| +s. cebolla | *( ) | ( ) | *( ) | ( ) | ( ) |
| +t. lechuga | *( ) | ( ) | *( ) | ( ) | ( ) |
| +u. pepino | *( ) | ( ) | *( ) | ( ) | ( ) |
| +v. repollo | *( ) | ( ) | *( ) | ( ) | ( ) |

| OPCIONES PARA OTROS: | 01: La regaló<br>02: Pérdida post cosecha<br>03: dió a los animales |
|---|---|

----> **SI NO SEMBRO NADA PASE A LA C 35**

C 34. Porque usted sembró* y comió*? ---> **(VER RESPUESTAS DE LA C 33)** 34.
[01: Si 99 No]

01: es bueno para la salud 01.____
02: contiene Vit. "A" 02.____
03: semillas disponibles en la comunidad 03.____
04: Porque nos gusta 04.____
05: Tener verduras para comer sin comprarlas 05.____
06: Las verduras del huerto son más limpias 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

C 34a. Cuales son los beneficios de tener su huerto? 34a.
[01: Si 99 No]

01: es bueno para la salud 01.____
02: las verduras contienen Vit. "A" 02.____
03: Las verduras del huerto son más limpias 03.____
04: Tener verduras para comer sin comprarlas 04.____
05: Para ahorrar dinero 05.____
06: Tener verduras para vender 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

---> INTRODUCCION: "AHORITA VAMOS A CAMBIAR DE TEMA DE NUEVO. VAMOS A PLATICAR UN POCO SOBRE LA VITAMINA "A"."

CONOCIMIENTOS:

C 35. Conoce usted la Vitamina "A"? 35.____

01: Si
99: No

C 35a. Usted puede decirme cual de estas es la Vitamina "A"? 35a.___
(UTILICE LA MUESTRA DE VITAMINA "A")

01: Si
99: No

C 36. Le han contado algo a usted sobre la vitamina "A"? 36.____

01: Si
99: No -----> PASE A LA C 37

H 36a. Quien le informó a usted de la importancia de la Vitamina "A"? 36a.
[01: Si 99: No]

01: La comadrona 01.____
02: Personal del Centro de Salud 02.____
03: Personal de DIGESA 03.____
04. Personal de HOPE 04.____
05. Radio o Televisión 05.____
06: Otro:_____ 06.____
(Especifique)

C 37. Sabe usted como se puede conseguir la vitamina "A? [01: Si 99: No] 37.

01: Comida origen vegetal 01.____
02: Comida origen animal 02.____
03: Azúcar 03.____
04. Cápsulas 04.____
05: Otro:_____ 05.____
(Especifique)

C 38. Sabe usted para qué sirve la vitamina "A"? [01: Si 99: No] 38.

01: Ayuda en el crecimiento 01.____
02: Para la visión 02.____
03: Mantener la salud - No perder las defensas del cuerpo 03.____
04: Prevenir la diarrea 04.____
05: Prevenir los catarros 05.____
06: Ayuda al desarrollo mental 06.____
07: Para que la mujer lactante tenga buena leche materna 07.____
08: Para que crezcan sanos 08.____
09: No sabe 09.____
10: Otro_____ 10.____
(Especifique)

C 39. Sabe usted si se puede conseguir vit. "A" en las comidas? 39.____

01: Si Continúe
99: No -----> PASE A LA H 44

H 40. Usted me puede decir el nombre de 3 alimentos que vengan de animales y que tengan Vitamina "A"? 40.

1._____ 01.____
2._____ 02.____
3._____ 03.____
4.No sabe 04.____

H 41. Usted me puede decir el nombre de 3 verduras que tengan Vitamina "A"? 41.

1._____ 01.____
2._____ 02.____
3._____ 03.____
4. No sabe 04.____

H 42. Usted me puede decir el nombre de 3 hierbas que tengan Vitamina"A" 42.

1._____ 01.____
2._____ 02.____
3._____ 03.____
4. No sabe 04.____

H 43. Usted me puede decir el nombre de 3 frutas que tengan Vitamina "A"? 43.

1._____ 01.____
2._____ 02.____
3._____ 03.____
4. No sabe 04.____

H 44. Cree usted que los niños necesitan Vitamina "A"? 44.____

01: Si Continúe
99: No ----> PASE A LA C 46

H 45. Para qué piensa usted que los niños necesitan vitamina "A"? 45.

01: El crecimiento 01.____
02: La visión 02.____
03: La salud 03.____
04: Prevención de enfermedades 04.____
05: Tener fuerza (estar alentados) 05.____
06: El desarrollo mental (inteligencia, aprendizaje, atención) 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

C 46. Sabe usted los problemas de salud que sufre una persona por falta de Vitamina "A"? 46.____

01: Si Continúe
02: No ---> PASE A LA C 48

C 47. Cuáles cree usted que son estos problemas de salud? 47.
[ 01: Si 99: No ]

01: Ceguera de noche 01.____
02: Ojos resecos - a pesar de que tienen lágrimas 02.____
03: Los niños no crecen normalmente 03.____
04: Manchas, resequedad y picazón en la piel 04.____
05: Infecciones diarreicas más frecuentes 05.____
06: Infecciones respiratorias más frecuentes 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

C 48. Cómo podemos prevenir la falta de Vitamina "A"? [ 01: Si 99: No ] 48.

01: Cápsulas de vitamina "A" 01.____
02: Consumir productos fortificados (azúcar, Incaparina, margarina) 02.____
03: Consumir hierbas verde obscuro, verduras amarillas o anaranjadas 03.____
04: Consumir frutas amarillas y anaranjadas 04.____
05: Consumir productos lacteos (queso, leche de vaca) 05.____
06: Consumir productos animales (huevo, higado de res o pollo, etc.) 06.____
07: Sembrar y consumir verduras de un huerto 07.____
08: Prevenir infecciones por medio de mejores hábitos higiénicos, vacunación y desparacitación 08.____
09: No sabe 09.____
10: Otro:_____ 10.____
(Especifique)

H 48a. Que características cree usted que hacen que un niño tenga más peligro de tener deficiencia/falta de vitamina "A"? [ 01: Si 99: No ] 48a.

01: Edad menor de seis años 01.____
02: Que halla estado enfermo de Varicela 02.____
03: Que halla estado enfermo de Sarampión 03.____
04: No fue alimentado con leche materna 04.____
05: Que no tenga hermanos 05.____
06: No entiende la pregunta 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

---> **INTRODUCCION: DESPUÉS DE LO QUE HEMOS PLATICADO, ME GUSTARÍA SABER CÓMO SE LLAMAN SUS NIÑOS MÁS PEQUEÑOS.**

H 49. Cuántos niños menores de seis años viven en la casa? _____ 49.

Anote en el cuadro que aparece a continuación, los datos de los niños menores de seis años.

----> **CON LA VITAMINA "A", PIDA LOS CARNETS O CONSTANCIAS DE LOS NIÑOS**

| No. | Nombre (ordenar del más pequeño al más grande) | Edad en meses | Sexo 1. M 2. F | Está mamando? 01. Exclus. 02. Mixta 99. No | Recibió Perla de Vit. "A" 01=Si 99=No 98=No sabe | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 1995 | | 1996 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**NOTA: SELECCIONE NIÑO INDICE (DE 11 MESES CUMPLIDOS A 71 MESES) Y ENCIERRE EL NMERO QUE LE CORRESPONDE EN UN CIRCULO.**

C 50. Después del parto, cuándo le dió de mamar por primera vez a (Nombre del niño más pequeño)? 50.____

01: Durante la primera hora después del parto
02: Después de la primera hora y antes de 8 horas después del parto
03: Después de 8 horas del parto
04: No se acuerda
05: Nunca le dio de mamar

----> SI EL NIÑO MAS PEQUEÑO NO ES EL NIÑO INDICE, CONTUNUE

----> SI EL NIÑO MAS PEQUEÑO ES EL UNICO NIÑO Y ES MENOR DE 11 MESES, PASE A LA C 51

C 50a. Después del parto, cuándo le dió de mamar por primera vez a (Nombre del niño indice)? 50a.___

01: Durante la primera hora después del parto
02: Después de la primera hora y antes de 8 horas después del parto
03: Después de 8 horas del parto
04: No se acuerda
05: Nunca le dio de mamar

C 51. Recibió usted vitamina "A" después del último parto? (Nombre del niño más pequeño) 51.____

01: Si (Llene el cuadro)
99: No ---> PASE A LA C 51a

Registre la fecha del suministro de Vitamina "A" a la madre posparto de su carnet/papelito:
Vitamina "A"____/____/____
(día/ mes/ año)

Registre el lugar de Suministro y quien le dio la capsula:
Comunidad/Casa_____ Comadrona_____
Hospital_____ Personal C/Salud_____
Otro_____ Personal de HOPE_____
Otro_____

----> SI EL NIÑO MAS PEQUEÑO NO ES EL NIÑO INDICE, CONTINUE

----> SI EL NIÑO MAS PEQUEÑO ES EL UNICO NIÑO Y ES MENOR DE 11 MESES, PASE A LA C 52

C 51a. Recibió usted vitamina "A" después del parto? (Nombre del niño índice) 51a.___

01: Si (Llene el cuadro)
99: No ---> PASE A LA C 52

Registre la fecha del suministro de Vitamina "A" a la madre posparto de su carnet/papelito:
Vitamina "A"____/____/____
(día/ mes/ año)

Registre el lugar de Suministro y quien le dio la capsula:
Comunidad/Casa_____ Comadrona_____
Hospital_____ Personal C/Salud_____
Otro_____ Personal de HOPE_____
Otro_____

C 52. Para qué le sirve a usted tomar Vitamina "A" después del parto? | 52.

01: Para tener leche rica en vitamina "A" para mi bebe | 01.____

02: Para dar fuerzas a mi bebe a travéz de mi leche | 02.____

03: Para reponer la vitamina "A" que perdí en el parto | 03.____

04: No sabe | 04.____

05: Otro:_____ | 05.____
(Especifique)

PREGUNTAS SOBRE ASISTENCIA EN EL PROYECTO _____
CAPs --- (EDI) (HOPE/AMPROS)

C 1. Conoce usted (la madre) el Proyecto HOPE o AMPROS/Vitamina "A"? 1.___

01: Sí CONTINUE
99: No TERMINE

C 2. Ha participado usted (la madre) en las actividades del Proyecto HOPE o AMPROS/Vitamina "A"? 2.___

01: si ---> PASE A LA 4
99: no CONTINUE

C 3. Porque no ha participado usted en las actividades del Proyecto? [01: Si 99: No] 3.

01: Falta de interés 01.___
02: Falta de tiempo 02.___
03: Falta de dinero 03.___
04: Esposo no le da permiso 04.___
05: Genero del Extensionista/Promotor 05.___
06: No entiende/encuentra el beneficio 06.___
07: Temor/Miedo 07.___
08: No sabe 08.___
09: Otro:_____ 09.___
(Especifique)

----> PASE A LA 9

C 4. Cuáles actividades? (CUANTAS VECES DURANTE 1996?) 4.

01: Jornadas de Vitamina "A"/Vacunación _____ 01.___
02: Charlas/Sesiones Educativas de Salud/Nutrición _____ 02.___
03: Demostraciones de Cocina _____ 03.___
04: Demostraciones/Trabajos de Huertos/Aboneras _____ 04.___
05: Demostraciones/Trabajos Pecuarios (gallinas/pollos) _____ 05.___
06: Jornadas Oftalmológicas _____ 06.___
07: Otro:_____ _____ 07.___
(Especifique)

C 5. Cuál actividad de éstas es la más importante para usted? 5.___

01: Jornadas de Vitamina "A"/Vacunación
02: Charlas/Sesiones Educativas de Salud/Nutrición
03: Demostraciones de Cocina
04: Demostraciones/Trabajos de Huertos/Aboneras
05: Demostraciones/Trabajos Pecuarios (gallinas/pollos)
06: Jornadas Oftalmológicas
07: Otro:_____
(Especifique)

C 6. Por qué ha participado usted en _____(VER RESPUESTA CON FRECUENCIA MAS ALTA EN NO. 4) tantas veces? [01: Si 99: No] 6.

01: Calidad/Personalidad del Extensionista/Promotor/Educador 01.___
02: Calidad/Interes de la presentación (material didáctico) 02.___
03: Utilidad/Aplicabilidad de lo aprendido 03.___
04: Actividad divertida/Tiempo para juntarse con amigas(os) 04.___
05: Otro:_____ 05.___
(Especifique)

C 7. Su esposo/compañero le ha acompañado en las actividades del Proyecto HOPE o AMPROS/Vitamina "A"? 7.___

01: Si CONTINUE
99: No TERMINE

C 8. Cuáles actividades? (CUANTAS VECES DURANTE 1996?) 8.

01: Jornadas de Vitamina "A"/Vacunación _____ 01.___
02: Charlas/Sesiones Educativas de Salud/Nutrición _____ 02.___
03: Demostraciones de Cocina _____ 03.___
04: Demostraciones/Trabajos de Huertos/Aboneras _____ 04.___
05: Demostraciones/Trabajos Pecuarios (gallinas/pollos) _____ 05.___
06: Jornadas Oftalmológicas _____ 06.___
07: Otro:_____ _____ 07.___
(Especifique)

C 9. Usted tiene gallinas/pollos? [01: Si 99: No] 9.

01: Criollas TERMINE 01.___
02: De granja CONTINUE 02.___
03: No tiene TERMINE 03.___

C 10. Atravéz de quien/que institución consiguió usted las gallinas/ los pollos? [01: Si 99: No] 10.

01: Extensionista de AMPROS; "Representante" de HOPE 01.___
02: DIGESEPE 02.___
03: DIGESA 03.___
04: Agropecuaria Local 04.___
05: Otra institución/organización:_____ 05.___
(Especifique)
06: Otro:_____ 06.___
(Especifique)

C 11. Observe las gallinas/los pollos. Se encuentran: (CUANTAS?) 11.

01: Sueltos _____ 01.___
02: Encorralados _____ 02.___
03: Enjaulados _____ 03.___
04: Otro:_____ _____ 04.___
(Especifique)

# CUESTIONARIO DE FRECUENCIA DE CONSUMO DE ALIMENTOS RICOS EN VITAMINA "A" (HOPE)

ENCUESTADOR:_____ CÓDIGO:_____
NOMBRE DE LA MADRE:_____ EDAD DE LA MADRE:_____
NOMBRE DEL NIÑO :_____ ID:_____0 __ __ __
SEXO: F____ M____ EDAD_____ FECHA:____/____/____ ALDEA CASA
LUGAR :_____ IN: M–A–H–T–O_____

| CODIGO | ALIMENTOS | PORCION | NIÑO | | MADRE | | COD | COD |
|---|---|---|---|---|---|---|---|---|
| | | | FREC | 7 DIAS | FREC | 7 DIAS | | |
| 1 | CARNES<br>HÍGADO DE RES | 1 oz. | | | | | | |
| 2 | HIGADO O MENUDOS DE POLLO | 1 oz. | | | | | | |
| 3 | CARNE DE CANGREJO | 1oz. | | | | | | |
| 4 | SESOS DE RES | 1oz. | | | | | | |
| 5 | PANZA DE RES | 1 oz. | | | | | | |
| 6 | PULMÓN DE RES (BOFE) | 1 oz. | | | | | | |
| 7 | EMBUTIDOS DE CERDO | 1 u. | | | | | | |
| 8 | OTRO | | | | | | | |
| 9 | HUEVOS Y LÁCTEOS<br>HUEVO DE GALLINA | 1 u. | | | | | | |
| 10 | HUEVO DE PAVO O PATO | 1 u. | | | | | | |
| 11 | LECHE FLUIDA | 1 tz./v. | | | | | | |
| 12 | LECHE ÍNTEGRA EN POLVO | 1 cda./m. | | | | | | |
| 13 | QUESO SECO (DURO) | 1 oz./cda/cta. | | | | | | |
| 14 | QUESO FRESCO (SUAVE) | 1 oz./c. | | | | | | |
| 15 | CREMA ESPESA | 1 cda./v. | | | | | | |
| 16 | CREMA RALA | 1 cda./v. | | | | | | |
| 17 | MANTEQUILLA (DE LECHE) | 1 cda./v. | | | | | | |
| 18 | MARGARINA (MANTEQUILLA) | ½ oz./b. | | | | | | |
| 19 | ACEITE | 1 cda./v./oct. | | | | | | |
| 20 | OTRO | | | | | | | |
| 21 | AZÚCARES Y ATOLES<br>AZÚCAR | 1 cda./ tz. | | | | | | |
| 22 | PANELA | 1 cda. / tz. | | | | | | |
| 23 | INCAPARINA | 1 cda. / tz./s. | | | | | | |
| 24 | PROTINA | 1 cda. / tz./s. | | | | | | |
| 25 | BIENESTARINA | 1 cda. / tz./s. | | | | | | |
| 26 | OTRO | | | | | | | |

| )DIGO | ALIMENTO | PORCION | NIÑO | | E MADRE L | | COD | COD |
|---|---|---|---|---|---|---|---|---|
| 27 | FRUTAS | | FREC | 7 DIAS | FREC | 7 DIAS | | |
| | MANGO MADURO | 1 u. | | | | | | |
| 28 | PLATANO MADURO | 1/4 u. | | | | | | |
| 29 | MELÓN | 1 rodaja/u. | | | | | | |
| 30 | MANDARINA (TIPO GRNADE) | 1/4 u. | | | | | | |
| 31 | PAPAYA | 1 rodaja/u. | | | | | | |
| 32 | JOCOTES MADUROS | 1 u. | | | | | | |
| 33 | ZAPOTE | 1/4 u. | | | | | | |
| 34 | MAMEY | 1/4 u. | | | | | | |
| 35 | OTRO | | | | | | | |
| 36 | HIERBAS NATIVAS/OTROS CHIPILIN | ½ tz. | | | | | | |
| 37 | MACUY (QUILETE, HIERBA MORA) | ½ tz. | | | | | | |
| 38 | BLEDO | ½ tz. | | | | | | |
| 39 | PATA DE PALOMA | ½ tz. | | | | | | |
| 40 | CHAYA | ½ tz.. | | | | | | |
| 41 | BERRO | ½ tz. | | | | | | |
| 42 | PUNTAS DE GÜISQUIL | ½ tz. | | | | | | |
| 43 | PUNTAS DE AYOTE | ½ tz. | | | | | | |
| 44 | VERDOLAGA | ½ tz. | | | | | | |
| 45 | OTRO | | | | | | | |

| CODIGO | ALIMENTOS | PORCION | NIÑO | | E MADRE L | | COD | COD |
|---|---|---|---|---|---|---|---|---|
| 46 | | | FREC | 7 DIAS | FREC | 7 DIAS | | |
| | VERDURAS Y LEGUMBRES ZANAHORIA | 1 u./tz. | | | | | | |
| 47 | GÜICOY SAZÓN | ½ tz. | | | | | | |
| 48 | CAMOTE ANARANJADO | 1/4 u./tz. | | | | | | |
| 49 | CAMOTE BLANCO | 1/4 u./tz. | | | | | | |
| 50 | CEBOLLINES | ½ tz./u. | | | | | | |
| 51 | CHILE PIMIENTO FRESCO | ½ tz./u. | | | | | | |
| 52 | LECHUGA NO ARREPOLLADA | ½ tz. | | | | | | |
| 53 | TOMATE MADURO | 1 u./tz. | | | | | | |
| 54 | ARVEJAS | cda/½ tz. | | | | | | |
| 55 | BRÓCOLI | ½ tz. | | | | | | |
| 56 | ESPINACA | ½ tz. | | | | | | |
| 57 | ACELGA | ½ tz. | | | | | | |
| 58 | OTRO | | | | | | | |

**Preguntas Claves:**

1. Le está dando de mamar a su niño? (niño índice)
   Si____ No____

2. Cuántas veces le dá de mamar a su niño durante el día ? ( sumar las veces del día y de la noche)
   _____ veces

3. A que edad comenzó a darle a su niño otros alimentos, además de su pecho? (Agüitas, alimentos semisólidos, alimentos sólidos)
   _____ meses

NOMBRE ENCUESTADOR: _____ CODIGO: ___

ID: __ __ 0 __ __
Aldea Casa

CAPS AMPROS
(EDI)

FILTRO:

1. Departamento 01: Quetzaltenango
02: San Marcos
03: Totonicapán
04: Alta Verapaz 1.____

2. Fecha: __ __ / __ __ / __ __
Dia Mes Año

3. Cómo se llama usted? _____

4. Nombre del Jefe de la Familia: _____

5. Hay niños menores de seis años que viven en esta casa? 5.____

01: Si (continue)
99: No (termine)

6. Quién cuida y les dá de comer a los niños? _____

7. Cuál es su relación con los niños? 7.____

01: Madre ---> PASE A DATOS GENERALES: C 12
02: Hermana Continúe
03: Tía Continúe
04: Otro: Continúe _____
05: Ninguna Continúe (Especifique)

8. Está la madre de los niños en casa? 8.____

01: Si Continúe
99: No ---> PASE A LA 10

9. Se le puede entrevistar ahora? 9.____

01: Si ---> PASE A DATOS GENERALES: C 12
99: No ---> PASE A LA 11

10. Por qué tuvo que salir la madre? _____

11. Se le puede entrevistar más tarde? 11.____

01: Si (regrese más tarde)
99: No (termine)

NOMBRE ENCUESTADOR: _____ CODIGO: ___

ID: ___ ___ 0 ___ ___
Aldea Casa

DATOS GENERALES:

C 12. Cómo se llama usted (la madre)? _____

C 13. Cuántos años tiene? _____ 13.____

C 14. Sabe leer usted? 14.____

01: Si
99: No

C 15. Sabe escribir usted? 15.____

01: Si
99: No

C 16. Usted ha estudiado en la escuela? 16.____

01: Si
99: No ---> PASE A LA C 18

C 17. Hasta qué grado llegó? _____ 17.____

C 18. Cuántas personas viven en la casa? _____ 18.____

C 19. Cuántos cuartos tienen para dormir en la casa?_____ 19.____

C 20. La casa en que usted vive es: 20.____

01: Propia
02: Alquilada
03: Prestada
04: Otro_____
(Especifique)

C 21. Observe: que material predomina en las paredes de la casa: 21.____

01: Block
02: Ladrillo
03: Bajareque
04: Adobe
05: Madera (tablas)
06: Baras
07: Otro_____
(Especifique)

C 22. Observe: qué material predomina en el techo de la casa: 22.____

01: Lámina de Zinc
02: Palma/Pajón
03: Duralita
04: Teja manil
05: Teja de Barro
06: Otro_____
(Especifique)

C 23. Observe: qué material predomina en el piso de la casa: 23.____

01: Tierra
02: Ladrillo de barro
03: Ladrillo de cemento
04: Torta de cemento
05: Otro_____
(Especifique)

C 24. Observe/Pregunte por el tipo de servicio Sanitario: 24.____

01: No hay
02: Letrina
03: Letrina comunal
04: Inodoro
05: Otro_____ (Especifique)

C 25. Pregunte donde obtiene el agua que toma: 25.____

01: Chorro en casa
02: Chorro de Vecino
03: Llena cantaro
04: Pozo propio
05: Pozo del vecino
06: Rio
07: Manantial o nacimiento
08: Agua de lluvia
09: Otro:_____ (Especifique)

C 26. Observe/Pregunte si tienen luz eléctrica: 26.____

01: Si
99: No

C 27. Tiene usted animales? (CUANTOS, ANOTE CANTIDAD) 27.

01: Caballos/bestias _____ 01.____

02: Vacas _____ *Si tiene PASE A LA C 27a. 02.____

03: Ovejas _____ 03.____

04: Cerdos _____ 04.____

05: Cabras _____ *Si tiene PASE A LA C 27a. 05.____

06: Gallinas/pavos/patos _____ *Si tiene PASE A LA C 27a. 06.____

-----> SI LA RESPUESTA ES "SI" COLOQUE UNA (X). SI LA RESPUESTA ES NEGATIVA COLOQUE UN (-). 27a.___
SI NO TIENE UNO DE ESTOS ANIMALES, DEJE EN BLANCO ( ).

C 27a. Esta o estas:

| | | Produce | Come | Vende | Otro |
|---|---|---|---|---|---|
| Vacas | leche | ( ) | ( ) | ( ) | ( ) |
| Cabras | leche | ( ) | ( ) | ( ) | ( ) |
| Gallinas/pavos/patos | huevos | ( ) | ( ) | ( ) | ( ) |

C 27. Observe/Pregunte si tienen: (CUANTOS, ANOTE CANTIDAD) 28.

01: Radio _____ 01.____
02: Televisor _____ 02.____
03: Radiograbadora _____ 03.____
04: Máquina de Coser _____ 04.____
05: Estufa de Gas _____ 05.____
06: Carro/pickup _____ 06.____
07: Bicicleta _____ 07.____
08: Refrigerador _____ 08.____
09: Moto _____ 09.____
10: Camión _____ 10.____
11: Otro:_____ (Especifique) _____ 11.____

---> **INTRODUCCION:** "AHORITA VAMOS A CAMBIAR DE TEMA. VAMOS A HABLAR UN POCO SOBRE LAS HORTALIZAS/VERDURAS".

**PRACTICAS:**

C 29. Siembra usted hortalizas? 29.____

01: Si ---> PASE A LA A 31
99: No Continúe

C 30. Por qué no siembra una hortaliza? [01: Si 99: No] 30.

01: Falta de Terreno ---> PASE A LA C 36 01.____
02: No sabe cómo 02.____
03: No tiene semillas 03.____
04: Falta de Tiempo 04.____
05: No tiene abono 05.____
06: No tiene herramientas 06.____
07: No se dan las verduras 07.____
08: No le gusta sembrar 08.____
06: Mucha plaga 09.____
07: Otro:_____ 10.____
(Especifique)

-----> PASE A LA C 34

A 31. Su huerto es familiar? 31.____

01: Si ---> PASE A LA A 33
99: No Continúe

| OBSERVE HUERTO ____ |
|---|
| 01: Si 99: No |

A 32. De quién es el huerto? 32.____

01: Comunal Continúe
02: Ajeno ---> PASE A LA C 34
03: Otro ---> PASE A LA C 36

A 33. Qué tipos de cultivos cultiva? [01: Si 99: No] 33.

01: Hojas verdes como: 01.____
acelga
espinaca
macuy
bledo
chipilín

02: Verduras o frutas amarillas como: 02.____
zanahoria
camote
ayote
guicoy sazón

03: Otras verduras/frutas (Especifique) 03.____

C 34. **PARA CADA CULTIVO QUE APARECE EN LA LISTA, HAGA LAS SIGUIENTES PREGUNTAS:**

Sembró usted_____en la hortaliza? En el último año (jul.95 para aca)
Cosechó usted_____en la hortaliza? En el último año (jul.95 para aca)
Consumió usted_____en la hortaliza? En el último año (jul.95 para aca)
Vendió usted_____en la hortaliza? En el último año (jul.95 para aca)

**SI LA RESPUESTA ES "SI", COLOQUE UNA (X). SI LA RESPUESTA ES NEGATIVA COLOQUE UN (-).**

| | SEMBRO | COSECHO | COMIO | VENDIO | OTROS |
|---|---|---|---|---|---|
| a. acelga | ( ) | ( ) | ( ) | ( ) | ( ) |
| b. brocoli | ( ) | ( ) | ( ) | ( ) | ( ) |
| c. berro | ( ) | ( ) | ( ) | ( ) | ( ) |
| d. camote | ( ) | ( ) | ( ) | ( ) | ( ) |
| e. chile pimiento | ( ) | ( ) | ( ) | ( ) | ( ) |
| f. coliflor | ( ) | ( ) | ( ) | ( ) | ( ) |
| g. colinabo | ( ) | ( ) | ( ) | ( ) | ( ) |
| h. culantro | ( ) | ( ) | ( ) | ( ) | ( ) |
| i. espinaca | ( ) | ( ) | ( ) | ( ) | ( ) |
| j. guicoy | ( ) | ( ) | ( ) | ( ) | ( ) |
| k. mostaza | ( ) | ( ) | ( ) | ( ) | ( ) |
| l. perejil | ( ) | ( ) | ( ) | ( ) | ( ) |
| m. quilete | ( ) | ( ) | ( ) | ( ) | ( ) |
| n. rábanos | ( ) | ( ) | ( ) | ( ) | ( ) |
| o. remolacha | ( ) | ( ) | ( ) | ( ) | ( ) |
| p. tomate | ( ) | ( ) | ( ) | ( ) | ( ) |
| q. zanahoria | ( ) | ( ) | ( ) | ( ) | ( ) |
| +r. apio | ( ) | ( ) | ( ) | ( ) | ( ) |
| +s. cebolla | ( ) | ( ) | ( ) | ( ) | ( ) |
| +t. lechuga | ( ) | ( ) | ( ) | ( ) | ( ) |
| +u. pepino | ( ) | ( ) | ( ) | ( ) | ( ) |
| +v. repollo | ( ) | ( ) | ( ) | ( ) | ( ) |

**OPCIONES PARA OTROS:**
01: La regaló
02: Pérdida post cosecha
03: dió a los animales

**----> SI NO SEMBRO NADA PASE A LA C 36**

C 35. Porque usted sembró* y comió*? ----> **(VER RESPUESTAS DE LA C 34)** [01: Si 99: No] 35.

01: es bueno para la salud 01.____
02: contiene Vit. "A" 02.____
03: semillas disponibles en la comunidad 03.____
04: porque nos gusta 04.____
05: tener verduras para comer sin comprarlas 05.____
06: las verduras del huerto son más limpias 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

C 35a. Cuales son los beneficios de tener su huerto? [01: Si 99: No] 35a.

01: es bueno para la salud 01.____
02: las verduras contienen Vit. "A" 02.____
03: las verduras del huerto son más limpias 03.____
04: tener verduras para comer sin comprarlas 04.____
05: para ahorrar dinero 05.____
06: tener verduras para vender 06.____
07: No sabe 07.____
08: Otro:_____ 08.____
(Especifique)

---> INTRODUCCION: "AHORITA VAMOS A CAMBIAR DE TEMA DE NUEVO. VAMOS A HABLAR UN POCO SOBRE LA VITAMINA "A"."

CONOCIMIENTOS:

C 36. Conoce usted la vitamina "A"? 36.____

01: Si
99: No

C 36a. Usted puede decirme cual de estas es la vitamina "A"? 36a.___
(UTILICE LA MUESTRA DE VITAMINA "A")

01: Si
99: No

C 37. Le han contado algo a usted sobre la vitamina "A"? 37.____

01: Si Continúe
99: No ---> PASE A LA C 38

C 37a. Quien le informó a usted de la importancia de la vitamina "A"? 37a.
[01: Si 99: No]

01: Extensionista/Personal del Proyecto Vitamina "A"/AMPROS 01.____
02: Personal del Ministerio de Salud (Centro/Puesto de Salud) 02.____
03: Radio o Televisión 03.____
04: No sabe 04.____
05: Otro:_____ 05.____
(Especifique)

C 38. Sabe usted como se puede conseguir la vitamina "A? [01: Si 99: No] 38.

01: Comida origen vegetal 01.____
02: Comida origen animal 02.____
03: Azúcar 03.____
04: Cápsulas 04.____
05: No sabe 05.____
06: Otro:_____ 06.____
(Especifique)

C 39. Sabe usted para qué sirve la vitamina "A"? [01: Si 99: No] 39.

01: Ayuda en el crecimiento 01.____
02: Para la visión 02.____
03: Mantener la salud - No perder las defensas del cuerpo 03.____
04: Prevenir la diarrhea 04.____
05: Prevenir los catarros 05.____
06: Ayuda al desarrollo mental 06.____
07: Para que la mujer lactante tenga buena leche materna 07.____
08: Para que crezcan sanos 08.____
09: No sabe 09.____
10: Otro:_____ 10.____
(Especifique)

C 40. Sabe usted si se puede consequir vit. "A" en las comidas? 40.____

01: Si Continúe
99: No ---> PASE A LA A 42

----> INTRODUCCION: DESPUÉS DE LO QUE HEMOS PLATICADO, ME GUSTARÍA SABER CÓMO SE LLAMAN SUS NIÑOS MÁS PEQUEÑOS.

C 45. Cuántos niños menores de seis años viven en la casa? _____ 45.____

Anote en el cuadro que aparece a continuación, los datos de los niños menores de seis años.

----> CON LA VITAMINA "A", PIDA LOS CARNETS O CONSTANCIAS DE LOS NIÑOS

| No. | Nombre (ordenar del más pequeño al más grande) | Edad en meses | Sexo 1. M 2. F | Está mamando? 01. Exclus. 02. Mixta 99. No | Recibió Perla de Vit. "A" 01=Si 99=No 98=No sabe | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 1995 | | 1996 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTA: SELECCIONE AL AZAR NIÑO INDICE (DE 11 MESES CUMPLIDOS A 71 MESES) Y ENCIERRE EL NÚMERO QUE LE CORRESPONDE EN UN CÍRCULO.

C 46. Después del parto, cuándo le dió de mamar por primera vez a (Nombre del niño más pequeño)? 46.____

01: Durante la primera hora después del parto
02: Después de la primera hora y antes de 8 horas después del parto
03: Después de 8 horas del parto
04: No se acuerda
05: Nunca le dio de mamar

----> SI EL NIÑO MÁS PEQUEÑO NO ES EL NIÑO INDICE, CONTINUE

----> SI EL NIÑO MÁS PEQUEÑO ES EL UNICO NIÑO Y ES MENOR DE 11 MESES, PASE A LA C 47

C 46a. Después del parto, cuándo le dió de mamar por primera vez a (Nombre del niño índice)? 46a.___

01: Durante la primera hora después del parto
02: Después de la primera hora y antes de 8 horas después del parto
03: Después de 8 horas del parto
04: No se acuerda
05: Nunca le dio de mamar

C 47. Recibió usted vitamina "A" después del último parto? (Nombre del niño más pequeño) 47.____

01: Si (Llene el cuadro)
99: No ---> PASE A LA 47a

Registre la fecha del suministro de Vitamina "A" a la madre posparto de su carnet/papelito:
Vitamina "A"____/____/____
(día/ mes/ año)

Registre el lugar de Suministro y quien le dio la capsula:
Comunidad/Casa_____ Extens./Personal AMPROS_____
Hospital_____ Personal de Salud_____
Otro_____ Otro_____

----> **SI EL NIÑO MÁS PEQUEÑO NO ES EL NIÑO INDICE, CONTINUE**

----> **SI EL NIÑO MÁS PEQUEÑO ES EL UNICO NIÑO Y ES MENOR DE 11 MESES, PASE A LA C 48**

C 47a. Recibió usted vitamina "A" después del parto? (Nombre del niño índice) 47a.___

01: Si (Llene el cuadro)
99: No ---> PASE A LA C 48

Registre la fecha del suministro de Vitamina "A" a la madre posparto de su carnet/papelito:
Vitamina "A"____/____/____
(día/ mes/ año)

Registre el lugar de Suministro y quien le dio la capsula:
Comunidad/Casa_____ Extens./Personal AMPROS_____
Hospital_____ Personal de Salud_____
Otro_____ Otro_____

C 48. Para qué le sirve a usted tomar vitamina "A" después del parto? 48.

01: Para tener leche rica en vitamina "A" para mi bebe 01.____
02: Para dar fuerzas a mi bebe a travéz de mi leche 02.____
03: Para reponer la vitamina "A" que perdí en el parto 03.____
04: No sabe 04.____
05: Otro: _____ 05.____
(Especifique)

**PREGUNTAS SOBRE ASISTENCIA EN EL PROYECTO VITAMINA "A"/AMPROS**
**CAPs --- (EDI)**

C 1. Conoce usted (la madre) el Proyecto Vitamina "A"/AMPROS? 1.____

01: Si
99: No

C 2. Ha participado usted (la madre) en las actividades del Proyecto Vitamina "A"/AMPROS? 2.____

01: Si ---> PASE A LA C 4
99: No Continúe

C 3. Porque no ha participado usted en las actividades del Proyecto? 3.
[01: Si 99: No]

01: Falta de interes 01.____
02: Falta de tiempo 02.____
03: Falta de dinero 03.____
04: Esposo no le da permiso 04.____
05: Genero del Extensionista/Supervisor de AMPROS 05.____
06: No entiende/encuentra el beneficio 06.____
07: Temor/Miedo 07.____
08: No sabe 08.____
09: Otro:_____ 09.____
(Especifique)

----> PASE A LA C 9

C 4. Cuáles actividades? (CUANTAS VECES DURANTE 1996?) 4.

01: Jornadas de Vitamina "A"/Vacunación _____ 01.____
02: Charlas/Sesiones Educativas de Salud/Nutrición/Vit."A" _____ 02.____
03: Demostraciones de Cocina _____ 03.____
04: Demostraciones/Trabajos de Huertos/Aboneras _____ 04.____
05: Demostraciones/Trabajos Pecuarios (gallinas/pollos) _____ 05.____
06: Jornadas Oftalmológicas _____ 06.____
07: No sabe 07.____
08: Otro:_____ _____ 08.____
(Especifique)

C 5. Cuál actividad de éstas es la más importante para usted? 5.

01: Jornadas de Vitamina "A"/Vacunación 01.____
02: Charlas/Sesiones Educativas de Salud/Nutrición/Vit."A" 02.____
03: Demostraciones de Cocina 03.____
04: Demostraciones/Trabajos de Huertos/Aboneras 04.____
05: Demostraciones/Trabajos Pecuarios (gallinas/pollos) 05.____
06: Jornadas Oftalmológicas 06.____
07: Otro:_____ 07.____
(Especifique)

C 6. Por qué ha participado usted en _____(VER RESPUESTA CON FRECUENCIA MÁS ALTA EN NO.4) tantas veces? 6.
[01: Si 99: No]

01: Calidad/Personalidad del Extensionista/Supervisor 01.____
02: Calidad/Interes de la presentación (material didático) 02.____
03: Utilidad/Aplicabilidad de lo aprendido 03.____
04: Actividad divertida/Tiempo para juntarse con amigas(os) 04.____
05: No sabe 05.____
06: Otro:_____ 06.____
(Especifique)

CUESTIONARIO DE FRECUENCIA DE CONSUMO DE ALIMENTOS RICOS EN VITAMINA "A"
(AMPROS)

ENCUESTADOR:_____ CÓDIGO:_____
NOMBRE DE LA MADRE:_____ EDAD DE LA MADRE:_____
NOMBRE DEL NIÑO :_____ ID: _____0_____
SEXO: F____ M____ EDAD_____ FECHA:____/____/____ ALDEA CASA
LUGAR :_____ IN: M–A–H–T–O_____

| CODIGO | ALIMENTOS | PORCION | FRECUENCIA | 7 DIAS | CODIGO |
|---|---|---|---|---|---|
| 1 | HÍGADO DE RES | 1 oz. | | | |
| 2 | CARNE DE CANGREJO | 1 oz. | | | |
| 3 | SESOS DE RES | 1 oz. | | | |
| 4 | PANZA DE RES | 1 oz. | | | |
| 5 | PULMÓN DE RES (BOFE) | 1 oz. | | | |
| 6 | SALCHICHA | 1 u. | | | |
| 7 | HUEVO DE GALLINA | 1 u. | | | |
| 8 | OTRO | | | | |
| 9 | OTRO | | | | |
| 10 | LECHE FLUIDA DE VACA (ÍNTEGRA) | 1 tz./v. | | | |
| 11 | LECHE ÍNTEGRA EN POLVO | 1 cda./m. | | | |
| 12 | QUESO DURO DE LECHE ÍNTEGRA | 1 oz./cda/cta | | | |
| 13 | QUESO BLANDO DE LECHE (FRESCO) | 1 oz./c. | | | |
| 14 | CREMA ESPESA | 1 cda./v. | | | |
| 15 | CREMA RALA | 1 cda./v. | | | |
| 16 | MANTEQUILLA LAVADA | 1 cda./v. | | | |
| 17 | MARGARINA | 1/2 oz./b. | | | |
| 18 | ACEITE | cda./v./oct. | | | |
| 19 | OTRO | | | | |
| 20 | INCAPARINA | 1 cda./tz./s. | | | |
| 21 | OTRO | | | | |
| 22 | AZUCAR | cda./tz. | | | |

| CODIGO | ALIMENTOS | PORCION | FRECUENCIA | 7 DIAS | CODIGO |
|---|---|---|---|---|---|
| 23 | ZANAHORIA | 1 u./tz. | | | |
| 24 | CHIPILIN | 1/2 tz. | | | |
| 25 | QUILETE, MACUY O HIERBA MORA | 1/2 tz. | | | |
| 26 | CAMOTE ANARANJADO | 1/4 u./tz. | | | |
| 27 | BLEDO | 1/2 tz | | | |
| 28 | ESPINACA | 1/2 tz. | | | |
| 29 | BERRO | 1/2 tz. | | | |
| 30 | GÜICOY SAZÓN | 1/2 tz. | | | |
| 31 | ACELGA | 1/2 tz. | | | |
| 32 | PUNTAS Y HOJAS DE GÜISQUIL | 1/2 tz. | | | |
| 33 | CEBOLLINO (CEBOLLITAS) | 1/2 tz./u. | | | |
| 34 | CHILE PIMIENTO FRESCO | 1/2 tz./u. | | | |
| 35 | LECHUGA NO ARREPOLLADA (DEL PAÍS) | 1/2 tz. | | | |
| 36 | TOMATE MADURO | 1 u. | | | |
| 37 | ARVEJAS | 1 cda. | | | |
| 38 | OTRO | | | | |
| 39 | OTRO | | | | |
| 40 | MANGO MADURO | 1 u. | | | |
| 41 | PLÁTANO MADURO | 1/4 u. | | | |
| 42 | MELÓN | 1 rodaja/u. | | | |
| 43 | MANDARINA REINA (TIPO GRANDE) | 1/4 u. | | | |
| 44 | MARAÑÓN | 1 u. | | | |
| 45 | ZAPOTE | 1/4 u. | | | |
| 46 | PAPAYA MADURA | 1 rodaja/u. | | | |
| 47 | MAMEY | 1/4 u. | | | |
| 48 | OTRO | | | | |
| 49 | OTRO | | | | |

CODIGOS DE UNIDADES

| | |
|---|---|
| Hígado de res | Oz. = 1 |
| . | |
| . | |
| . | |
| Pulmon de res | Oz. = 1 |
| Embutidos de cerdo | U. = 2 |
| Huevo de Gallina | U. = 2 |
| Huevo de Pato | U. = 2 |
| Leche fluida | Tz. # 1 = 3; tz. #2 = 4; v = 5 |
| Leche polvo | Cda = 6; m = 7 |
| Queso seco | Oz. = 1; cda 6; cta = 8 |
| Queso fresco | Oz. = 1; c = 9 |
| Crema espesa | Cda = 6; v = 5 |
| Crema rala | Cda = 6; v = 5 |
| Mantequilla de leche | Cda = 6; ~~(v = 5)~~ OZ = 1 |
| Margarina | Oz. = 1; b = 10 |
| Aceite | Cda = 6; v = 5; oct = 11 |
| Azucar | Cda = 6; tz # 1 = 3; tz # 2 = 4 |
| Panela | (igual) |
| Incaparina | Cda = 6; tz # 1 = 3; tz # 2 = 4; 5 = 12 |
| Protina | Igual |
| Bienestarina | Igual |
| Polenta | Igual - (menos) sobre |
| Mango maduro | U. = 2 |
| Platano maduro | U. = 2 |
| Melón | R. = 13; u = 2 |
| Mandarina | U. = 2 |
| Papaya madura | R. = 13; u = 2 |
| Jocote | U. = 2 |
| Zapote | U. = 2 |
| Mamey | U. = 2 |
| Chipilin | Tz # 3 = 14; chon = 15 |
| . | . |
| . | . |
| . | . |
| . | . |
| Verdolaga | Igual |

| | |
|---|---|
| Zanahoria | U. = 2; tz # 1 = 3; tz # 3 = 14 |
| Guicoy Sazón | . |
| Camote anaranjado | . |
| Camote blanco | Igual |
| | |
| Cebollines | Tz # 1 = 3; tz # 3 = 14 |
| Chile Pimiento | Igual |
| Lechuga | Tz # 1 = 3; tz # 1 = 14 |
| Tomate | U. = 2; tz # 1 = 3; tz # 3 = 14 |
| Arvejas | Cda = 6 |
| Brócoli | Tz # 1 = 3; tz # 3 = 14 |
| Espinaca | Igual |
| Acelga | Igual |

## Héctor Gamero References

Licenciado Héctor Gamero was mentioned in three parts within the Seven Day - Consumption Frequency chapter, as source of information. Here are the sources used by Héctor Gamero.

1) In "Analysis Methodology", page 67 . His report in Spanish follows :

**Metodología de Conversión de Cantidades de Alimentos Consumidos a Gramos**
Para la conversión a gramos de aquellos alimentos que fueron consumidos por los niños de los hogares encuestados se tomaron en consideración varios aspectos. Para los alimentos que fueron reportados en unidades conocidas tales como onzas o libras únicamente se aplicó el sistema de conversión a gramos, en cambio para los alimentos tales como las hierbas, frutas, grasas y algunas vísceras, se empleó el sistema de medidas estándar o de pesos conocidos.

Es necesario aclarar, que como parte de otros estudios, ya se había realizado un proceso sistematizado de toma y estandarización de medidas en el campo, mediante el uso de una balanza dietética electrónica con una sensibilidad de 1 y 2 gramos (estudio de CESSIAM en el departamento de Santa Rosa, Guatemala : "Aumentando la disponibilidad de Vitamina A dietética a niños menores de seis años, a través de plantas como fuentes alimentarias naturales de provitamina A", 1991). Tomando en cuenta la existencia de éste recurso, para el presente estudio se hizo una combinación de medidas y otras más que fueron revisadas o comprobadas en las áreas donde se realizó la encuesta, por medio de un instrumento apropiado de medición (balanza dietética). La mayoría de los pesos determinados de esta forma constituyen promedios de las porciones o de las unidades de alimentos fuente de vitamina A, que comúnmente son empleadas por las madres de los niños preescolares del área rural de Guatemala.

In "Analysis Methodology", page 70 : formulae to calculate Retinol Equivalents. Complete references :

G. Arroyave et al. 1994. Recomendaciones dietéticas para Centro América y Panamá. INCAP, Guatemala. Page 23.

Hoffmann - La Roche. 1994. Vitamins, basics. Norman Gorbaty. New York, USA.

JMatute

3) In "Analysis Methodology", page 70 : Recommendations on daily minimum Retinol Equivalents:

   a) G. Arroyave et al. 1994. Recomendaciones dietéticas para Centro América y Panamá. INCAP, Guatemala. Cuadro AA1 de anexos.

4) In "Breast Milk", page 73 : Amount of daily milk intake:

   a) Organización Mundial de la Salud. 1985. Cantidad y Calidad de la Leche Materna : Informe sobre el estudio en colaboración de la OMS acerca de la lactancia natural. OMS,Ginebra. Belgica. Cuadro 7 : Medias y desviaciones típicas de la cantidad de leche materna, por país, grupo de estudio, y edades del niño, page 32.

Only Groups B and C of the population were used :
Group B : grupo urbano pobre
Group C : grupo rural

Some of the data was calculated from the table by means of an extrapolation.

# Annex II: Cost-Benefit Analysis Report

# The Costs and Effectiveness of Integrated Vitamin A Interventions: A Study of IEF's Child Survival Project in Guatemala

James Clement
Consultant to the International Eye Foundation
May 1997

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# Acronyms

| | |
|---|---|
| C/B | Cost-Benefit |
| CSP | USAID BHR/PVC Child Survival Projects |
| HQ | Headquarters |
| IEF | International Eye Foundation |
| RDA | Recommended Daily Allowance |
| USAID | United States Agency for International Development |
| VA | Vitamin A |
| VAC | Vitamin A Capsules |
| WHO | World Health Organization |

# Executive Summary

A cost-benefit analysis of three vitamin A interventions, integrated within a broader Child Survival program, was performed to assess the cost of improving vitamin A status of the target population. The Child Survival program was initiated by the International Eye Foundation (IEF) in 1990 in the Coban Province of Guatemala and was completed on March 30, 1997. The three vitamin A interventions studied were: capsule distribution, home gardening, and nutrition education. The target population consisted of children less than 72 months of age, and women between the ages of 15 and 49. Where applicable, results are reported both in terms of the target population and the general population.

Total project costs for a selected year, 1996, were calculated and allocated to the interventions. Costs were then extrapolated over the entire project. Effectiveness data were obtained from knowledge, practice and coverage (KPC) surveys and from dietary assessments completed in 1991 and 1996. All results are reported in terms of cost per outcome/event. In 1994 Margaret Phillips, Tina Sanghvi, et. al. Published *The Costs and Effectiveness of Three Vitamin A Interventions In Guatemala.* In May of 1997 Karunesh Tuli shared with me a draft of his study *Cost Effectiveness of CARE-India's Vitamin A Delivery Strategies.* Though there were significant differences in each of those two programs and the Coban program evaluated here, there were also significant similarities. Each of those two papers and personal consultation with Mr. Tuli were used in the design, execution and reporting of this study

**Cost of Interventions**

In 1996, 14,977 capsules were distributed to children under the age of 72 months at a cost of $0.49 per capsule, while 3,291 capsules were distributed to post-partum (PP) women at a cost of $2.85 per capsule. Capsules distributed to women involved a low-cost approach, utilizing MOH personnel to provide capsules to PP women that deliver in the district hospital, and a high cost approach, locating women that deliver outside of the hospital and providing the VAC in their homes. The low cost approach succeeded in dosing 2,572 women for $0.36 per capsule, while the high cost approach provided capsules to only 719 women at a cost of $11.68 per capsule.

A total of 1,043 new home gardens were planted in 1996, at an overall cost of $19,698. It can be estimated that the gardens served an average of 5.8 individuals from the entire population or 2.6 members of the target population, per garden. Given a unit cost of $18.89 per garden, the cost per member of the target population is $7.26 or about $3.26 per individual affected. (This includes older siblings, fathers, etc.)

A total of 2,576 cooking demonstrations and nutrition education lectures were presented in 1996, at a cost of $23,326, or $9.06 per session. The sessions were attended by a total of 20,909 women resulting in a cost per attendee of $1.12

Key Results:

- Over the course of the project, the number of individuals consuming the WHO RDA of retinol increased by 132%, at a cost of $9.46 per newly sufficient individual.
- The cost of achieving an 86% coverage rate of children in the target population was less than fifty cents per child.
- Significant resources were utilized to dose a relatively small group of PP women (719 in 1996) at a cost more than twenty times higher than the cost of distributing capsules at central locations.
- The number of gardens increased more than four-fold to over 3,000, virtually all containing plants rich in VA, at a cost of $33.29 per garden, or $5.74 per family member served by a garden.

- The number of women able to name two plants rich in VA increased from 63% at baseline to 85% at final evaluation. This works out to a cost of $47.81 per newly educated women, or $8.24 per family member effected.

Recommendations:

- The extremely high marginal cost of tracing PP women to their homes to dose them, suggests that the practice needs to be re-evaluated. Those same resources could be utilized to serve a far larger population if targeted efficiently.

- More longitudinal data needs to be gathered before a fair evaluation of the gardening program can be made. There is little information about the rate at which gardens are sustained over time, or the number of people (inside or outside the family) that are effected by each garden. If even a small percentage of the gardens planted become permanent sources of VA for families, the unit cost of the program would fall dramatically.

- The nutrition education program also suffers from a dearth of data. There was only a single indicator present on both the baseline survey and the final evaluation to serve as a point of comparison. The easy answer is to say that more data is needed to make a judgement, however, given that under the most controlled circumstances it can be difficult to education with behavioral changes, I think it would be very important to have a very clear idea of exactly how additional data might be of use, before additional resources are devoted to collecting it. This may be a case where one is better off simply reading the literature, and following the conventional wisdom.

The Cost and Effectiveness of Integrated Vitamin A Interventions:
A Study of IEF's Child Survival Project in Guatemala

This study was undertaken to quantify the impact of dollars spent for three related vitamin A interventions in a recently completed Child Survival Project in Guatemala.

## Population:

The project was a broad-based Child Survival initiative first instituted in the fall of 1990 by the International Eye Foundation, and renewed and expanded with a three-year extension in 1993 until its end date of March 30, 1997. The project was carried out in the province of Coban, approximately three hours from the country headquarters in Guatemala City. Expenses for the six-year project totaled approximately $400,000, 60% of which was devoted to three related Vitamin A interventions: nutrition education, home gardening, and capsule distribution. The target population for the project was women of child bearing age (15-49), particularly post-partum woman, and children less than 72 months of age. At the project's inception 15,964 individuals, in 2,632 households, were enrolled. Of whom 6,366 were members of the target populations. The extension of the child survival project called for an expansion in population, and by the conclusion of the project there were 7,405 households with 43,008 individuals enrolled including 19,649 individuals in the target populations.

## The Project:

In September of 1990 a Child Survival project was instituted in the Coban Province of Guatemala. Despite the presence of a sugar vitamin A fortification program, VA deficiency remained a significant problem, and one goal of the project was to decrease the prevalence of this deficiency. It was decided that it was appropriate to immediately institute a program of capsule distribution to the most high risk members of the population, post-partum women and children less than 72 months. Concurrently, more sustainable methods for guaranteeing long term sufficiency were also instituted: nutrition education programs and home gardening.

## Data:

The majority of financial data kept by the project was computerized and was readily available in a well organized set of electronic accounting (Quicken) files. The year 1996 was chosen as a representative year because the projects were all stable and continuous in that year, and because it was the only full year that the current Financial Officer had been in place. Access to the Financial

Officer was crucial to verification and clarification of data. The use of a single project year as proxy for total project costs had been previously utilized by Sanghvi et al. and was deemed appropriate in this case.

Information regarding the allocation of expenses was obtained from a combination of original personnel time sheets and the reported time allocation included in the Project Manager's monthly reports. The majority of the data for the year's activities (e.g. capsules distributed.) was also extracted from these reports. Information on the improvements over time (e.g. percent of population consuming WHO RDA of retinol) was obtained from various KPC surveys done at baseline, mid-term and final, as well as supplementary nutrition surveys performed at baseline and final project dates.

## Methods:

As previously stated, it was decided that close scrutiny of single year inputs and results would be most useful given the available data and resources. This would allow for the careful evaluation of all expenses, without involving the expense necessary to evaluate multiple years. Calendar year 1996 was chosen because it was a year during which the project was stable, and data availability was excellent. When necessary, total project costs were extrapolated, and results viewed longitudinally.

Primary cost data in Guatemala were reported in Guatemalan Quetzales.. All calculations and reporting were done in dollars using a standard exchange rate of 5.9Q=1USD. This represents both the approximate current value as well as the mid-point of the range of values seen in the last several years.

<u>Project Costs</u>: The first step in the analysis was to determine project costs for 1996. The required data were obtained through consultation with the Country Director and Financial Officer, and accessed via an electronic accounting system (Quicken). Careful examination of relevant accounts revealed that aggregate records were thorough, however, given the integrated nature of the three vitamin A interventions, both with one another, as well as into the larger child survival project in Cobán, the identification of specific expenses as being related to specific interventions was problematic. It was not policy to charge expenses to specific interventions, but rather to the various broad projects. For example, there was an account for all resources spent in the field (Cobán), and an account for resources spent in Guatemala City, but devoted directly to the. project field costs. However, there was no breakdown within the Cobán project. By compiling accounts we were able to get an excellent accounting of total resources devoted to the Cobán Child Survival project in 1996: $103,672. Of this amount, 78% ($80,413) was labor or labor related charges.

Given that the vast majority of expenses were labor related, it was determined that using time sheets we could create a labor allocation table, and, absent any evidence to the contrary, use this pattern to allocate the remaining 18% of the expenses. The rationale being that most of the expenses should track closely to the labor expenses. e.g. if a driver spends 25% percent of his time driving to communities to give lectures, then 25% of the vehicle expenses should be charged to those lectures. In two cases there were line items that were likely to vary significantly from the allocation table, and in those cases we followed consensus reasoning. The two exceptions were the line item "gardening supplies" which was allocated 100% to the garden intervention, and the line item "medical supplies" which was found to be 100% related to de-worming initiatives and therefore was allocated wholly to the three VA interventions (1/3 to each intervention). The latter decision was based on the knowledge that the de-worming intervention contributed to improvements in vitamin A status initiated by all the VA interventions. Education about de-worming is also integrated along with education for all of the other interventions.

Once the basic annual operating costs were determined, there were several additional layers of costs that needed to be calculated and summed as well, including capital costs, local overhead and IEF Headquarters costs.

**Capital Costs:** The amortized value of any capital expenditures is deemed a capital cost. This includes vehicles, office furnishings and equipment (See tables A and B). There are several methods for amortizing capital expenses, a straight-line method based on the original purchase price was applied in this instance for the following reasons: 1) the use of actual purchase prices (where some methods rely on estimation of current value) eliminates estimation error. 2) because the majority of capital expenditures were vehicles, and because vehicles depreciate rapidly, other models would reflect a higher capital costs earlier in the project. given that 1996 is the year being studied, those models would lead to an understatement of capital costs. Additionally, some models incorporate a discount rate in an attempt to account for opportunity costs (the cost of not putting funds to use in some alternative fashion.). Given the nature of the restrictions on Child Survival project funds, as well as the nature of the "return on the investment" it is not appropriate to use a discounting factor to account for opportunity costs in this instance.

**Local Overhead:** The local overhead included allocation of time of local IEF staff, including the Country Director and Financial Officer, that work directly with the Child Survival project, as well as a more general overhead charge for support staff, rent and utilities.

**IEF/Headquarters Support:** An allocation of salaries for HQ staff making significant, direct contributions to the Child Survival project, including the Vitamin A/Child Survival Coordinator and the Director of Programs.

Headquarters Overhead: A standard allocation of all HQ expenses to various projects as determined by USAID auditing guidelines (NICRA). In the case of IEF the charge is 17.82%

Rather than aggregating the five categories of costs described above, it was decided that Project Managers and other field and HQ staff would benefit from the ability to view the data in more detailed categories as shown. The level of detail allows staff to more accurately compare their field costs to those reported in this study and to make necessary adjustments. Further, the results calculations (below) for intervention costs are based on the direct project costs alone. This is not meant to suggest that capital and overhead costs should be ignored, but rather the presentation of individual intervention costs in this manner allows other PVO/NGO's to best estimate the cost they would incur to incorporate these VA interventions into their existing health programs. For convenience, the indirect project costs are reported in Table B: Capital Cost, Guatemala City Office overhead, Headquarters overhead and Headquarters support (including the Child Survival Coordinator, Director of Programs and Director of Finance and Administration). A "factor" for each level of indirect support has been calculated to allow PVO/NGO's to add this expense to the direct costs if desired.

## Results:

The results from this project can be sorted into two broad categories: first there are operational or annual results. These results reflect the actual activities as they happened during the year examined. They are the raw number of capsules distributed or gardens initiated. Operational results measure the services provided during a time period without always measuring the effect of that service and refer exclusively to the year, 1996, which has been carefully reviewed. An operational result of nutrition education for example, might be the number of cooking demonstrations and nutrition related lectures given during the year. Secondly there are longitudinal results, or capital effects, which reflect the absolute change in a particular indicator from time point A to time point B. From baseline, or midterm, to project completion for example. The capital effect would be the increase in knowledge level of the target population from time point A to time point B.

## Operational Results:

### Vitamin A Capsule Distribution:

| Population | Units | Cost | Unit Cost |
|---|---|---|---|
| Children--Total | 20,663 | $7,257 | $.36 |
| Children--Target | 14,977 | $7,257 | $.49 |
| PP Mothers--Total | 3,291 | $9,330 | $2.85 |
| Mothers--Hospital | 2,572 | $933 | $.36 |
| Mothers--Traced | 719 | $8,397 | $11.68 |
| Target--Total | 18,268 | $16,587 | $.91 |
| Total Distributed | 23,954 | $16,587 | $.69 |

These calculations do not include the cost of procuring or shipping the capsules. In the case of the IEF the capsules were donated and the shipping was handled by staff traveling to Guatemala. For this reason, there was little or no financial cost involved. However in strict economic terms the consumption of a resource is a cost, regardless of whether or not it was paid for. It is therefore worth noting that procurement and shipping would add approximately 8-10 cents per capsule based on standard shipping and VAC costs.

There are two target populations of the VAC distribution program. Post-partum mothers, and children under six years of age. Information in the time sheets and monthly reports was used to allocate time between the various activities. In order to reach the mothers, two strategies were employed. the first was the provision of capsules and instructions to health workers at the regional hospital, where every mother that delivers is given a capsule. The second was home visits by project staff to women who were reported as having delivered by the local midwife or other community member..

When analyzing these two initiatives together (time data are recorded together, so no precise measure of the separate initiatives is available), the result is a per capsule cost of $2.85. However, according to Field Supervisors and the Country Director, as well as intuitive reasoning, the distribution in the hospital requires very few resources, whereas the distribution in the communities is extremely labor intensive. Based on staff interviews, we can estimate that hospital

distribution accounts for a maximum of 10% of the relevant resources , and community distribution about 90%. Given these new figures the analysis becomes more illuminating. The per capsule expense of reaching the hospitalized mothers is only about 36 cents whereas the cost of reaching each mother in the community is over eleven dollars.

The second target population is children under 6 years of age. In order to reach these children, semi-annual campaigns were held, usually in conjunction with MOH vaccination programs. In 1996 these campaigns took place in April and October. Communities would be informed of times and locations of capsules distribution centers, and asked to bring their children. Capsules were given to any children, but were targeted at those under six. Following the centralized distribution day, extensionists would go to individual homes in an attempt to trace children that failed to receive a capsule at the distribution sight.

In April and October 7,272 and 7,705 capsules were distributed to the target population resulting in coverage rates of 85 and 87 per cent respectively. When matched with relevant costs this resulted in a cost of 49 cents per capsule distributed per high risk child. Additionally, it was recorded that another 5,686 capsules were distributed to school age children who attended the campaigns with their siblings. Including these brings down the per capsule cost to only 36 cents per capsule .

There are three instructive ways of viewing the data collected from the capsule distribution program. The cost of providing capsules to 18,268 high risk individuals was 91 cents per capsule. However, if you separate out the 719 high cost mothers, and the resources devoted to them, the cost per capsule for the remaining 17,549 mothers and children falls to 48 cents each. Finally, the total cost of providing 23,954 capsules in 1996 equaled 69 cents per capsule.

## Home Gardening:

| Category | Number | Cost | Unit Cost |
|---|---|---|---|
| New Gardens | 1,043 | $19,698 | $18.89 |
| Target Pop Benefitted | 2,712 | $19,698 | $7.26 |
| Total Pop. Benefitted | 6,049 | $19,698 | $3.26 |

In 1996 a total of 1043 new home gardens were planted, bringing the number of active gardens in the project area to just over 3,000. Virtually all (> 99%) of these include one or more plants rich in Vitamin A. At the mean, each new garden serves a household of 5.8 individuals, including 2.6

members of the target population. Given the resources allocated to home gardening projects in 1996, this suggests a per garden cost of $18.89 or $7.26 per member of target population, or $3.26 per individual.

Even given these data it is difficult to measure the true impact of the home gardening program. There are several confounding and conflicting factors that need to be taken into account. Among them are the following:

First, there is no data available as to the number of planted gardens that actually provide a yield. Presumably some number of gardens receive inadequate water, experience infestation or for some other reason never produce crops. Though there is information available on the number of gardens discontinued monthly, there is no distinction between a garden pecked free of its seeds by crows shortly after planting, and a plot lying fallow after being harvested. For that reason, it would appear that the numbers overstate the impact of the gardens.

On the other hand, there is reason to believe the positive effects of the gardens may be understated; there are several collateral benefits that can be theorized, but without the necessary data, cannot be quantified. For example, it may be that many of the gardens were very successful and produced more food than could be consumed by an individual family. This might lead to selling or giving the surplus to other community members thereby impacting more than the hypothesized 5.8 individuals. Additionally if a family is able to generate income with their garden, either by the sale of produce or the substitution of purchased goods with home grown goods, it is reasonable to suggest that neighbors or family members, including project non-participants, might emulate that behavior and start their own gardens.

## Nutrition Education:

| Category | Units | Cost | Unit Cost |
|---|---|---|---|
| Total* | | $25,918 | |
| Lectures and Demonstrations | 2,576 | $23,326 | $9.06 |
| New Attendees | 4,457 | $23,326 | $5,23 |
| Total Attendees | 20,909 | $23,326 | $1.12 |
| Total Effected | 25,851 | $23,326 | $.90 |
| Target Population Effected | 11,588 | $23,326 | $2.01 |

*10% of Total expenditures went to minor projects other than lectures and demonstrations.

Nutrition education consumed the greatest proportion of resources of the VA initiatives, accounting for 25% of total project expenses, or 40% of vitamin A related expenses. The vast majority of educational resources went to cooking demonstrations and to educational lectures. There were a wide variety of minor initiatives including child-to-child school based education; radio spots which aired several times daily communicating nutrition messages that coincided with the community lectures and demonstrations; as well as small contests and competitions where prizes such as posters and t-shirts were distributed. In all, these smaller initiatives absorbed less than 10% of the nutrition education resources.

The cooking demonstrations were designed to attract mothers from the communities and to teach them recipes using vitamin A rich foods. Similarly, the educational lectures were presented in communities to small groups of mothers. Unlike the cooking demonstrations however, the lectures did not necessarily focus on vitamin A, rather the lectures had a different theme every month. Only during the months when the theme was vitamin A or gardening were the lectures tabulated as being a part of nutrition education.

In 1996 total expenditures related to nutrition education amounted to $23,326 which resulted in a total of 2,576 community presentations (cooking demonstrations plus VA related lectures) being made at a cost of $9.06 per presentation. Attendance at these events was monitored in two ways. The first time a woman attended a cooking demonstration she was noted as a .new. attendee. Each cooking demonstration thereafter, she was counted as a return. However, the method is less strait forward for the lectures. The first time a woman attended a lecture, she was counted as .new. regardless of the subject matter. If she went to another lecture in subsequent months she was a return. If she attended more than one lecture in the same month, she would not be counted at all beyond the first lecture. This methodology appears to lead to under counting in two ways. First, it under counts the number of .new" attendees. If a woman attended a lecture on respiratory infections in January and then a vitamin A lecture in April she would be counted as a return, despite never having heard the vitamin A message previously. Second, it under counts the total number of attendees by not counting women that hear a lecture on vitamin A twice in the same month. Given these caveats, the data are as follows:

In 1996, 4,457 .new" women attended cooking demonstrations and nutrition lectures for a per woman cost of $5.23. A total of 20,909 women, new and return, attended for a per attendee cost of $1.12. It is also instructive to view these numbers in terms of the individuals effected rather than only those attending. If it is assumed that each woman receiving the information affects the eating habits of her entire family, then a total of 25,851 individuals would be effected , 11,588 within the target group, at a cost of $.90 per person, or $2.01 per target group individual.

## Longitudinal Results:

Following examination of 1996 data, costs for the entire project period were extrapolated (see Table C for details) and matched to available indicators. Reliable cost data for the years 1995 and 1994 were readily available at the field level and were therefore used in the extrapolation analysis. Data for the first three years of the project was difficult to obtain, and given time constraints it was decided that estimates based on the later years would be sufficient for the analysis and would be based on the relative size of the populations served. All figures are expressed in real (1996) dollar using a discount rate of 3% to account for the effect of inflation over the project period (WHO standard rate). Though the method is imprecise, it is worth noting that the best data is available for the years that the project was biggest and most expensive. T herefore any error in the extrapolation of costs would have a relatively small impact on the aggregate. The three indicators examined were: 1) Increase in retinol sufficiency, 2) Increase in knowledge and 3) Increases in the number of home gardens.

**Increased Retinol Sufficiency:** This is the single most important indicator for the vitamin A interventions. All of the resources devoted to gardening and education are intended to increase the number of people consuming their RDA for retinol. The project was able to report an increase of 44 percentage points (130% increase) in this indicator from a baseline level of only 34% in children 6 months to 5 years of age.

This variable is analyzed in terms of all resources for the gardening and education interventions. A total $183,126 was spent on these two interventions during the course of the project. The retinol sufficiency data was gathered at baseline and in the fall of 1996 using a seven day food frequency dietary assessment method.

In summary, the cost for each percentage point increase in retinol sufficiency was $4,381 over the length of the project. That translates into a cost of $10.19 for each additional individual reaching sufficiency, and $22.31 for every new member of the target population reaching sufficiency.

**Increases in knowledge:** Since 1991 a total of $104,049 was spent on nutrition education. The bulk of these resources were devoted to cooking demonstrations featuring foods rich in vitamin A and lectures focusing on various aspects of gardening and/or vitamin A. The results of this type of work are obviously complex and difficult to quantify. In this case there was a single question on the 1991 survey that was replicated in the final KPC that tested the mother's increase in knowledge about vitamin A. The question, asked to mother's of 0 to 24 months old, revealed those that could identify at least two foods rich in vitamin A. The percentage of women able to correctly answer the question increased from 63% at baseline to 85% at final evaluation.

This translates to a cost of $4,730 per percentage point increase or a cost of $47.81 for each individual educated. Taking into account that the education benefits the mother's children, as well as herself, this further translates to a cost of $18.39 per member of the target population served. Expanding the idea further that the mother's knowledge will affect not just the target child but all of her family the cost is reduced to $8.24 per individual effected.

**Increases to the number of home gardens:** From 1991 to 1996 $79,077 were devoted to the promotion of home gardens. At baseline (a weighted average of surveys done in 1991 and 1994) 9% of families in the project area had home gardens. By 1996 3,043 families or 41%, had home gardens, 65% of which were more than a year old.

The cost of each percentage point increase was $2,471. Each new garden cost $33.29 . A total of $12.80 was expended per member of target population served by garden and $5.74 per family member served by gardens.

## Recommendations:

**Vitamin A capsule distribution:** The relative cost of distributing Vitamin A capsules on a house to house basis is more than thirty times greater than the cost of distributing the VACs from a central location such as an EPI campaign or a maternity ward. This suggests that a critical evaluation of this practice is warranted. It may be possible to invest the same resources in a nearby district and distribute capsules to thousands of children for the same cost as distributing a few hundred capsules to the harder to reach individuals in Cobán. If that is the case, the per unit cost of capsule distribution could be significantly lowered by simply redirecting the effort. Additionally, other means of reaching post-partum women should be explored. The project should maximize its efforts to reach women though TBAs (more than a third of births are attended by a TBA) and VAC campaigns for children should be considered another opportunity to dose mothers who have recently delivered.

**Nutrition education:** It is always difficult to measure the effect of education on later practical outcomes. In this case, only a 22 percentage point increase was reported in mother's knowledge of vitamin A. This is a small increase, given the six year duration of the study, however, the increase in retinol sufficiency is much greater and could potentially be a result of education. There is no feasible way to tease out the relationships that may exist between the education intervention and increased intake of vitamin A. At a minimum the amount and nature of impact indicators, such as knowledge questions, should be more complete than what was available in this project. It was the lack of information at the inception of the project that made it impossible to make a more meaningful conclusions about impact at the final evaluation.

**Home gardening:** The home gardening projects also deserve further study. Given the available data the cost of effecting a single individual via a home garden appears quite high. However, there is no data available to measure the long term impact of the gardens. If the gardens that are planted provide food for only a year or two, then the project would be of questionable value. But the great unknown is what is happening to these gardens in the long term? If even a small percentage of the gardens become permanent, and provide vitamin A to a family for many years, then the gardens may be an excellent value. This information is currently not available, but could be gathered in other projects as part of the KPC.

## Replicating This study

Cost-effectiveness analysis is currently being underutilized in international public health. Regardless of how well or poorly any initiative is funded, resources will always be finite and there will always be choices to be made regarding how those finite resources are distributed. This being the case, it is never enough that dollars were spent and good results occurred, rather it is necessary to estimate the unit cost of those results and compare them to other uses for the resources. The best example of this from the Guatemala study is the distribution of capsules to post-partum mothers in villages.

Viewed without context it may be said that 719 women were dosed with VA, this is a good thing. It can be added that the cost of dosing these women was about $8,500, without context, this too is a good thing. However, the power of cost-effectiveness analysis is that we are now able to compare initiatives. The analysis indicates that to reach one portion of the target population it costs nearly twelve dollars each, and to reach another portion, less than fifty cents each. This is exactly the type of information that project managers and policy makers need to have available if our finite resources are to be invested in ways to create the greatest possible return.

The steps to doing this type of analysis are both strait-forward and intuitive. The following is a brief outline of the steps followed in this study, which can be easily customized to meet the differing needs of other studies.

**Establish Costs:**

In addition to direct project expenses there are generally several layers of indirect expenses, including capital and overhead. It is less important which of these expenses is included, than it is to be clear about what is and is not included. In this IEF study calculations were made only on the direct expenses, but it only takes a glance at Table B to see that had capital expenditures been included, unit costs would have increased 3.9% across the board. Or if capital and local overhead were included the figures would increase by 18.2% Reporting them in this flexible manner should serve to maximize the usefulness of the data

Once it has been decide which costs will be included, (again it is the transparency--an accounting term meaning calculations and methods made clear-- of the decision that is more important than the decision itself). a time period can be selected. The period should be picked that is representative of the project as a whole both in terms of activities and expenses. In this case the consensus was calendar year 1996 would provide the most thorough, reliable data..

**Allocate expenses to appropriate initiatives:** Once costs are tabulated it is necessary to allocate them amongst the initiatives being evaluated. This is easiest in projects with relatively few initiatives and projects where a single input (in this case labor) is the dominant expense. In any case, some reasonable model for allocating expenses must be devised. On this project it was relatively easy to create a cost allocation table based on time allocation from time sheets and monthly reports. (Total Cost * % time devoted to X = TC of X.) We allocated costs to: Capsule distribution--mothers; capsule distribution--children.; home gardening; Nutrition Education.

**Relate allocated costs to measurable events (Unit Cost).**

Unit costs = allocated cost/activity.

Once the cost is determined, a measure of effectiveness must be decided upon. The question should be asked, "what did these funds pay for"? It may be a number of people trained, number of acres planted one of many objective measures of productivity. We used measures of the project activities, e.g. number of nutrition lectures given, as well as measures of individuals effected by the activities, such as the number of women attending the lectures.

**Extrapolated Costs to Total Project Period.**

Detailed cost for 19996 extrapolated by using:

- In country total cost records for 1995 and 1994.
- HQ pipeline analysis records and adjustments for population served earlier years.
- Time allocations assumed to be consistent over time.

While it may be desirable to specifically calculate total expenditures over the life of the project, in some cases that information will be unavailable, unreliable, or available but in a location or format that would make the process prohibitively time consuming and expensive. In these case it may be preferable to extrapolate from the known expenses to the total project expenses. This is particularly effective when the time period that has been examined in detail is representative of the whole project period.

**Relate relevant costs to measures of impact.**

- Increase in knowledge.
- Increase in gardens.
- Increase in retinol sufficiency.

While looking at expenditures for a particular time period allows us to put a price tag on particular services, it is the cost of the project over time, relative to fundamental impacts, that is the true measure of success for the project. Using an extrapolated estimate of total project costs and the same allocation model as applied for 1996, we determined the cost of increasing these three indicators. The indicators used were very much driven by data availability. This underscores the importance of solid baseline data. The most complete and consistent the collection of data over the course of the project, the more indicators that will be available for comparison.

While there are a variety of different ways that this type of analysis can be done, and all sorts of interesting models that one might create to help get at cost allocations, it is important to not lose sight of what are ultimately terribly simple questions: how much money was spent? What was it spent on? How can we measure the impact of those expenditures? those are really the three questions that should be at the heart of any cost-effectiveness analysis.

Table A.

## Capital Expenses--Coban

| Item | Year Acquired | Cost | Inflation Adjusted | 1996 Cost |
|---|---|---|---|---|
| 1992 Suzuki Truck | 1994 | $9,390 | $9,965 | |
| 1992 Suzuki Truck | 1994 | 9,390 | 9,965 | |
| 1987 Suzuki Truck | 1991 | 6,186 | 7,172 | |
| Toyota Pickup | 1991 | 5,593 | 6,485 | |
| Office Equiptment | 1991 | 4,745 | 5,502 | |
| Furnishings | 1991 | 1,695 | 1,965 | |
| Total | | $36,999 | $41,054 | |
| | | | | **$4,105** |

## Capital Expenses--Guatemala City

| Item | Year Acquired | Cost | Adjusted | 1996 Cost |
|---|---|---|---|---|
| 1991 Isuzu Trooper | 1991 | $23,728 | $27,508 | |
| Toyota Tercel | 1995 | 7,120 | 7,332 | |
| Equip. & Furnishngs | Various | 10,170 | 11,112 | |
| Total | | $30,848 | $45,952 | |
| | | | | **$4,595** |

All equipment assumed to have a ten year useful life.

Inflation Adjustment equal to three percent annually. "Adjusted" dollars equal to real 1996 dollars.

Table B.

## Total Project Costs--1996

| Category--Description | Total | VAC Distrib. 16% | Gardening 19% | Nutrition Education 25% | Indirect Cost Factor (cumulative) |
|---|---|---|---|---|---|
| Direct Project Expenses | $103,672 | $16,588 | $19,698 | $25,918 | |
| Coban Capital Allocation | 4,105 | 657 | 780 | 1,026 | 1.039 |
| Guate Overhead | 14,180 | 2,269 | 2,694 | 3,545 | 1.182 |
| HQ Support | 10,460 | 1,674 | 1,987 | 2,615 | 1.283 |
| HQ Overhead 17.82% | 23,597 | 3,775 | 4,483 | 5,899 | 1.505 |
| **Totals** | **$156,014** | **$24,962** | **$29,643** | **$39,003** | |

All results are reported in terms of direct project expenses. In order to consider additional tiers of expenses simply multiply the indicator by the desired "factor." e.g. if you are interested in the unit cost of capsule distribution to PP mothers, including the Coban capital expenses and the Guatemala City overhead expense, simply multiply the indicator ($2.85) by the Indirect Cost Factor (1.182). The result is $3.37. That is: the per unit cost of distributing VACs to PP mothers, including Coban's capital costs and GC overhead equals $3.37.

Table C.

## Six Year Cost Allocation

| Year | Total Costs | VA Capsule Kids | Distribution Mothers | Gardening | Nutrition Ed. |
|---|---|---|---|---|---|
| 1991 | $49,939 | $3,496 | $4,495 | $9,488 | $12,485 |
| 1992 | 49,939 | 3,496 | 4,495 | 9,488 | 12,485 |
| 1993 | 49,939 | 3,496 | 4,495 | 9,488 | 12,485 |
| 1994 | 78,777 | 5,514 | 7,090 | 14,968 | 19,694 |
| 1995 | 83,930 | 5,875 | 7,554 | 15,947 | 20,983 |
| 1996 | 103,672 | 7,257 | 9,330 | 19,698 | 25,918 |
| Total | $416,196 | $29,134 | $37,458 | $79,077 | $104,049 |

The total costs for 1996 are actual cost numbers. The total costs for 1994 and 1995 are actual costs inflated three per cent annualy. The cost figures for 1991-1993 are extrapolated from the 1996 figures and inflated three per cent annually (i.e. 1996 dollars).

The extrapolation was done by keeping the dollar per community member ratio constant. The allocations amongst the various intervention all follow the 1996 model.

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# Annex One:

# Project Population Census

RESUMEN DE CENSO POR LOCALIDAD

PROYECTO AYUDA MUTUA PRO-SALUD

1991 - 1996

| # | Año | Localidad | Niños 0-11M | Niños 1-6A | Mujer 15-49A | # Casas | Total Habit |
|---|---|---|---|---|---|---|---|
| -- | ---- | SAN PEDRO CARCHA | ---- | ---- | ---- | ---- | ---- |
| 01 | 1991 | Sechinasis | 18 | 93 | 136 | 88 | 544 |
| 02 | 1991 | Sehubub | 24 | 68 | 113 | 80 | 518 |
| 03 | 1991 | La Esperanza | 04 | 46 | 66 | 43 | 279 |
| 04 | 1991 | Chizón | 24 | 152 | 222 | 176 | 1,025 |
| 05 | 1995 | Chitap | 39 | 186 | 172 | 158 | 851 |
| 06 | 1994 | Chacalté | 60 | 345 | 335 | 264 | 1,553 |
| 07 | 1995 | Changkay | 07 | 117 | 114 | 100 | 571 |
| 08 | 1991 | Tipulcan | 15 | 100 | 138 | 114 | 627 |
| 09 | 1991 | Tzunutz | 04 | 41 | 80 | 50 | 301 |
| 10 | 1994 | Yocbatz | 28 | 120 | 137 | 116 | 608 |
| 11 | 1991 | Chaimal | 37 | 141 | 227 | 172 | 1,015 |
| 12 | 1994 | Tzacanihá | 14 | 73 | 85 | 68 | 359 |
| 13 | 1994 | La Trinidad | 23 | 166 | 214 | 154 | 860 |
| 14 | 1995 | Chiguoyó | 25 | 121 | 113 | 106 | 560 |
| 15 | 1995 | Sepoc-Bancab | 22 | 133 | 145 | 127 | 714 |
| 16 | 1995 | Chijom | 16 | 93 | 89 | 79 | 438 |
| 17 | 1994 | Bancab | 17 | 94 | 135 | 96 | 530 |
| 18 | 1991 | Chitaña | 13 | 51 | 110 | 80 | 498 |
| 19 | 1994 | Sacsi | 16 | 77 | 112 | 84 | 445 |
| 20 | 1994 | Chiqueleu | 23 | 147 | 172 | 123 | 728 |
| 21 | 1994 | Muyha | 45 | 299 | 377 | 255 | 1,500 |
| 22 | 1991 | Chiyo | 66 | 483 | 681 | 510 | 2,946 |
| 23 | 1994 | Chicojl | 37 | 226 | 264 | 178 | 1,104 |
| 24 | 1994 | Setul | 42 | 259 | 284 | 219 | 1,282 |
| 25 | 1991 | Sesimaj | 67 | 175 | 323 | 190 | 1,214 |

| # | Año | Localidad | Niños 0-11M | Niños 1-6A | Mujer 15-49A | # Casas | Total Habit |
|---|---|---|---|---|---|---|---|
| 26 | 1991 | Pocolá | 58 | 304 | 327 | 256 | 1,519 |
| 27 | 1991 | Chiquixji | 184 | 445 | 682 | 424 | 2,769 |
| 28 | 1991 | Rubeltem | 11 | 119 | 182 | 141 | 772 |
| 29 | 1991 | Quixal | 13 | 83 | 117 | 87 | 483 |
| 30 | 1994 | Pequixul | 19 | 187 | 191 | 137 | 885 |
| -- | ---- | COBAN | -- | ---- | ---- | ---- | ---- |
| 31 | 1994 | Ostúa | 30 | 188 | 144 | 119 | 729 |
| 32 | 1994 | Uculá | 14 | 86 | 91 | 57 | 389 |
| 33 | 1994 | Sn. José La Col. | 28 | 185 | 254 | 161 | 910 |
| 34 | 1994 | La N. Esperanza | 96 | 651 | 733 | 514 | 2,920 |
| 35 | 1994 | Coop. Chicoj | 36 | 194 | 221 | 170 | 952 |
| 36 | 1994 | Coop. Samac | 15 | 115 | 117 | 90 | 528 |
| 37 | 1995 | Sn.Pablo Xucaneb | 65 | 288 | 278 | 279 | 1,407 |
| 38 | 1995 | Mestelá | 18 | 116 | 98 | 92 | 496 |
| 39 | 1995 | Tontem | 52 | 291 | 305 | 230 | 1,365 |
| 40 | 1995 | Las Cruces | 23 | 86 | 114 | 89 | 476 |
| 41 | 1995 | Saraxoch | 24 | 141 | 92 | 92 | 490 |
| 50 | 1996 | Yaxbatz | 42 | 218 | 261 | 187 | 1,110 |
| -- | ---- | SAN JUAN CHAMELCO | -- | ---- | ---- | ---- | ---- |
| 42 | 1991 | Lamá | 10 | 87 | 91 | 67 | 409 |
| 43 | 1991 | Chitepey | 04 | 46 | 62 | 49 | 302 |
| 44 | 1991 | Quechival | 04 | 33 | 49 | 30 | 189 |
| 45 | 1991 | Caquipec | 20 | 81 | 136 | 75 | 554 |
| 46 | 1995 | Campat | 33 | 199 | 211 | 180 | 968 |
| 47 | 1995 | Chitixl | 12 | 82 | 85 | 67 | 372 |
| 48 | 1995 | Canasec | 19 | 100 | 103 | 92 | 476 |
| 49 | 1995 | Granadilla | 23 | 83 | 102 | 90 | 468 |
| TOTAL: | | 50 | 1,539 | 8,214 | 9,890 | 7,405 | 43,008 |

# Annex Two:

# IEF Chart of Accounts



2220

17-Aug-95

INTERNATION EYE FOUNDATION
CHART OF ACCOUNTS

600 PERSONNEL

601 Salaries
602
603 Benefits - Pension/Severance
604 Benefits - Housing/Rent
605 Benefits - Insurance
606 Benefits - Other
607
608 Temporary Help
609 Local Consultants

610 OFFICE OPERATIONS

611 Insurance
612 Office Security
613 Printing/Film Dev./Duplication
614 Equipment Maintenance
615 Office Equipment(<$500)
616 Supplies - Office
617 Postage & Courier
618 Office Rent/Util./ Maint.
619 Telephone, Telex & FAX

620 TRAVEL

621 Airfare-International
622 Airfare/Transport-Local
623 Per Diems & Allow.-Int'l
624 Per Diems & Allow.-Local
625 Relocation Costs
626 Vehicle Rental
627 Vehicle - fuel & oil
628 Vehicle - maintenance & spares
629 Vehicle - insur./license/reg.

630 PROJECT SUPPLIES

631 Medical Supplies
632 Gardening Supplies
633 Other Project Supplies
634 Shipping/Storage/Clearing
635 Project Equipment (<$500)

640 TRAINING

641 Supplies
642 Equipment (<$500)
643 Ed. Materials-Books/Sub/Publ
644 Per Diems/Allowances/Meals
645 Transportation
646 Facility Rental
647 Educational Stipends & Alow.
648 Printing/Film Dev./Duplication
649 Volunteer Costs

650 EVALUATIONS & SURVEYS

651 Consultant Fees
652 Consultant Travel & Per Diem
653 Local Consultant Fees
654 Staff Travel
655 Staff Per Diem
659 Other Eval. & Survey Costs

660 OTHER DIRECT COSTS

661 Professional Fees
662 Audit Fees
663 Data Processing Fees
664 Registrations & Dues
665 Other Fees
666 Advertising
667 Interview Costs
668
669 Miscellaneous

680 EQUIPMENT (>$500)

681 Household Furniture
682 Office Furn./Equipment
683 Training Equipment
684 Medical Equipment
685 Vehicle Purchases
686 Construction

# INTERNATION EYE FOUNDATION
# CHART OF ACCOUNTS

## PERSONNEL

601 **Salaries**
All employees paid on a regular basis. It should include any bonus or any vacation payment, back pay or termination payment

603 **Benefits - Pension/Severance**
Payments set aside for when an employee leaves the organization

604 **Benefits - Housing/Rent**
Payments made for or to an employee for housing or rent

605 **Benefits - Insurance**
Payments for premiums of medical insurance or for the direct payment of medical bills

606 **Benefits - Other**
Benefits paid on behalf of an employee which are a condition of employment
Examples are: Leave grant, payment of provisional/driver's license, death benefits, etc.

608 **Temporary Help**
Persons working for the project on a short-term basis usually on daily or weekly wage

609 **Local Consultants**
Persons working for the project on a short-term basis whose job requires special skills

## OFFICE OPERATIONS

611 **Insurance**
The cost of insurance for items such as fire & theft and bonding

612 **Office Security**
Services purchased for security of an office(in or outside the home)

613 **Printing, Film Dev./Duplication**
The costs of photocopying, film development and printing of general office materials

614 **Equipment & Furniture Maintenance**
Maintenance agreements and repairs for equipment & furniture for the project

615 **Office Equipment(<$500)**
Items costing more than $25 (local_____) but less than $500 (local_____) which have a useful life of more than one year
Examples are: fax machine, small photocopiers, calculator

616 **Supplies - Office**
Items having a useful life of less than one year and a unit price of under $500

617 **Postage & Courier**
The costs of postage and courier for local & international dispatch

618 **Office Rent/Util./ Maint.**
Monthly rent, water, electricity, garbage and maintenance (grass cutting) of the office

**Telephone, Telex & FAX**
Telephone & fax charges, line & phone installation and repair

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621 **Airfare-International**
The cost of airline tickets to travel outside the country (may include a local leg) (may include a local leg).

622 **Airfare/Transport-Local**
The cost of airfares, buses and other forms of local transport

623 **Per Diems & Allow.-Int'l**
All costs associated with travel outside the country
Examples are: Lodging, meals, allowances, passports, taxi, visas, taxes etc.

6.. **Per Diems & Allow.-Local**
..l costs associated with travel, lodging & meals (excluding transport) within the country which are of a general nature (e.g. meals at staff meetings) parking

625 **Relocation Costs**
The costs to move an employee from one sight to another

626 **Vehicle Rental** (self explanatory)

627 **Vehicle - fuel & oil** (self explanatory)

628 **Vehicle - maintenance & spares** (self explanatory)

629 **Vehicle - insurance/license/reg.** (self explanatory)

## PROJECT SUPPLIES

631 **..l Supplies**
Examples are: Vitamin A, ORS, etc.

632 **Gardening Supplies**
Examples are: Seeds, tools & fertilizer

→ 633 **Other Project Supplies**
Supplies purchased for the project which do not fall into any of the other catagories of office, training, gardening or medical (e.g. survey forms)

634 **Shipping/Storage/Clearing**
The cost of shipping items by sea or air freight plus any customs charges or storage costs

635 **Project Equipment (<$500)**
Equipment purchased for the project which do fall into any of the other catagories of office or training and are less than $500 (local_____)
Examples are: Refrigerator, furniture for employee household

## TRAINING

641 **Supplies**
Items used for training purposes having a useful life of less than one year and a unit price of under $500
Certificates & trophies for raise sports

642 Equipment (<$500)
Items costing more than $25 (local_____) but less than $500 (local_____)
which have a useful life of more than one year and used for training purposes
Examples are: overhead and slide projectors, cameras etc.

643 Educational Materials & Training
The cost for materials which can be used to educate staff or community personnel
Examples are: Radio spots, employee training courses, books, subscriptions & publication

644 Per Diems/Allowances/Meals
The costs of meals, drinks or daily allowances given to participants during a training course (may include staff and others)

645 Transportation
The cost of transporting participants of training courses to, during & from the course

646 Facility Rental
The cost of renting space to put on a training, may include break costs but should not include meals which are charged to account # 644

647 Educational Stipends & Alow.
Only to be used by head office or when authorized to do so
Otherwise you should use account # 644

## EVALUATIONS & SURVEYS

651 Consultant Fees
652 Consultant Travel & Per Diem
653 Local Consultant Fees
654 Staff Travel
655 Staff Per Diem

## OTHER DIRECT COSTS

661 Professional Fees
662 Audit Fees
663 Data Processing Fees
664 Registrations & Dues
665 Other Fees
666 Advertising
667 Interview Costs
668 Depreciat[illegible]
669 Miscellan[illegible]s

## EQUIPMENT (>$500)

681 Household Furniture
682 Office Furn./Equipment
683 Training Equipment
684 Medical Equipment
685 Vehicle Purchases
[illegible] Construction

Items having a unit price over $500 (local_____)
" " " " " " " " "
" " " " " " " " "
" " " " " " " " "
" " " " " " " " "
" " " " " " " " "

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# Annex Three:

# Sample Time Sheets

Martha L. Burdick de Peña
Employee Signature

# INTERNATIONAL EYE FOUNDATION

TIME REPORT FOR THE MONTH OF December 1996

Supervisory Approval

| ACTIVITY ALLOCATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Cuban | | 0 | 7 | 2 | 2 | 0 | | | 11 | 10 | 7 | 1 | 1 | 1 | | 9 | 3 | 7 | 1 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62/24% |
| EDI | | 0 | 0 | 1 | 0 | 0 | | | 0 | 0 | 1 | 2 | 8 | 7 | | 2 | 4 | 3 | 3 | 6 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37/14% |
| OMNI | | 14 | 4 | 7 | 10 | 9 | | | 0 | 0 | 1 | 2 | 1 | 1 | | 1 | 1 | 0 | 1 | 1 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53/20% |
| Hatching Grant - Orlando | | 0 | 0 | 0 | 0 | 0 | | | 1 | 0 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2/ 1% |
| Admin./Financial | | 0 | 4 | 2 | 0 | 0 | | | 3 | 4 | 3 | 5 | 2 | 2 | | 2 | 2 | 1 | 4 | 3 | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37/14% |
| Holiday | | | | | | | | | | | | | | | | | | | | | | | | 4 | 8 | | | | | | 4 | 16/ 6% |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 8 | 8 | 8 | 8 | 4 | 44/17% |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | 8 | 4 | | | | | | | | 12/ 4% |
| OTHER - Comp-Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL HOURS | | 14 | 15 | 12 | 12 | 9 | — | — | 15 | 14 | 12 | 11 | 12 | 11 | — | 14 | 10 | 1 | 9 | 10 | — | — | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 263/100% |
| | | C | C | G/C | Q | G/C | | | G/C | C | C | G | G | G | | C | G | G | G | G | | | | | | | | | | | | |

G = Guatemala
C = Cuban
Q = Quetzaltenango

Martha of Burdick de PSta
Employee Signature

# INTERNATIONAL EYE FOUNDATION

TIME REPORT FOR THE MONTH OF November 1996

Supervisory Approval

| ACTIVITY ALLOCATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Cebán | 0 | | | 3 | 1 | 13 | 8 | 2 | | | 5 | 3 | 10 | 10 | 1 | | | 0 | 12 | 10 | 2 | 2 | | | 2 | 1 | 1 | 0 | 3 | | | 89/42% |
| EDI | 0 | | | 2 | 2 | 0 | 1 | 1 | | | 1 | 3 | 0 | 0 | 2 | | | 0 | 0 | 0 | 2 | 1 | | | 2 | 0 | 2 | 0 | 2 | | | 21/10% |
| OMNI | 0 | | | 1 | 0 | 0 | 0 | 1 | | | 2 | 1 | 2 | 0 | 2 | | | 0 | 0 | 1 | 3 | 2 | | | 3 | 1 | 2 | 0 | 1 | | | 22/10% |
| Matching Grant-Orlando | 0 | | | 0 | 2 | 0 | 0 | 0 | | | 2 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | | | 3 | 0 | 0 | 0 | 0 | | | 7/3% |
| Admin./Financial | 0 | | | 3 | 5 | 0 | 2 | 5 | | | 1 | 3 | 0 | 2 | 5 | | | 0 | 0 | 1 | 2 | 6 | | | 1 | 1 | 4 | 0 | 4 | | | 45/21% |
| Holiday | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | | | | 16/8% |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | | | | | | 5/2% |
| OTHER - Comp. Time | | | | | | | | | | | | | | | | | | 8 | | | | | | | | | | | | | | 8/4% |
| TOTAL HOURS | 8 | — | — | 9 | 10 | 13 | 11 | 9 | — | — | 11 | 10 | 12 | 12 | 10 | — | — | 8 | 12 | 12 | 9 | 11 | — | — | 11 | 8 | 9 | 8 | 10 | — | — | 213/100% |
| | | | | G | G | C | C/G | G | | | G | G | C | C/G | G | | | | C | C/G | G | G | | | G | G | G | | G | | | |

G = Guatemala
C = Cebán

C → C

Martha of Beurdick de Pista
Employee Signature

# INTERNATIONAL EYE FOUNDATION

TIME REPORT FOR THE MONTH OF October 1996

Supervisory Approval

| ACTIVITY ALLOCATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Cobán | 2 | 8 | 8 | 9 | | | 7 | 11 | 9 | 7 | 6 | 2 | | 6 | 1 | 5 | 10 | 4 | | | 10 | 8 | 6 | 7 | 10 | | | 5 | 5 | 9 | 9 | 164/63% |
| EDI | 3 | 0 | 1 | 0 | | | 2 | 0 | 0 | 2 | 3 | 0 | | 1 | 1 | 0 | 0 | 1 | | | 3 | 1 | 1 | 1 | 0 | | | 4 | 1 | 2 | 1 | 28/11% |
| OMNI | 4 | 0 | 0 | 0 | | | 1 | 0 | 2 | 0 | 1 | 0 | | 1 | 2 | 3 | 0 | 1 | | | 1 | 1 | 3 | 0 | 0 | | | 0 | 1 | 1 | 0 | 22/8% |
| Matching Grant - Orlando | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 2 | 1 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 3/1% |
| Proposals - PATH | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 1 | 0 | | | 0 | 0 | 0 | 0 | 1/0% |
| Admm. / Financial | 1 | 3 | 2 | 0 | | | 4 | 1 | 2 | 2 | 1 | 0 | | 3 | 3 | 3 | 0 | 3 | | | 1 | 1 | 2 | 1 | 0 | | | 2 | 3 | 4 | 2 | 44/17% |
| Holiday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL HOURS | 10 | 11 | 11 | 9 | — | | 14 | 12 | 13 | 11 | 11 | 2 | — | 11 | 9 | 12 | 10 | 9 | — | | 15 | 11 | 12 | 10 | 10 | — | | 11 | 10 | 16 | 12 | 262/100% |
| | G | G | G | G | | | G/C | C | C/G | G | G | G | | G | G | G | G | G | | | G/C | C | G | G | G | | | G | G/C | C | C/G | |

G = Guatemala
C = Cobán

Martha of Berdick de Pista
Employee Signature

# INTERNATIONAL EYE FOUNDATION

TIME REPORT FOR THE MONTH OF September 1996

Supervisory Approval

| ACTIVITY ALLOCATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Coban | | 5 | 4 | 0 | 4 | 3 | | | 5 | 10 | 2 | 5 | 14 | 1 | | 4 | 3 | 1 | 2 | 0 | 0 | | 2 | 2 | 0 | 4 | 7 | | | 2 | | 80/33% |
| EDI | | 0 | 2 | 2 | 2 | 4 | | | 1 | 0 | 1 | 3 | 0 | 0 | | 2 | 2 | 1 | 6 | 10 | 3 | | 9 | 1 | 12 | 4 | 1 | | | 1 | | 67/28% |
| OMNI | | 8 | 2 | 2 | 2 | 1 | | | 1 | 0 | 3 | 1 | 0 | 0 | | 1 | 0 | 2 | 0 | 0 | 0 | | 0 | 2 | 0 | 1 | 0 | | | 4 | | 30/12% |
| Matching Grant - Orlando | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | | 1 | 1 | 2 | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | | 1 | | 6/2% |
| Proposals - PATH | | 0 | 0 | 2 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 2 | | 0 | 1 | 2 | 0 | 1 | 0 | | 0 | 4 | 0 | 2 | 0 | | | 0 | | 14/6% |
| Admin./Financial | | 3 | 3 | 4 | 3 | 2 | | | 3 | 0 | 4 | 1 | 0 | 0 | | 3 | 3 | 1 | 1 | 1 | 1 | | 1 | 2 | 0 | 3 | 5 | | | 3 | | 47/19% |
| Holiday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL HOURS | | 16 | 11 | 10 | 11 | 10 | | | 10 | 10 | 10 | 10 | 14 | 3 | | 11 | 10 | 9 | 10 | 12 | 4 | | 12 | 11 | 12 | 14 | 13 | | | 11 | | 244/100% |
| | | C | G/C | G | G | G | | | G | G | G | G/C | C | G | | G | G | G | G | G | G | | G/C | C | C | C | C | | | G | | |

G = Guatemala
C = Cobán

Martha A. Burdick de Peña
Employee Signature

# INTERNATIONAL EYE FOUNDATION

Supervisory Approval

TIME REPORT FOR THE MONTH OF August 1996

| ACTIVITY ALLOCATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Cobán | 1 | 9 | | | 2 | 0 | 0 | 0 | 1 | | | 8 | 0 | 1 | 5 | 0 | 0 | | 1 | 1 | 1 | 2 | 0 | | | 2 | 0 | 3 | 2 | 0 | | 39/15% |
| EDI | 3 | 0 | | | 3 | 5 | 0 | 1 | 4 | | | 2 | 0 | 4 | 2 | 0 | 0 | | 3 | 0 | 3 | 2 | 0 | | | 5 | 5 | 2 | 4 | 0 | | 48/19% |
| OMNI | 5 | 4 | | | 2 | 6 | 11 | 8 | 2 | | | 0 | 12 | 6 | 5 | 15 | 0 | | 0 | 0 | 1 | 2 | 0 | | | 1 | 1 | 0 | 0 | 12 | | 93/37% |
| Matching Grant - Orlando | 0 | 1 | | | 1 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | | 1 | 1 | 2 | 0 | 0 | | | 0 | 1 | 0 | 0 | 0 | | 7/3% |
| Proposals - PATH | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | 0 | | 2 | 6 | 1 | 0 | 0 | | | 2 | 2 | 3 | 3 | 0 | | 19/8% |
| Admin./Financial | 1 | 1 | | | 3 | 2 | 1 | 3 | 1 | | | 4 | 0 | 1 | 0 | 0 | 4 | | 2 | 3 | 2 | 3 | 0 | | | 1 | 2 | 3 | 2 | 0 | | 39/15% |
| Holiday | | | | | | | | | | | | | | | | | | | | | | | 8 | | | | | | | | | 8/3% |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER - Comp. Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL HOURS | 10 | 15 | | | 11 | 13 | 12 | 12 | 8 | | | 14 | 12 | 11 | 12 | 15 | 4 | | 9 | 11 | 10 | 9 | 8 | | | 11 | 11 | 11 | 11 | 12 | | 253/100% |
| | G | G | | | G | C | C | C | G | | | C | C | C | C | C | G | | G | G | G | G | | | | G | G | G | G | Q | | |

G = Guatemala
C = Cobán
Q = Quetzaltenango

Martha A. Burdick de Pista
. Employee Signature

# INTERNATIONAL EYE FOUNDATION

TIME REPORT FOR THE MONTH OF July 1996

Supervisory Approval

| ACTIVITY ALLOCATIO | M 1 | T 2 | W 3 | TR 4 | F 5 | S 6 | S 7 | M 8 | T 9 | W 10 | TR 11 | F 12 | S 13 | S 14 | M 15 | T 16 | W 17 | TR 18 | F 19 | S 20 | S 21 | M 22 | T 23 | W 24 | TR 25 | F 26 | S 27 | S 28 | M 29 | T 30 | W 31 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Child Survival - Cobán | 0 | 1 | 0 | 2 | 9 | | 0 | 0 | 1 | 1 | 4 | 0 | | | 1 | 1 | 0 | 0 | 5 | | | 0 | 0 | 0 | 0 | 2 | | | 2 | 1 | 1 | 31 / 12% |
| EDI | 0 | 9 | 7 | 6 | 0 | | 1 | 8 | 5 | 9 | 3 | 9 | | | 7 | 6 | 7 | 5 | 4 | | | 9 | 10 | 11 | 10 | 6 | | | 4 | 1 | 6 | 143/54% |
| OMNI | 0 | 1 | 3 | 1 | 0 | | 1 | 2 | 2 | 0 | 2 | 2 | | | 3 | 4 | 5 | 4 | 3 | | | 0 | 0 | 0 | 0 | 2 | | | 3 | 8 | 4 | 50/19% |
| Matching Grant - Orlando | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 01 / 0% |
| Admin./Financial | 0 | 1 | 2 | 2 | 4 | | 1 | 2 | 3 | 2 | 2 | 0 | | | 1 | 1 | 0 | 2 | 0 | | | 2 | 1 | 2 | 0 | 1 | | | 1 | 1 | 1 | 32/12% |
| Holiday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANNUAL LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SICK LEAVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER - Comp Time | 8 | — | — | — | — | | — | — | — | — | — | — | | | — | — | — | — | — | | | — | — | — | — | — | | | — | — | — | 8 / 3% |
| TOTAL HOURS | 8 | 12 | 12 | 11 | 13 | | 3 | 12 | 12 | 11 | 11 | 11 | | | 12 | 12 | 12 | 11 | 12 | | | 11 | 11 | 13 | 10 | 11 | | | 10 | 11 | 12 | 264/100% |
| | G | G | G | G | C | | C | G | G | G | G | G | | | G | G | Q | G | G | | | G | Q | Q | G | G | | | G | G | G | |

G = Guatemala
C = Cobán
Q = Quetzaltenango

Lily's visit

# Annex Four:

# Sample Financial Data

Coban Check Register Accnt # 76319-3
3/ 1/97 Through 3/31/97

BANKRT-acct 76319-3
5/ 2/97



| Date | Num | Description | Memo | Category | Clr | Amount |
|---|---|---|---|---|---|---|
| | BALANCE 2/28/97 | | | | | 22,468.65 |
| 3/ 4 | 22284 | Alvaro Freddy Rey Col | Mantenance of computers | 614/COBAN-OMNI | | -700.00 |
| 3/ 4 | 22285 | Gasolinera Texaco Carcha | Fuel / February | 627/COBAN-OMNI | | -361.15 |
| 3/ 6 | 22286 | Radio Marinala, S.A. | Radio Spots | 643/COBAN-OMNI | | -221.10 |
| 3/ 6 | 22287 | REPENSA | Fuel / February | 627/COBAN-OMNI | | -822.34 |
| 3/ 6 | 22288 | Emisoras Unidas de Guatemala | Radio Spots | 643/COBAN-OMNI | | -225.42 |
| 3/ 6 | 22289 | Luis Enrique Poc Conde | Repair of motorcycle | 628/COBAN-OMNI | | -1,035.85 |
| 3/10 | | Deposit | Reinburcement sees | 632 | | 72.00 |
| 3/10 | | Deposit | Reinburcement terramicina | 631 | | 66.00 |
| 3/12 | 22290 | Luis Enrique Poc Conde | Repair of motorcycle | 628/COBAN-OMNI | | -702.70 |
| 3/12 | 22291 | VOID: | | | X | 0.00 |
| 3/14 | 22292 | Carlos Abel Medina Ac | Bonus | 601 | | -1,533.60 |
| 3/14 | 22293 | Edgar Raul Pacay Yalibat | Honoraria | 661 | | -250.00 |
| 3/14 | 22294S | Ana Elisa PETTY CASH | Office Supplies | 616/COBAN-OMNI | | -370.15 |
| | | | Postage & Courier | 617/COBAN-OMNI | | -37.00 |
| | | | Office Rent/Util./Maintenan | 618/COBAN-OMNI | | -20.00 |
| | | | Airfare Transport-Local | 622/COBAN-OMNI | | -569.50 |
| | | | Per Diem & Allow-Local | 624/COBAN-OMNI | | -285.00 |
| | | | Vehicle Fuel & Oil | 627/COBAN-OMNI | | -18.00 |
| | | | Vehicle Maintenances & Spar | 628/COBAN-OMNI | | -262.05 |
| | | | Per Diem/Allowance/Meal | 644/COBAN-OMNI | | -25.00 |
| 3/14 | 22295 | Zoila Caal Yat | Subsidy month of febrero | 601/COBAN-OMNI | | -1,815.00 |
| 3/24 | 22296 | Cristina Ponce | Classes of computers to supervi | 608/COBAN-OMNI | | -300.00 |
| 3/24 | | Deposit | Equivalent to $. 5,000.00 | IEF GUAT. | | 29,900.00 |
| 3/25 | 22297S | Banco Granai & Townnson | Maria C. Ayala, Salary mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Ricardo Bin Jor, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Carlos H. Caal C. Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Francisco Caal M. Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Maria E. de Can, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Sonia A. Coc I., Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Matilde Cu Cacao, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Jose A. Cucul P., Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Aura E. Chen Xol, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Carlos Chub, Sal. Sal. mar | 601/COBAN-OMNI | | -1,056.50 |
| | | | Enrique Fernandez, Sal. mar | 601/COBAN-OMNI | | -2,117.50 |
| | | | Leticia Mendoza, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Abelina Pop, Salary march | 601/COBAN-OMNI | | -750.00 |
| | | | Alvaro O. Sierra, Sal. mar. | 601/COBAN-OMNI | | -1,500.00 |
| | | | Luis O. Sierra C. Sal. mar. | 601/COBAN-OMNI | | -2,117.50 |
| | | | Gilberto Soria, Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Ana Elisa Valdez A. Sal.mar | 601/COBAN-OMNI | | -1,500.00 |
| | | | Fidelina Tux Chub, Sal. mar | 601/COBAN-OMNI | | -1,056.50 |
| | | | Juan Tzimaaj C., Sal. mar. | 601/COBAN-OMNI | | -1,056.50 |
| | | | Julio Galvez, Sub. march | 601/COBAN-OMNI | | -1,815.00 |
| 3/31 | 22298 | Maria Cristina Ayala | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22299 | VOID: | | | X | 0.00 |
| 3/31 | 22300 | Carlos H. Caal Chen | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22301 | Francisco Caal M. | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22302 | Maria E. Ac de Can | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22303 | Sonia Coc Ical | Bonus March | 601/COBAN-OMNI | | -150.00 |

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| Date | Num | Description | Memo | Category | Clr | Amount |
|---|---|---|---|---|---|---|
| 3/31 | 22304 | Matilde Cu Cacao | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22305 | Jose Alfonso Cucul p. | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22306 | Aura Esmeralda Chen Xol | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22307 | Carlos Chub | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22308 | Leticia Mendoza | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22309 | Gilberto Soria | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22310 | Fidelina Tux Ch. | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22311 | Juan Tzimaaj C | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22312 | Enrique Fernandez Acte | Bonus | 601/COBAN-OMNI | | -600.00 |
| 3/31 | 22313 | Julio Antonio Galvez | Bonus | 601/COBAN-OMNI | | -500.00 |
| 3/31 | 22314 | Alvaro Oswaldo Sierra Chavarria | Bonus | 601/COBAN-OMNI | | -200.00 |
| 3/31 | 22315 | Luis Obdulio Sierra Chavarria | Bonus | 601/COBAN-OMNI | | -400.00 |
| 3/31 | 22316 | Ricardo Bin Jor | Bonus March | 601/COBAN-OMNI | | -150.00 |
| 3/31 | 22317 | VOID: | | | X | 0.00 |
| 3/31 | 22318 | REPENSA | Fuel / March | 627/COBAN-OMNI | | -610.38 |
| 3/31 | 22319 | Gasolinera Texaco Carcha | Fuel / March | 627/COBAN-OMNI | | -365.15 |
| 3/31 | 22320S | Ana Elisa PETTY CASH | Temporary Help | 608/COBAN-OMNI | | -100.00 |
| | | | Printing/Film Dev./Duplicat | 613/COBAN-OMNI | | -76.84 |
| | | | Office Supplies | 616/COBAN-OMNI | | -68.40 |
| | | | Postage & Courier | 617/COBAN-OMNI | | -43.00 |
| | | | Office Rent/Util./Maint. | 618/COBAN-OMNI | | -15.80 |
| | | | Vehicle Fuel & Oil | 627/COBAN-OMNI | | -95.75 |
| | | | Vehicle maintenance & spare | 628/COBAN-OMNI | | -139.00 |
| 3/31 | 22321 | Jose Ramon Molina Barrientos | Repair vehicles | 628/COBAN-OMNI | | -288.20 |
| 3/31 | 22322 | Alvaro Oswaldo Sierra Chavarria | Bonus | 601/COBAN-OMNI | | -300.00 |
| 3/31 | 22323 | Guatel | Telephone | 619/COBAN-OMNI | | -328.52 |
| 3/31 | 22324 | Ana Elisa Valdez Aguilar | Per diems Staff | 655 | | -453.00 |
| 3/31 | 22325 | Cafeteria Santa Rita | Meals | 655 | | -625.50 |
| 3/31 | 45251 | Saira Patricia Aguilar | Photocopies | 613 | | -1,137.50 |
| 3/31 | 45252 | Alberto Chen | Repair vehicle Suzuki | 628 | | -700.00 |
| 3/31 | 45253S | Maria Cristina Ayala | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45254S | Ricardo Bin Jor | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45255S | Carlos Heriberto Caal | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45256S | Francisco Caal Mucu | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45257S | Maria Elena Ac de Can | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45258S | Sonia Antonieta Coc Ical | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |

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| Date | Num | Description | Memo | Category | Clr | Amount |
|---|---|---|---|---|---|---|
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45259S | Matilde Cu Cacao | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45260S | Jose Alfonso Cucul Pop | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45261S | Aura Esmeralda Chen Xol | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45262S | Carlos Chub | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45263S | Enrique Fernandez Acte | Vacation | 601 | | -261.15 |
| | | | Xmas Bonus | 601 | | -522.12 |
| | | | Bonus 14 | 601 | | -1,058.75 |
| | | | Severance pay | 603 | | -1,231.83 |
| 3/31 | 45264S | Leticia Aracely Mendoza Saanta | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45265S | Abelina Pop | Vacation | 601 | | -92.50 |
| | | | Xmas Bonus | 601 | | -184.93 |
| | | | Bonus 14 | 601 | | -375.00 |
| | | | Severance pay | 603 | | -436.30 |
| 3/31 | 45266S | Luis Obdulio Sierra Chavarria | Vacation | 601 | | -261.15 |
| | | | Xmas Bonus | 601 | | -522.12 |
| | | | Bonus 14 | 601 | | -1,058.75 |
| | | | Severance pay | 603 | | -1,231.83 |
| 3/31 | 45267S | Gilberto Leonel Soria Lem | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45268S | Fidelina Tux Chub | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45269S | Juan Tzimaaj Cacao | Vacation | 601 | | -130.31 |
| | | | Xmas Bonus | 601 | | -260.51 |
| | | | Bonus 14 | 601 | | -528.25 |
| | | | Severance pay | 603 | | -614.60 |
| 3/31 | 45270S | Juan Tzimaaj Cacao | Vacation | 601 | | -96.50 |
| | | | Xmas Bonus | 601 | | -151.76 |
| | | | Bonus 14 | 601 | | -196.43 |
| | | | Severance pay | 603 | | -177.05 |
| 3/31 | 45271 | VOID: | | | X | 0.00 |
| 3/31 | 45272 | Luis Enrique Poc Conde | Repair of motorcycle | 628 | | -693.50 |

Coban Check Register Accnt # 76319-3
3/ 1/97 Through 3/31/97

BANKRT-acct 76319-3
5/ 2/97



| Date | Num | Description | Memo | Category | Clr | Amount |
|---|---|---|---|---|---|---|
| 3/31 | 45273 | Ana Elisa Valdez Aguilar | Per diems Staff | 624 | | -1,350.00 |
| 3/31 | 45274S | Alvaro Oswaldo Sierra Chavarria | Vacation | 601 | | -179.86 |
| | | | Xmas Bonus | 601 | | -359.59 |
| | | | Bonus 14 | 601 | | -729.17 |
| | | | Severance pay | 603 | | -848.36 |
| | TOTAL 3/ 1/97 - 3/31/97 | | | | | -46,743.93 |
| | BALANCE 3/31/97 | | | | | -24,275.28 |
| | TOTAL INFLOWS | | | | | 30,038.00 |
| | TOTAL OUTFLOWS | | | | | -76,781.93 |
| | NET TOTAL | | | | | -46,743.93 |

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# Register Report

3/1/97 Through 3/31/97 (in Quetzales)

5/5/97
acct 76319-3



| Date | Num | Description | Memo | Category | Amount |
|---|---|---|---|---|---|
| | BALANCE 2/28/97 | | | | 22,468.65 |
| 3/4/97 | 22284 | Alvaro Freddy Rey Col | Mantenance of computers | 614/COBAN-O... | -700.00 |
| 3/4/97 | 22285 | Gasolinera Texaco Car... | Fuel / February | 627/COBAN-O... | -361.15 |
| 3/6/97 | 22286 | Radio Marinala, S.A. | Radio Spots | 643/COBAN-O... | -221.10 |
| 3/6/97 | 22287 | REPENSA | Fuel / February | 627/COBAN-O... | -822.34 |
| 3/6/97 | 22288 | Emisoras Unidas de G... | Radio Spots | 643/COBAN-O... | -225.42 |
| 3/6/97 | 22289 | Luis Enrique Poc Conde | Repair of motorcycle | 628/COBAN-O... | -1,035.85 |
| 3/10/97 | | Deposit | Reinbursement sees | 632 | 72.00 |
| 3/10/97 | | Deposit | Reinbursement terramicina | 631 | 66.00 |
| 3/12/97 | 22290 | Luis Enrique Poc Conde | Repair of motorcycle | 628/COBAN-O... | -702.70 |
| 3/12/97 | 22291 | VOID: | | | 0.00 |
| 3/14/97 | 22292 | Carlos Abel Medina Ac | Bonus | 601 | -1,533.60 |
| 3/14/97 | 22293 | Edgar Raul Pacay Yali... | Legal Professional fees | 661 | -250.00 |
| 3/14/97 | 22294 S | Ana Elisa PETTY CA... | Office Supplies | 616/COBAN-O... | -370.15 |
| | | | Postage & Courier | 617/COBAN-O... | -37.00 |
| | | | Office Rent/Util./Maintenan | 618/COBAN-O... | -20.00 |
| | | | Airfare Transport-Local | 622/COBAN-O... | -569.50 |
| | | | Per Diem & Allow-Local | 624/COBAN-O... | -285.00 |
| | | | Vehicle Fuel & Oil | 627/COBAN-O... | -18.00 |
| | | | Vehicle Maintenances & S... | 628/COBAN-O... | -262.05 |
| | | | Per Diem/Allowance/Meal | 644/COBAN-O... | -25.00 |
| 3/14/97 | 22295 | Zoila Caal Yat | Subsidy month of febrero | 601/COBAN-O... | -1,815.00 |
| 3/24/97 | | Deposit | Equivalent to $. 5,000.00 | IEF GUAT. | 29,900.00 |
| 3/24/97 | 22296 | Cristina Ponce | Classes of computers to su... | 608/COBAN-O... | -300.00 |
| 3/25/97 | 22297 S | Banco Granai & Tow... | Maria C. Ayala, Salary mar. | 601/COBAN-O... | -1,056.50 |
| | | | Ricardo Bin Jor, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Carlos H. Caal C. Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Francisco Caal M. Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Maria E. de Can, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Sonia A. Coc I., Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Matilde Cu Cacao, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Jose A. Cucul P., Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Aura E. Chen Xol, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Carlos Chub, Sal. march | 601/COBAN-O... | -1,056.50 |
| | | | Enrique Fernandez, Sal. mar | 601/COBAN-O... | -2,117.50 |
| | | | Leticia Mendoza, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Abelina Pop, Salary march | 601/COBAN-O... | -750.00 |
| | | | Alvaro O. Sierra, Sal. mar. | 601/COBAN-O... | -1,500.00 |
| | | | Luis O. Sierra C. Sal. mar. | 601/COBAN-O... | -2,117.50 |
| | | | Gilberto Soria, Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Ana Elisa Valdez A. Sal.mar | 601/COBAN-O... | -1,500.00 |
| | | | Fidelina Tux Chub, Sal. mar | 601/COBAN-O... | -1,056.50 |
| | | | Juan Tzimaaj C., Sal. mar. | 601/COBAN-O... | -1,056.50 |
| | | | Julio Galvez, Sub. march | 601/COBAN-O... | -1,815.00 |
| 3/31/97 | 22298 | Maria Cristina Ayala | Bonus March | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22299 | VOID: | | | 0.00 |
| 3/31/97 | 22300 | Carlos H. Caal Chen | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22301 | Francisco Caal M. | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22302 | Maria E. Ac de Can | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22303 | Sonia Coc Ical | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22304 | Matilde Cu Cacao | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22305 | Jose Alfonso Cucul p. | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22306 | Aura Esmeralda Chen ... | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22307 | Carlos Chub | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22308 | Leticia Mendoza | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22309 | Gilberto Soria | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22310 | Fidelina Tux Ch. | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22311 | Juan Tzimaaj C | Bonus march | 601/COBAN-O... | -150.00 |

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# Register Report

3/1/97 Through 3/31/97 (in Quetzales)

5/5/97
acct 76319-3



| Date | Num | Description | Memo | Category | Amount |
|---|---|---|---|---|---|
| 3/31/97 | 22312 | Enrique Fernandez Acte | Bonus | 601/COBAN-O... | -600.00 |
| 3/31/97 | 22313 | Julio Antonio Galvez | Bonus march | 601/COBAN-O... | -500.00 |
| 3/31/97 | 22314 | Alvaro Oswaldo Sierra... | Bonus march | 601/COBAN-O... | -200.00 |
| 3/31/97 | 22315 | Luis Obdulio Sierra C... | Bonus march | 601/COBAN-O... | -400.00 |
| 3/31/97 | 22316 | Ricardo Bin Jor | Bonus march | 601/COBAN-O... | -150.00 |
| 3/31/97 | 22317 | VOID: | | | 0.00 |
| 3/31/97 | 22318 | REPENSA | Fuel / March | 627/COBAN-O... | -610.38 |
| 3/31/97 | 22319 | Gasolinera Texaco Car... | Fuel / March | 627/COBAN-O... | -365.15 |
| 3/31/97 | 22320 S | Ana Elisa PETTY CA... | Temporary Help | 608/COBAN-O... | -100.00 |
| | | | Printing/Film Dev./Duplicat | 613/COBAN-O... | -76.84 |
| | | | Office Supplies | 616/COBAN-O... | -68.40 |
| | | | Postage & Courier | 617/COBAN-O... | -43.00 |
| | | | Office Rent/Util./Maint. | 618/COBAN-O... | -15.80 |
| | | | Vehicle Fuel & Oil | 627/COBAN-O... | -95.75 |
| | | | Vehicle maintenance & sp... | 628/COBAN-O... | -139.00 |
| 3/31/97 | 22321 | Jose Ramon Molina B... | Repair vehicles | 628/COBAN-O... | -288.20 |
| 3/31/97 | 22322 | Alvaro Oswaldo Sierra... | Bonus | 601/COBAN-O... | -300.00 |
| 3/31/97 | 22323 | Guatel | Telephone | 619/COBAN-O... | -328.52 |
| 3/31/97 | 22324 | Ana Elisa Valdez Agui... | Per Diems Staff | 655 | -453.00 |
| 3/31/97 | 22325 | Cafeteria Santa Rita | Meals | 655 | -625.50 |
| 3/31/97 | 45251 | Saira Patricia Aguilar ... | Photocopies | 613 | -1,137.50 |
| 3/31/97 | 45252 | Alberto Chen | Repair Vehicle Suzuki | 628 | -700.00 |
| 3/31/97 | 45253 S | Maria Cristina Ayala | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45254 S | Ricardo Bin Jor | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45255 S | Carlos Heriberto Caal ... | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45256 S | Francisco Caal Mucu | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45257 S | Maria Elena Ac de Can | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45258 S | Sonia Antonieta Coc I... | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45259 S | Matilde Cu Cacao | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45260 S | Jose Alfonso Cucul Pop | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45261 S | Aura Esmeralda Chen ... | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45262 S | Carlos Chub | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |

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# Register Report

3/1/97 Through 3/31/97 (in Quetzales)

5/5/97
acct 76319-3



| Date | Num | Description | Memo | Category | Amount |
|---|---|---|---|---|---|
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45263 S | Enrique Fernandez Acte | Vacation | 601 | -261.15 |
| | | | Xmas bonus | 601 | -522.12 |
| | | | Bonus 14 | 601 | -1,058.75 |
| | | | Severance pay | 603 | -1,231.83 |
| 3/31/97 | 45264 S | Leticia Aracely Mendo... | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45265 S | Abelina Pop | Vacation | 601 | -92.50 |
| | | | Xmas Bonus | 601 | -184.93 |
| | | | Bonus 14 | 601 | -375.00 |
| | | | Severance pay | 603 | -436.30 |
| 3/31/97 | 45266 S | Luis Obdulio Sierra C... | Vacation | 601 | -261.15 |
| | | | Xmas bonus | 601 | -522.12 |
| | | | Bonus 14 | 601 | -1,058.75 |
| | | | Severance pay | 603 | -1,231.83 |
| 3/31/97 | 45267 S | Gilberto Leonel Soria ... | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45268 S | Fidelina Tux Chub | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45269 S | Juan Tzimaaj Cacao | Vacation | 601 | -130.31 |
| | | | Xmas Bonus | 601 | -260.51 |
| | | | Bonus 14 | 601 | -528.25 |
| | | | Severance pay | 603 | -614.60 |
| 3/31/97 | 45270 S | Ana Elisa Valdez Agui... | Vacation | 601 | -96.50 |
| | | | Xmas bonus | 601 | -151.76 |
| | | | Bonus 14 | 601 | -196.43 |
| | | | Severance pay | 603 | -177.05 |
| 3/31/97 | 45271 | VOID: | | | 0.00 |
| 3/31/97 | 45272 | Luis Enrique Poc Conde | Repair of motorcycle | 628 | -693.50 |
| 3/31/97 | 45273 | Ana Elisa Valdez Agui... | Per diem staff | 624 | -1,350.00 |
| 3/31/97 | 45274 S | Alvaro Oswaldo Sierra... | Vacation | 601 | -179.86 |
| | | | Xmas Bonus | 601 | -359.59 |
| | | | Bonus 14 | 601 | -729.17 |
| | | | Severance pay | 603 | -848.36 |
| | TOTAL 3/1/97 - 3/31/97 | | | | -46,743.93 |
| | BALANCE 3/31/97 | | | | -24,275.28 |
| | TOTAL INFLOWS | | | | 30,038.00 |
| | TOTAL OUTFLOWS | | | | -76,781.93 |
| | NET TOTAL | | | | -46,743.93 |

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Transaction List

Coban Expense Summary - All Accounts

5/ 1/97



| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 1/18/96 | 40994S | Vacations | 601 | X | -95.67 |
| 1/18/96 | 40994S | Xmas Bonus | 601 | X | -558.55 |
| 1/18/96 | 40994S | Bonus 14 | 601 | X | -558.55 |
| 1/18/96 | 40994S | Salary January | 601 | X | -2,258.00 |
| 1/26/96 | 41000 | Maria Cristina | 601 | X | -1,056.50 |
| 1/26/96 | 41001 | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 1/26/96 | 41003 | Carlos Heribert | 601 | X | -1,056.50 |
| 1/26/96 | 41004 | Francisco Caal | 601 | X | -1,056.50 |
| 1/26/96 | 41005 | Zoila Esperanza | 601 | X | -1,815.00 |
| 1/26/96 | 41006 | Maria Elena Ac | 601 | X | -1,056.50 |
| 1/26/96 | 41007 | Matilde Cu Caca | 601 | X | -1,056.50 |
| 1/26/96 | 41008 | Jose Alfonso Cu | 601 | X | -1,056.50 |
| 1/26/96 | 41009 | Carlos Chub | 601 | X | -1,056.50 |
| 1/26/96 | 41010 | Enrique Fernand | 601 | X | -2,117.50 |
| 1/26/96 | 41011 | Julio Antonio G | 601 | X | -1,815.00 |
| 1/26/96 | 41013 | Leonardo Macz | 601 | X | -1,056.50 |
| 1/26/96 | 41014 | Carlos Abel Med | 601 | X | -1,056.50 |
| 1/26/96 | 41015 | Leticia A. Mend | 601 | X | -1,056.50 |
| 1/26/96 | 41016 | Abelina Pop | 601 | X | -660.00 |
| 1/26/96 | 41017 | Luis Obdulio Si | 601 | X | -2,117.50 |
| 1/26/96 | 41018 | Alvaro Oswaldo | 601 | X | -850.00 |
| 1/26/96 | 41019 | Gilberto Leonel | 601 | X | -1,056.50 |
| 1/26/96 | 41020 | Lourdes Denisse | 601 | X | -2,117.50 |
| 1/26/96 | 41022 | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 1/26/96 | 41023 | Juan Tzimaaj Ca | 601 | X | -1,056.50 |
| 2/ 1/96 | 59801 | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 2/ 9/96 | 59809 | Carmen Yolanda | 601 | X | -1,750.00 |
| 2/29/96 | 59822 | Maria Cristina | 601 | X | -1,056.50 |
| 2/29/96 | 59823 | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 2/29/96 | 59824 | Carlos Heribert | 601 | X | -1,056.50 |
| 2/29/96 | 59825 | Francisco Caal | 601 | X | -1,056.50 |
| 2/29/96 | 59826 | Zoila Esperanza | 601 | X | -1,815.00 |
| 2/29/96 | 59827 | Maria Elena Ac | 601 | X | -1,056.50 |
| 2/29/96 | 59828 | Matilde Cu Caca | 601 | X | -1,056.50 |
| 2/29/96 | 59830 | Jose Alfonso Cu | 601 | X | -1,056.50 |
| 2/29/96 | 59831 | Carlos Chub | 601 | X | -1,056.50 |
| 2/29/96 | 59832 | Enrique Fernand | 601 | X | -2,117.50 |
| 2/29/96 | 59833 | Julio Antonio G | 601 | X | -1,815.00 |
| 2/29/96 | 59834 | Leonardo Macz | 601 | X | -1,056.50 |
| 2/29/96 | 59835 | Carlos Abel Med | 601 | X | -1,056.50 |
| 2/29/96 | 59836 | Leticia A. Mend | 601 | X | -1,056.50 |
| 2/29/96 | 59837 | Abelina Pop | 601 | X | -660.00 |
| 2/29/96 | 59838 | Luis Obdulio Si | 601 | X | -2,117.50 |
| 2/29/96 | 59839 | Alvaro Oswaldo | 601 | X | -850.00 |
| 2/29/96 | 59840 | Gilberto Leonel | 601 | X | -1,056.50 |
| 2/29/96 | 59841 | Lourdes Denisse | 601 | X | -2,117.50 |
| 2/29/96 | 59842 | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 2/29/96 | 59843 | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 2/29/96 | 59844 | Juan Tzimaaj Ca | 601 | X | -1,056.50 |
| 3/20/96 | 59865 | Carmen Yolanda | 601 | X | -2,625.00 |

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Transaction List

Coban Expense Summary - All Accounts



5/ 1/97

| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 3/29/96 | 59870 | Maria Cristina | 601 | X | -1,056.50 |
| 3/29/96 | 59871 | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 3/29/96 | 59872 | Carlos Heribert | 601 | X | -1,056.50 |
| 3/29/96 | 59873 | Francisco Caal | 601 | X | -1,056.50 |
| 3/29/96 | 59874 | Zoila Esperanza | 601 | X | -1,815.00 |
| 3/29/96 | 59876 | Maria Elena Ac | 601 | X | -1,056.50 |
| 3/29/96 | 59877 | Matilde Cu Caca | 601 | X | -1,056.50 |
| 3/29/96 | 59879 | Jose Alfonso Cu | 601 | X | -1,056.50 |
| 3/29/96 | 59880 | Carlos Chub | 601 | X | -1,056.50 |
| 3/29/96 | 59881 | Enrique Fernand | 601 | X | -2,117.50 |
| 3/29/96 | 59882 | Julio Antonio G | 601 | X | -1,815.00 |
| 3/29/96 | 59883 | Leonardo Macz | 601 | X | -1,056.50 |
| 3/29/96 | 59884 | Carlos Abel Med | 601 | X | -1,056.50 |
| 3/29/96 | 59885 | Leticia A. Mend | 601 | X | -1,056.50 |
| 3/29/96 | 59886 | Ariel Obregon P | 601 | X | -3,500.00 |
| 3/29/96 | 59887 | Abelina Pop | 601 | X | -660.00 |
| 3/29/96 | 59889 | Luis Obdulio Si | 601 | X | -2,117.50 |
| 3/29/96 | 59890 | Alvaro Oswaldo | 601 | X | -1,000.00 |
| 3/29/96 | 59891 | Gilberto Leonel | 601 | X | -1,056.50 |
| 3/29/96 | 59892 | Lourdes Denisse | 601 | X | -2,117.50 |
| 3/29/96 | 59893 | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 3/29/96 | 59894 | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 3/29/96 | 59895 | Juan Tzimaaj Ca | 601 | X | -1,056.50 |
| 4/12/96 | 38354 | Leticia A. Mend | 601 | X | -1,056.50 |
| 4/26/96 | 38360 | Maria Cristina | 601 | X | -1,056.50 |
| 4/26/96 | 38361 | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 4/26/96 | 38362 | Carlos Heribert | 601 | X | -1,056.50 |
| 4/26/96 | 38363 | Francisco Caal | 601 | X | -1,056.50 |
| 4/26/96 | 38364 | Zoila Esperanza | 601 | X | -1,815.00 |
| 4/26/96 | 38365 | Maria Elena Ac | 601 | X | -1,056.50 |
| 4/26/96 | 38366 | Sonia Antonieta | 601 | X | -850.00 |
| 4/26/96 | 38367 | Matilde Cu Caca | 601 | X | -1,056.50 |
| 4/26/96 | 38368 | Jose Alfonso Cu | 601 | X | -1,056.50 |
| 4/26/96 | 38369 | Aura Esmeralda | 601 | X | -850.00 |
| 4/26/96 | 38370 | Carlos Chub | 601 | X | -1,056.50 |
| 4/26/96 | 38371 | Enrique Fernand | 601 | X | -2,117.50 |
| 4/26/96 | 38372 | Julio Antonio G | 601 | X | -1,815.00 |
| 4/26/96 | 38373 | Carlos Abel Med | 601 | X | -1,056.50 |
| 4/26/96 | 38375 | Ariel Obregon P | 601 | X | -3,500.00 |
| 4/26/96 | 38376 | Luis Obdulio Si | 601 | X | -2,117.50 |
| 4/26/96 | 38377 | Abelina Pop | 601 | X | -660.00 |
| 4/26/96 | 38378 | Alvaro Oswaldo | 601 | X | -1,000.00 |
| 4/26/96 | 38379 | Gilberto Leonel | 601 | X | -1,056.50 |
| 4/26/96 | 38380 | Lourdes Denisse | 601 | X | -2,117.50 |
| 4/26/96 | 38381 | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 4/26/96 | 38382 | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 4/26/96 | 38383 | Juan Tzimaaj Ca | 601 | X | -1,056.50 |
| 4/30/96 | 38388S | Vacations 01.01 | 601 | X | -175.04 |
| 4/30/96 | 38388S | Xmas bonus 01.0 | 601 | X | -350.24 |
| 4/30/96 | 38388S | 14 bonus 01.07. | 601 | X | -832.42 |

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Coban Expense Summary - All Accounts
5/ 1/97

| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 4/30/96 | 38388S | Salary April | 601 | X | -1,056.50 |
| 5/17/96 | 38401 | Carmen Yolanda | 601 | X | -1,750.00 |
| 5/31/96 | 38406 | Maria Cristina | 601 | X | -1,056.50 |
| 5/31/96 | 38407 | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 5/31/96 | 38408 | Carlos Heribert | 601 | X | -1,056.50 |
| 5/31/96 | 38409 | Francisco Caal | 601 | X | -1,056.50 |
| 5/31/96 | 38410 | Zoila Esperanza | 601 | X | -1,815.00 |
| 5/31/96 | 38411 | Maria Elena Ac | 601 | X | -1,056.50 |
| 5/31/96 | 38412 | Sonia Antonieta | 601 | X | -850.00 |
| 5/31/96 | 38413 | Matilde Cu Caca | 601 | X | -1,056.50 |
| 5/31/96 | 38414 | Jose Alfonso Cu | 601 | X | -1,056.50 |
| 5/31/96 | 38415 | Aura Esmeralda | 601 | X | -850.00 |
| 5/31/96 | 38416 | Carlos Chub | 601 | X | -1,056.50 |
| 5/31/96 | 38417 | Enrique Fernand | 601 | X | -2,117.50 |
| 5/31/96 | 38418 | Julio Antonio G | 601 | X | -1,815.00 |
| 5/31/96 | 38419 | Carlos Abel Med | 601 | X | -1,056.50 |
| 5/31/96 | 38420 | Leticia A. Mend | 601 | X | -1,056.50 |
| 5/31/96 | 38421 | Abelina Pop | 601 | X | -660.00 |
| 5/31/96 | 38422 | Luis Obdulio Si | 601 | X | -2,117.50 |
| 5/31/96 | 38423 | Alvaro Oswaldo | 601 | X | -1,000.00 |
| 5/31/96 | 38424 | Gilberto Leonel | 601 | X | -1,056.50 |
| 5/31/96 | 38425 | Lourdes Denisse | 601 | X | -2,117.50 |
| 5/31/96 | 38426 | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 5/31/96 | 38427 | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 5/31/96 | 38428 | Juan Tzimaaj Ca | 601 | X | -1,056.50 |
| 5/31/96 | 38429 | Ariel Obregon P | 601 | X | -3,500.00 |
| 6/12/96 | 38441S | Maria C. Ayala, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Ricardo Bin J., | 601 | X | -100.00 |
| 6/12/96 | 38441S | Carlos H.Caal, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Francisco Caal | 601 | X | -100.00 |
| 6/12/96 | 38441S | Zoila E. Caal Y | 601 | X | -100.00 |
| 6/12/96 | 38441S | Sonia A. Coc I. | 601 | X | -100.00 |
| 6/12/96 | 38441S | Matilde Cu Caca | 601 | X | -100.00 |
| 6/12/96 | 38441S | Jose A. Cucul P | 601 | X | -100.00 |
| 6/12/96 | 38441S | Aura E. Chen X. | 601 | X | -100.00 |
| 6/12/96 | 38441S | Carlos Chub., S | 601 | X | -100.00 |
| 6/12/96 | 38441S | Enrique Fenande | 601 | X | -100.00 |
| 6/12/96 | 38441S | Julio A. Galvez | 601 | X | -100.00 |
| 6/12/96 | 38441S | Carlos Medina, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Leticia Mendoza | 601 | X | -100.00 |
| 6/12/96 | 38441S | Ariel Obregon P | 601 | X | -100.00 |
| 6/12/96 | 38441S | Abelina Pop, Sa | 601 | X | -100.00 |
| 6/12/96 | 38441S | Alvaro O. Sierr | 601 | X | -100.00 |
| 6/12/96 | 38441S | Luis O. Sierra, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Gilberto Soria, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Lourdes Torres, | 601 | X | -100.00 |
| 6/12/96 | 38441S | Fidelina Tux, S | 601 | X | -100.00 |
| 6/12/96 | 38441S | Juan Tzimaaj, S | 601 | X | -100.00 |
| 6/27/96 | 38444S | Maria C. Ayala, | 601 | X | -1,002.27 |
| 6/27/96 | 38444S | Ricardo Bin Jor | 601 | X | -1,008.50 |

Transaction List

Coban Expense Summary - All Accounts



5/ 1/97

| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 6/27/96 | 38444S | Carlos H. Caal | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Francisco Caal | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Maria E. de Can | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Sonia A. Coc Ic | 601 | X | -229.71 |
| 6/27/96 | 38444S | Matilde Cu Caca | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Jose A. Cucul P | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Aura E. Chen Xo | 601 | X | -229.71 |
| 6/27/96 | 38444S | Carlos Chub, Bo | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Enrique Fernand | 601 | X | -2,021.25 |
| 6/27/96 | 38444S | Carlos A. Medin | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Leticia Mendoza | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Ariel Obregon P | 601 | X | -1,166.67 |
| 6/27/96 | 38444S | Abelina Pop, Bo | 601 | X | -630.00 |
| 6/27/96 | 38444S | Luis O. Sierra | 601 | X | -2,021.25 |
| 6/27/96 | 38444S | Gilberto L. Sor | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Lourdes D. Torr | 601 | X | -1,743.23 |
| 6/27/96 | 38444S | Fidelina Tux Ch | 601 | X | -993.78 |
| 6/27/96 | 38444S | Alfonso Tzimaaj | 601 | X | -1,008.50 |
| 6/27/96 | 38444S | Juan Tzimaaj Ca | 601 | X | -1,008.50 |
| 6/27/96 | 38445S | Maria C. Ayala, | 601 | X | -956.50 |
| 6/27/96 | 38445S | Ricardo Bin Jor | 601 | X | -956.50 |
| 6/27/96 | 38445S | Carlos H. Caal | 601 | X | -956.50 |
| 6/27/96 | 38445S | Francisco Caal | 601 | X | -956.50 |
| 6/27/96 | 38445S | Zoila E. Caal Y | 601 | X | -1,715.00 |
| 6/27/96 | 38445S | Maria E. de Can | 601 | X | -1,056.50 |
| 6/27/96 | 38445S | Sonia A. Coc I. | 601 | X | -956.50 |
| 6/27/96 | 38445S | Matilde Cu Caca | 601 | X | -956.50 |
| 6/27/96 | 38445S | Jose A. Cucul P | 601 | X | -956.50 |
| 6/27/96 | 38445S | Aura E. Chen Xo | 601 | X | -956.50 |
| 6/27/96 | 38445S | Carlos Chub, Sa | 601 | X | -956.50 |
| 6/27/96 | 38445S | Enrique Fernand | 601 | X | -2,017.50 |
| 6/27/96 | 38445S | Julio A. Galvez | 601 | X | -1,715.00 |
| 6/27/96 | 38445S | Carlos A. Medin | 601 | X | -956.50 |
| 6/27/96 | 38445S | Leticia Mendoza | 601 | X | -956.50 |
| 6/27/96 | 38445S | Ariel Obregon P | 601 | X | -3,400.00 |
| 6/27/96 | 38445S | Abelina Pop, Sa | 601 | X | -560.00 |
| 6/27/96 | 38445S | Alvaro O. Sierr | 601 | X | -1,150.00 |
| 6/27/96 | 38445S | Luis O. Sierra | 601 | X | -2,017.50 |
| 6/27/96 | 38445S | Gilberto Soria, | 601 | X | -956.50 |
| 6/27/96 | 38445S | Lourdes Torres, | 601 | X | -2,017.50 |
| 6/27/96 | 38445S | Fidelina Tux Ch | 601 | X | -956.50 |
| 6/27/96 | 38445S | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 6/27/96 | 38445S | Juan Tzimaaj C. | 601 | X | -956.50 |
| 7/30/96 | 23081S | Maria C. Ayala, | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Carlos H. Caal | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Francisco Caal | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Zoila E. Caal Y | 601 | X | -1,815.00 |
| 7/30/96 | 23081S | Maria E. de Can | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Sonia A. Coc I. | 601 | X | -1,056.50 |

| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 7/30/96 | 23081S | Matilde Cu Caca | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Jose A. Cucul P | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Aura E. Chen Xo | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Carlos Chub, Sa | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Enrique Fernand | 601 | X | -2,117.50 |
| 7/30/96 | 23081S | Julio A. Galvez | 601 | X | -1,815.00 |
| 7/30/96 | 23081S | Carlos A. Medin | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Leticia Mendoza | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Ariel Obregon P | 601 | X | -3,500.00 |
| 7/30/96 | 23081S | Abelina Pop, Sa | 601 | X | -660.00 |
| 7/30/96 | 23081S | Alvaro O. Sierr | 601 | X | -1,250.00 |
| 7/30/96 | 23081S | Luis O. Sierra | 601 | X | -2,117.50 |
| 7/30/96 | 23081S | Gilberto Soria, | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Lourdes Torres, | 601 | X | -2,117.50 |
| 7/30/96 | 23081S | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 7/30/96 | 23081S | Juan Tzimaaj C. | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Maria C. Ayala, | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Carlos H. Caal | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Francisco Caal | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Zoila E. Caal Y | 601 | X | -1,815.00 |
| 8/29/96 | 23098S | Maria E. de Can | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Sonia A. Coc I. | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Matilde Cu Caca | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Jose A. Cucul P | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Aura E. Chen Xo | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Carlos Chub, Sa | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Enrique Fernand | 601 | X | -2,117.50 |
| 8/29/96 | 23098S | Julio A. Galvez | 601 | X | -1,815.00 |
| 8/29/96 | 23098S | Carlos A. Medin | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Leticia Mendoza | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Ariel Obregon P | 601 | X | -3,500.00 |
| 8/29/96 | 23098S | Abelina Pop, Sa | 601 | X | -660.00 |
| 8/29/96 | 23098S | Alvaro O. Sierr | 601 | X | -1,250.00 |
| 8/29/96 | 23098S | Luis O. Sierra | 601 | X | -2,117.50 |
| 8/29/96 | 23098S | Gilberto Soria, | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Lourdes Torres, | 601 | X | -2,117.50 |
| 8/29/96 | 23098S | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 8/29/96 | 23098S | Juan Tzimaaj C. | 601 | X | -1,056.50 |
| 9/27/96 | 23107S | Xmas Bonus 01.0 | 601 | X | -793.10 |
| 9/27/96 | 23107S | Bounus 14 01.07 | 601 | X | -264.13 |
| 9/27/96 | 23107S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23109S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23109S | 14 Bonus 01.07/ | 601 | X | -264.13 |
| 9/27/96 | 23109S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23110S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23110S | 14 Bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23110S | Salary Septembe | 601 | X | -1,056.50 |

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Transaction List

Coban Expense Summary - All Accounts

5/ 1/97



| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 9/27/96 | 23111S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23111S | 14 Bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23111S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23112S | Xmas bonus 01.0 | 601 | X | -495.19 |
| 9/27/96 | 23112S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23112S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23113S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23113S | 14 Bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23113S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23114S | Xmas bonus 01.0 | 601 | X | -793.10 |
| 9/27/96 | 23114S | 14 Bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23114S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23115S | Xmas. bonus 01. | 601 | X | -495.19 |
| 9/27/96 | 23115S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23115S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23116S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23116S | 14 Bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23116S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23117S | Xmas bonus. 01. | 601 | X | -1,589.58 |
| 9/27/96 | 23117S | 14 Bonus 01.07. | 601 | X | -529.38 |
| 9/27/96 | 23117S | Salary Septembe | 601 | X | -2,117.50 |
| 9/27/96 | 23118S | Xmas. Bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23118S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23118S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23119S | Xmas. bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23119S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23119S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23120S | Xmas. bonus 01. | 601 | X | -2,052.05 |
| 9/27/96 | 23120S | 14 bonus 01.07. | 601 | X | -875.00 |
| 9/27/96 | 23120S | Salary Septembe | 601 | X | -3,500.00 |
| 9/27/96 | 23121S | Xmas. bonus 01. | 601 | X | -495.45 |
| 9/27/96 | 23121S | 14 bonus 01.07. | 601 | X | -165.00 |
| 9/27/96 | 23121S | Salary Septembe | 601 | X | -660.00 |
| 9/27/96 | 23122S | Xmas. Bonus 01. | 601 | X | -1,589.58 |
| 9/27/96 | 23122S | 14 bonus 01.07. | 601 | X | -529.38 |
| 9/27/96 | 23122S | Salary Septembe | 601 | X | -2,117.50 |
| 9/27/96 | 23123S | Xmas. bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23123S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23123S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23124S | Xmas. bonus 01. | 601 | X | -1,589.58 |
| 9/27/96 | 23124S | 14 bonus 01.07. | 601 | X | -529.38 |
| 9/27/96 | 23124S | Severance Pay | 601 | X | -2,768.22 |
| 9/27/96 | 23124S | Salary Septembe | 601 | X | -2,117.50 |
| 9/27/96 | 23125S | Xmas. bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23125S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23125S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23126S | Xmas. bonus 01. | 601 | X | -793.10 |
| 9/27/96 | 23126S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23126S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23128S | Xmas. bonus 01. | 601 | X | -793.10 |

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| Date | Num | Desc | Cat | Clr | Amount |
|---|---|---|---|---|---|
| 9/27/96 | 23128S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23128S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23129S | Xmas bonus 01.0 | 601 | X | -793.10 |
| 9/27/96 | 23129S | 14 bonus 01.07. | 601 | X | -264.13 |
| 9/27/96 | 23129S | Salary Septembe | 601 | X | -1,056.50 |
| 9/27/96 | 23133 | Julio Antonio G | 601 | X | -1,815.00 |
| 9/27/96 | 23135 | Zoila Esperanza | 601 | X | -1,815.00 |
| 9/27/96 | 23136 | Alvaro Oswaldo | 601 | X | -1,250.00 |
| 10/30/96 | 23146S | Maria C. Ayala, | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Carlos H. Caal | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Francisco Caal | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Zoila E. Caal Y | 601 | X | -1,815.00 |
| 10/30/96 | 23146S | Maria E. de Can | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Sonia A. Coc I. | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Matilde Cu Caca | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Jose A. Cucul P | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Aura E. Chen Xo | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Carlos Chub, Sa | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Enrique Fernand | 601 | X | -2,117.50 |
| 10/30/96 | 23146S | Julio A. Galvez | 601 | X | -1,815.00 |
| 10/30/96 | 23146S | Carlos A. Medin | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Leticia Mendoza | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Abelina Pop, Sa | 601 | X | -660.00 |
| 10/30/96 | 23146S | Alvaro O. Sierr | 601 | X | -1,250.00 |
| 10/30/96 | 23146S | Luis O. Sierra | 601 | X | -2,117.50 |
| 10/30/96 | 23146S | Gilberto Soria, | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Lourdes Torres, | 601 | X | -2,117.50 |
| 10/30/96 | 23146S | Fidelina Tux Ch | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Alfonso Tzimaaj | 601 | X | -1,056.50 |
| 10/30/96 | 23146S | Juan Tzimaaj C. | 601 | X | -1,056.50 |
| 10/31/96 | 23147S | Vacations 01.03 | 601 | X | -1,174.87 |
| 10/31/96 | 23147S | Xmas bonus 01.1 | 601 | X | -297.26 |
| 10/1/96 | 23147S | 14 bonus 01.10/ | 601 | X | -291.67 |
| 10/31/96 | 23147S | Salary Octuber | 601 | X | -3,500.00 |
| 10/31/96 | 23149 | Abelina Pop | 601 | X | -90.00 |
| 11/15/96 | 23158S | Vacations | 601 | X | -463.14 |
| 11/15/96 | 23158S | Xmas bonus 01.1 | 601 | X | -133.15 |
| 11/15/96 | 23158S | Bonus 14 | 601 | X | -132.07 |
| 11/15/96 | 23158S | Salary 01.11 to | 601 | X | -528.30 |
| 11/29/96 | 23160S | Maria C. Ayala, | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Ricardo Bin Jor | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Carlos H. Caal | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Francisco Caal | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Zoila E. Caal Y | 601 | X | -1,815.00 |
| 11/29/96 | 23160S | Maria E. de Can | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Sonia A. Coc I. | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Matilde Cu Caca | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Jose A. Cucul P | 601 | X | -1,056.50 |
| 11/29/96 | 23160S | Aura E. Chen Xo | 601 | X | -1,056.50 |

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# Annex III: OMNI Research Quality Assurance Final Report

# INTERNATIONAL EYE FOUNDATION

EFFECTIVE COMMUNICATIONS
TO RESOLVE MICRONUTRIENT DEFICIENCIES:

Adaptation and Use of Qualtiy Assurance Methods
for Evaluating A Vitamin A Communications Strategy in Guatemala

***Final Report***

*Period of Performance*
*April 1, 1996 - March 31 1997*

Submitted to:
**OMNI Research**

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**Submitted: May, 1997**

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## ACRONYMS AND ABBREVIATION

| | |
|---|---|
| IEF | International Eye Foundation |
| MOH | Ministry of Health |
| NGO | Non-Governmental Organization |
| OMNI | Opportunities for Micronutrient Interventions |
| PVO | Private Voluntary Organization |
| QA | Quality Assurance |
| USAID | United States Agency for International Development |

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# EXECUTIVE SUMMARY

Public Health-oriented Private Voluntary Organizations (PVOs) and their sister Non-Governmental Organizations (NGOs) spend large amounts of time and resources in providing health education in needy communities. Despite improvements in the quality of the communications materials available, programs are often not able to carefully monitor what occurs during the critical interface between a project health worker and the target community. Without the tools to monitor deliverance and use of educational sessions, evaluation as well as impact of these activities are greatly diminished.

The I.E.F., with funding from OMNI Research - Effective Communications to Resolve Micronutrient Deficiencies, conducted a study of its own field project, AMPROS, and worked jointly with Project HOPE. The overall purpose of the study was to to evaluate whether quality assurance (QA) methods could be adapted for use by basic health workers to monitor and evaluate a communications plan. The aims of the project were proposed as follows: to determine 1) can QA methods be adapted easily for use in monitoring and evaluating a communications plan; 2) what are the most efficient and effective performance indicators that can be used by different levels of health workers and supervisors; 3) what are the nutritional behaviors of mothers and children that can be measured in pre- and post-intervention.

The QA methodolgy of the URC (University Research Corporation) project was implemented by Dr. Marylena Arita from I.E.F./Honduras (trained by Mr. Dennis Zaenger - QAP/URC, Bethesda, MD), who served as a consultant to the project. The protocol was developed based on the following objectives:

| | |
|---|---|
| Objective 1: | Develop performance standards, specifications for use in training and supervision and indicators for use in monitoring. |
| Objective 2: | Train health workers and their supervisors on use of communications materials including QA methods. |
| Objective 3: | Conduct Baseline and Final Surveys in Project Areas in order to determine opportunities for improvement and level of improvement achieved. |
| Objective 4: | Conduct periodic assessments of performance and revise/improve training as necessary. |
| Objective 5: | Analyze all data from surveys and periodic assessments, and report. |

Project implementation occurred during an eight month period, yet varied somewhat between AMPROS and HOPE due to their very distinct project designs. AMPROS' role in the implementation is direct, while HOPE's is that of trainer-of-trainers, supervisor and catalyst.

Although the implementation phase varied between AMPROS and HOPE, concrete results were indeed observed related to all three proposed project aims.

1.) As reflected in the activities of the AMPROS QA circle as well as the entire team, it is quite easy to adapt QA methods to an existing Health Information System (HIS) where monitoring and evaluating tools have already been implemented, yet are lacking a focus on the "quality of process". Whereas in the case of HOPE, due to the lack of a pre-existing HIS and the lack of the formation of a true QA Circle, the adaptation of QA methods was a bit more difficult and was only possible in the evaluation (initial and final) of the QA process.

The ease with which QA methods can be incorporated into the monitoring of a communications plan depends strongly on the level of supervision, communication and responsibility between all levels of "workers" (Project Staff as well as Volunteers). The strong dependency on Volunteers at the critical interface with the target population, specifically those from other Institutions that are not directly subordinate to the Project Staff, is very debilitating to the monitoring phase of these interface activities.

2.) Both Projects were able to define efficient and effective performance indicators to measure the delivery and impact of Health and Nutrition educational materials, based on the existing supervision and information systems, the target population, project objectives, educational goals and support materials used for training on all levels. The measurement of these performance indicators by the AMPROS staff during the monitoring phase was crucial to the provision of feedback to the field workers and to the continued improvement of their interpersonal communications skills and use of visual aids.

3.) Due to the reduction in the implementation phase, the pre- and post-intervention measurements were changed from that of "nutritional behaviors" of mothers to that of "Nutrition/Vitamin A knowledge" of mothers.

The results of AMPROS' measurements at baseline (pre-test), monitoring and final evaluation (post-test) showed marked improvement in knowledge levels of project staff as well as participant mothers. Project staff improved from an average score of 58.3% to 99.5%, while mothers improved from an average score of 54% to 84.3%.

The results of HOPE's measurements at baseline (pre-test) and final evaluation (post-test) showed a slight improvement in knowledge level of project staff and Health Promotors and basically no improvement in participant mothers. Project staff improved from an average of 80% to 91%, while mothers basically maintained their same score (average of 72% to 75%) and Health Promotors improved from an average of 52% to 65%.

Due to the constraints related to the supervisory structure at Project Hope, (Health Promotors are Volunteers who are not directly subordinate to HOPE staff), and to the lack of an existing HIS between HOPE and the MOH, the QA methodology suffered numerous shortcomings. It is likely that these methodologic shortcomings are reflected in both the low knowledge level of Health Promotors as well as the lack of improvement in knowledge level of participant mothers. It is also speculated that the difference in knowledge levels between mothers and Health Promotors is due to the fairly high turnover of the MOH Volunteers as well as the fact that there are many health-related NGOs working in the Totonicapán area which can affect the mothers.

In conclusion, there is no recipe for developing a QA program. What is clear is that such a program must include a comprehensive set of quality assessment and improvement activities and indicators that are incorporated into the organization's routine monitoring and evaluation functions. It is a creative process that requires flexibility in order to adapt to a given PVO's/NGO's unique program features as well as to their target population's unique characteristics and needs.

As Public-Health oriented PVOs and NGOs learn more about the QA process, they are likely to discover that some of their current activities are related to quality improvement. These existing activities as well as an existing health information system, the understanding of staff at all levels of how their day-to-day work relates to quality improvement and the specific support of top-level managers from early on in the overall vision of quality improvement provide the foundation upon which to build a comprehensive QA program.

## I. INTRODUCTION

Public Health-oriented Private Voluntary Organizations (PVOs) and their sister Non-Governmental Organizations (NGOs) spend large amounts of time and resources in providing health education in needy communities. Despite improvements in the quality of the communications materials available, programs are often not able to carefully monitor what occurs during the critical interface between a project health worker and the target community. Without the tools to monitor deliverance and use of educational sessions, evaluation as well as impact of these activities are greatly diminished.

The I.E.F., with funding from OMNI Research - Effective Communications to Reslove Micronutrient Deficiencies, conducted a study in its own field project, AMPROS, and worked jointly with Project HOPE. The overall purpose of the study was to to evaluate whether quality assurance (QA) methods can be adapted for use by basic health workers to monitor and evaluate a communications plan. The aims of the project were proposed as follows: to determine 1) can QA methods be adapted easily for us in monitoring and evaluating a communications plan; 2) what are the most efficient and effective performance indicators that can be used by different levels of health workers and supervisors; 3) what are the nutritional behaviors of mothers and children that can be measured pre- and post-intervention.



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## II. BACKGROUND

The International Eye Foundation (I.E.F.) has operated a Vitamin A for Child Survival Project (AMPROS - Working Together for Improved Health) in fifty rural villages in the south-central region of the Alta Verapaz Province of Guatemala since 1991. Alta Verapaz is a mountainous, forested area in the Sierra Madre mountain range in central Guatemala. Over 95% of its total population is indigenous - the two principal groups are of Q'eqchí and Poqomchí descent. The economy in the province includes lumbering and cultivation of coffee and cardamon as well as subsistence farming. Rural communities are marked by high levels of poverty. Over 80% of the villages have no electricity and less than 30% of homes have potable water services. In project communities only 23% of women are semi-literate, of which 55% are only able to read in their indigenous language.

Project HOPE has been assisting the Guatemalan Ministry of Health (MOH) to deliver basic health services in the Western Highlands of Guatemala since 1976. Starting in January of 1991, HOPE added Vitamin A components to its program of health activities. HOPE's expanded program is being carried-out in communities in three different Provinces of the Western Highlands. The areas of intervention (San Marcos, Quetzaltenango and Totonicapán) include coastal and mountainous areas with approximately 54% of the population being indigenous - the two principal groups are of Quiche and Mam descent. The economy in the area is based on agriculture (beans, corn, wheat, and sugar), as well as handicrafts (weaving) in the Totonicapán Province. Rural communities are marked by high levels of poverty with 86% of the population living in poverty and 68% in extreme poverty. Approximately 81% of the villages have no electricity and only 40% of homes have potable water services. Overall illiteracy in the project area surpasses 60%.

The Alta Verapaz province was selected for I.E.F.'s Vitamin A for Child Survival Project and the Western Highland provinces were selected for HOPE's expanded Vitamin A and basic health services program due to their poor socio-economic status in conjunction with poor infant and maternal health indicators as well as their level of endemic hypovitaminosis.

Guatemala has one of the highest children's mortality rates in Latin America. A DHS Maternal and Child Survey (1995) indicated an infant mortality rate (IMR) of 57 per 1,000 live births and a child mortality rate of 80 per 1,000. The same study showed the IMR in Alta Verapaz (AMPROS) to be 66 per 1,000 live births and a child mortality rate of 102 per 1,000, both over 15% higher than the country average. While the official infant mortality rates for the Western Highlands (HOPE) were 31.1, 74.9 and 83.6 per 1,000 live births for the provinces of San Marcos, Quetzaltenango and Totonicapán, respectively (MOH, 1992). In both project areas, as well as nationally, the two primary causes of infant and child morbidity and mortality are acute respiratory infections (ARIs) and diarrheal diseases. It must be considered that general malnutrition as well as Vitamin "A" deficiency and/or undernutrition are frequently associated with an increased risk of morbidity and mortality, specifically in the infant and child population.



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Vitamin A deficiency is a significant public health problem in Guatemala. The 1991 Baseline Survey data revealed that in the AMPROS area over 21% of children under age six in project villages are defficient, while in the HOPE area the same measure was over 20%, using a circulating retinol concentration less than 20ug/dl as a cut off. Furthermore, seven-day recall data showed that 66% of these children consumed less than the WHO recommended daily amounts of Vitamin A in the AMPROS area (I.E.F./CeSSIAM, 1991), while consumption data in the HOPE area showed that most of the families did not consume vitamin A-rich foods. Current statistics from the 1995 National Micronutrient Survey (1996), reflect national deficiency levels of 15.7% among children consuming sugar and 22.4% among children consuming both sugar and sugar derivatives - panela.

Both I.E.F. and HOPE have been working since 1991 in the areas of Health and Nutrition education with an emphasis in Vitamin A. The overall goal of both projects is to decrease infant and child morbidity and mortality through Vitamin A supplementation, improved nutrition (through production and consumption) and control of immunizable diseases throughout the duration of each project. The implementation of an integrated nutrition Information, Education and Communication (IEC) program has assisted both AMPROS and HOPE in bringing their numerous interventions to their target populations of children 6 - 72 months of age and women of child-bearing age (15 - 49 years old), specifically those who are pregnant or lactating.

The I.E.F., through a project entitled "Unidad Pro-Vitamin A" (UPVA), developed the capacity to design training and communications materials on Vitamin A and Nutrition through a collaborative effort with other PVOs and NGOs (including HOPE) within Guatemala as well as the region. Considering the fact that the success of Nutrition/Vitamin A interventions is linked to the application of appropriate, participatory communications strategies within the educational component and acknowledging the lack of consistent and well developed nutrition education materials, the UPVA team developed a comprehensive, practical and culturally appropriate Vitamin A communications plan targeting low-income women and families in various regions of Guatemala and in other Central American countries. Central to the plan was a core set of messages emphasizing a food-based approach promoting improved nutritional behaviors (breastfeeding, production and consumption of important vitamin A-rich food sources, diversification of diet, etc.). Key messages on Vitamin A and Horticulture are transmitted using serveral materials including a flipcharts, handcards, recorded messages for radio or hand-held recorders, a poster and a pictoral calender. All messages and materials were field-tested in a variety of field settings and have been translated and produced in two indigenous Mayan languages as well as Spanish.

The materials designed by the UPVA team for the communication plan are intended to be used by PVO/NGOs and governmental health workers at both the institutional and community levels using formal and non-formal adult education techniques. Aside from the staff of I.E.F.'s field project, AMPROS, project HOPE has been the NGO most active in integrating these materials into their nutrition and agricultural education activities.



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Although both AMPROS and HOPE have integrated these materials into their own IEC programs in a very similar manner, implementation within each project area has varied due to distinct project designs.

AMPROS' Design: AMPROS' role in the implementation of their project is direct, through a team of 14 - 16 bi-lingual (Q'eqchí/Spanish) Field Extensionists and 4 Supervisors. The project design includes nine major areas of intervention, including Nutrition education, Vitamin A supplementation, Control of diarrheal diseases, Promotion of immunizations, Education on Acute Lower Respiratory Infections, Local production of Vitamin A-rich vegetables, Eye Care, Maternal Health and Income Generation. Each Field Extensionist is responsible for organizing health and nutrition education, cooking demonstrations and gardening activities with support from approximately 15 community volunteers in 3 - 5 project communities. Volunteers (both men and women) are community-selected leaders with an interest in improving their community's health and nutrition status. Each community volunteer is in charge of maintaining a family health register and promoting project activities in a sector of his/her neighborhood which includes approximately 30 - 35 families. Field supervisors provide support to and monitor the performance of the Extensionists, organize and coordinate training activities of project Vounteers and MOH personnel, as well as collect all field data for the program's HIS.

HOPE's Design: Project HOPE's role in the implementation of their project is that of trainer-of-trainers, supervisors and catalaysts for Vitamin A activities. Project staff, through the development of a strong collaborative relationship with the local offices of the Ministry of Health (MOH) and the Ministry of Agriculture (DIGESA), train and promote Ministry volunteer staff (trained by the MOH during a basic 6-week course) as the primary implementors of the Vitamin A activities in the project catchment area. Project HOPE distributes Vitamin A capsules to hospitals, health centers and health posts; trains MOH staff in the Vitamin A supplementation of children (prophylaxis and for treatment - measles), the training and supervision of TBAs' post-partum Vitamin A supplementation activities, and the education of communities in maternal and child nutrition, with a focus on the role of Vitamin A; train DIGESA staff on the importance of proper nutrition and Vitamin A, in the development of community and family vegetable gardens, and in the storage and use of Vitamin A-rich produce.

Both projects, each with their distinct design, are well-known in Guatemala for their Basic Health and Nutrition Education activities. While good quality educational materials are readily available to both AMPROS and HOPE, few efforts have been made to monitor the quality of their use, the process of service delivery and to evaluate the impact of the delivery. Countless hours are invested in health worker time traveling to villages and providing Health Education without clear performance indicators. Programs such as AMPROS and HOPE lack thoroughly designed and tested methods to monitor what occurs during the critical interface between a project health worker and the target community. Often health workers are given insufficient training in the use of materials and performance



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and supervision standards are not well established. Without efficient and effective delivery of the services, little impact can be expected. Without the tools to monitor what happens, opportunities for improvement will most likely go undetected and effective monitoring and evaluation of the impact becomes impossible.

I.E.F. recognizes that little has been done in the area of Health/Nutrition Education toward assessing service quality or ensuring that resources are having an optimal impact. In an attempt to go one step beyond the completion of the task of training health workers and/or trainers of other Health-related organizations, the current study incorporated the use of Quality Assurance (QA) methods in order to: 1.) help define critical guidelines and standard operating procedures; 2.) to assess performance compared with selected, well-defined performance standards; 3.) to take tangible steps toward improving program performance and effectiveness within the target population.

## III. METHODOLOGY

### A. Protocol Development

The QA methodolgy of the URC (University Research Corporation) project was implemented by Dr. Marylena Arita from I.E.F./Honduras (trained by Mr. Dennis Zaenger - QAP/URC, Bethesda, MD), who served as a consultant to the project, due to her level of expertise in QA and in QA of Vitamin A activities specifically.

The current protocol focuses on the use, delivery and impact of Health/Nutrition Educational materials, the problem area found to be critical/important to both I.E.F. and HOPE. This problem-oriented approach to QA, which emphasizes practical, small-scale, quality-related activities which produce incremental quality improvements was developed based on the following project objectives:

Objective 1: Develop performance standards/specifications for use in training and supervision and indicators for use in monitoring.

Protocol:
- -Definition of performance standards and indicators with AMPROS and HOPE Supervisory staff.
- -Preliminary observations of educational activities in order to categorize potential areas of work for both projects.
- -Identify weak or problematic areas for both projects.
- -Develop indicators for each area to track improvements.
- -Design and implement QA/monitoring system to be performed over the evaluation period by field workers.



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Objective 2: Train health workers and their supervisors on use of communications materials including QA methods.

Protocol: -Four-day training of AMPROS and HOPE project staff in QA method.
-Definition of Quality Control Circle (AMPROS) and follow-up group (HOPE).
-Definition and presentation of Plan of Action for Quality Control Process for both projects.

Objective 3: Conduct Baseline and Final Surveys in Project Areas in order to determine opportunities for improvement and level of improvement achieved.

Protocol: For Baseline:
-revision of documents, information system, training materials, etc. and design of evaluation instruments.
For Baseline and Final Surveys:
-Evaluation of Staff's knowledge in Vitamin A.
-Field visits to evaluate mothers' knowledge in Vitamin A.
-Field visists to observe field workers' educational activities.

Objective 4: Conduct periodic assessments of performance and revise/improve training as necessary.

Protocol: -Implement QA/monitoring system utilizing new and/or improved supervisory forms based on indicators developed for each area needing improvement.
-Report results of supervisory visits on a monthly basis to members of the Quality Control Circle.
-Present in graphic form the data obtained each month.

Objective 5: Analyze all data from surveys and periodic assessments, and report.

## B. Design

The study area was defined as the catchment areas of AMPROS (Alta Verapaz) and of HOPE (Totonicapán - San Marcos and Quetzaltenango were not included due to their planned closure in Sept.'96). The following phases were developed in each project area:

### I. Planning For Quality Assurance

The use, delivery and impact of Health and Nutrition Educational materials was defined as the "critical area" in need of the implementation of QA efforts. A review was carried-out of the supervision and information systems, target population, project objectives,



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educational goals, support material used for training on all levels, and of all project documents available which lead to a clear, panoramic vision of the whole educational process as well as the definition of the "critical area".

## II. Developing Guidelines and Setting Standards

Initial performance standards related to the "critical area" defined previously, were determined with both AMPROS and HOPE technical personnel in conjunction with the consultant.

## III. Assessing Strengths and Weaknesses - Baseline Diagnosis/QA Assessment

During a one week period in August 1996, the collection of information was conducted in order to identify the strengths and weaknesses of the Educational component. In order to measure the level of knowledge related to Vitamin A, the consultant carried-out interviews with the Technicians (Supervisors) and the Field staff (Extensionists-AMPROS & MOH Health Promotors-HOPE), with project staff carrying-out supervised interviews with mothers. In order to measure performance of the Extensionists and Health Promotors in their delivery of educational activities (talks and cooking demonstrations), observations were made by both the consultant and project Supervisors.

### A.) Instruments used in Baseline Diagnosis:

-Guide for interview to measure the knowledge related to Vitamin A of the AMPROS staff (CN-103, Annex 1), HOPE Technical personnel (EVATEC-004, Annex 2) and Health Promotors (EVAPRO-001, Annex 3) (all 3 Guides were comprised of verbal, open-ended questions).

-Questionnaire in order to evaluate aptitudes and performance of the AMPROS staff - Technicians, Supervisors and Extensionists (INPUT-102, Annex 4).

-Guide for Interviews with AMPROS (ENTASUP, Annex 5) and Focus Groups with HOPE (Annex 6) Supervisors in order to define and to determine strengths and weaknesses in the areas of monitoring and supervision .

-Guide for interviewing mothers with children under six years of age, in order to measure knowledge related to Vitamin A in both AMPROS (EFF-1, Annex 7) and HOPE (EVAMA-002, Annex 8) project areas.

-Guide for interviewing the same mothers in order to determine the level of satisfaction of the educational services offered to them in both AMPROS (EFF-1, Annex 7) and HOPE (EVAPRO-003, Annex 9) project areas.

-Check list for random observation of performance of Extensionists (OB-02, Annex 10) and Health Promotors (OB-02, Annex 11) during an educational activity (talk or cooking demonstration) in the community.

-Questionnaire for AMPROS staff (Annex 12) in order to determine the degree of satisfaction related to the services they provide and the material resources they have at their disposal.

**B.) Determination of Sample Size:**

The following people of both Projects were interviewed:

| AMPROS | HOPE |
|---|---|
| Technicians ---- 02 | Technicians ------- 04 |
| Supervisors ---- 04 | Supervisores ------ 02 |
| Extensionists -- 16 | Health Promotors -- 10* |
| Mothers ------- 310 | Mothers ---------- 96** |
| (sampled by convenience) | (sampled by convenience) |

AMPROS:
The entire AMPROS staff was interviewed (22 people).

HOPE:
The entire Vitamin A-related HOPE staff was interviewed (6 people).
*The most active MOH Health Promotors (trained by HOPE) were selected by the HOPE team to participate in the QA activities.
**Seventy of the 96 mothers who were interviewed in order to determine their knowledge level, were also interviewed in order to determine the degree of satisfaction with the services provided by Health Promotors.

The following random observations of performance during educational activities were carried-out:

AMPROS - 16 talks by 16 Extensionists, in the same number of communities were observed. Sample was by convenience, based on educational activities planned during the data collection period.

HOPE - 4 talks by 4 Health Promoters, in the same number of communities were observed. Sample was by convenience, based on educational activities planned during the data collection period.



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*Table 1* presents the results of the Baseline Diagnosis or QA Assessment (8/96 - Knowledge related to Vitamin A) of both Project Teams (for more detailed information see AMPROS, Annex 13A and HOPE, Annex 13B).

*Table 1: Results of QA Assessment*

| AMPROS | | HOPE* | |
|---|---|---|---|
| Group of People Tested | Average Score | Group of People Tested | Average Score |
| Technicians (n = 2) | 56/100 | Technicians (n = 4) | 80/100 |
| Supervisors (n = 4) | 69/100 | Supervisors (n = 2) | 80/100 |
| Extensionists (n = 16) | 50/100 | Promotores (n = 10) | 52/100 |
| Project Mothers (n = 310) | 54/100 | Project Mothers (n = 96) | 72/100 |

*Questions were also included related to general Nutrition as well as gardening.

## IV. Identifying Problems and Selecting Opportunities for Improvement

As part of a workshop organized by the consultant, data collected during the Baseline Diagnosis was analyzed and presented to each project team in conjunction with a review of current project objectives in the area of Health and Nutrition Education. Once the actual situation had been presented and a comparison made with project objectives, each project identified the situations that were preventing them from reaching their established objectives. Following this reflective process, which lead to a heightened awareness as well as discussion of the project's "shortcomings", the concept of Quality Assurance was presented to each team in order to facilitate the process of identification of opportunities for improving educational activities at the community level.

The workshop participants, through a brainstorming session, elaborated a list of problems requiring attention. Subsequently, quality improvement priorities were set and three distinct problem areas were defined as the focus of the QA process for each team. In each project, selection criteria varied, yet two important principles guided the process in both AMPROS and HOPE: 1.) the criteria reflected team, not individual, priorities and 2.) they had to be explicit. This in turn lead to a decision-making process which was as objective and thorough as possible. Both groups of participants considered the technical feasibility of addressing a given problem on a short term basis, the potential impact of improving quality on the population's knowledge level, as well as the adequacy of the needed, available resources in order to prioritize their opportunities for improvement.

## V. Defining the Problem(s)

After selecting the three problem areas, each team operationally defined their problem areas in the form of problem statements. The problem statements identified the problems and how they manifest themselves. They clearly state where each problem begins and ends, as well as how to recognize when the problem is solved. In order to give closure to each problem statement, the importance of beginning the process immediately was also included.

**AMPROS:**

Problem #1
There exists an opportunity to improve the educational process for mothers who attend the Project's Vitamin A activities (charlas and cooking demonstrations). The process begins with the acquisition of knowledge related to Vitamin A on the part of the Personnel of AMPROS and ends with the level of knowledge of the mothers upon leaving the Vitamin A educational activities.

In the current process the mothers are not receiving basic and complete information concerning Vitamin A from the Project Staff. An improvement of this situation will result in all personnel providing mothers with appropriate and complete education on Vitamin A, in order to increase their knowledge level. It is important to work on this process now because it will eventually contribute to a decrease of Vitamin A deficiency.

Problem #2
There exists an opportunity to improve the quality of Vitamin A capsule supplementation of children 6 to 11 months of age. The project personnel are not providing an adequate dose of Vitamin A to this age group according to the supplementation protocol established by the WHO. This process begins when the personnel are trained in the interpretation and application of the norms and ends when the personnel administer the Vitamin A capsules. The result of the current process is that children under one year of age are receiving an insufficient dose of Vitamin A. An improvement of this process will result in all project personnel providing an adequate dose of Vitamin A as a supplement. It is important to work on this process now considering the potential impact on infant mortality and morbidity.

Problem #3
There exists an opportunity to improve the attendance of mothers at the Project's Vitamin A educational activities (charlas and cooking demonstrations). At the moment, the personnel of the Project are not obtaining the expected results from the promotion that is being done to motivate mothers to attend the educational activities. The process starts with the planning and ends with the attendance of the mothers at the educational activities. The current process results in a low attendance rate to the educational activities (15%). An improvement of this process will result in attendance of at least 30% of the mothers in the



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project communities at the activities. It is important to work on this process now in order to improve the attendance and to raise consciousness among the mothers with regards to the importance of acquiring more information in order to improve their childrens' health.

**HOPE:**

Problem #1

There exists an opportunity in the process of strengthening the training system related to team work of the HOPE "staff" (Supervisors, Technicians and Health Promotors), beginning with the interinstitutional coordination and ending with their work performance at all levels. The Health workers were not fully trained, this not only causes concern and insecurity in the transmission of the messages but also in the use of visual techniques and participatory methodologies. An improvement of this situation should result in a more systematic, integral and participatory training process, in order to achieve a more dynamic educational process between "the student" and "the educator". It is important to work on this process now because through it the team will strengthen their knowledge and will improve their performance in the transmission of the messages to the community.

Problem #2

There exists an opportunity to improve the performance of the Health Promotor with the assigned educational activities, beginning when the coordination between Project HOPE and the Ministry of Health (MOH) is established and ending with the improved performance of the Health Promotor. The current process causes an overload of work, lack of motivation and completion of the tasks assigned to the Health Promotor. An improvement of this situation should result in a more active participation of the Health Promotors in the Project activities. It is important to work on the process now in order to achieve a better coordination between HOPE and the MOH in the educational activities performed by the Health Promotors.

Problem #3

There exists an opportunity to improve the efficiency of the monitoring/follow-up system of educational activities in Nutrition, Vitamin A and Vegetable Gardens that the Health Promotors trained by Project HOPE carry out. The process begins with the in-service monitoring of the Technicians done by the Supervisors and finished with the follow-up the Technicians give to the Health Promotors related to their community educational activities. The current system does not allow a periodic registration of information that can identify critical areas, nor does it allow either analysis and decision making on the performance of training activities. This causes difficulties in order to measure the progress of the training plan, and does not provide the appropriate feedback on the implementation and accomplishment of activities at the different levels. An improvement of this situation will allow a periodic and systematic surveillance of the educational activities in order to make corrections immediately.

## VI. Analyzing and Studying the Problem(s) to Identify Root Causes

Subsequent to defining each problem in operational terms, technical orientation was provided by the consultant regarding the use of various QA tools for the analysis of problems, such as: modeling, flow charting and cause-and-effect diagrams. The tool of choice for both projects to be used in determining the root causes originating each of the three problem areas, was the cause-and-effect diagram. Once several potential causes were identified for each problem area, the most damaging causes were determined by each work team. A plan for identifying sources of information and a detailed work methodolgy were determined in order to conduct an in-depth examination of each of the most damaging root causes. Once information was collected by each work team, the results were presented to the entire project team in graphic form in order to illustrate variations and trends among the project personnel as well as the target population.

## VII. Developing Solutions

Each Project considered that the problem-solving phase, that of developing and evaluating potential solutions, was not the sole responsibility of one individual, yet was to be a team effort. Therefore, in both cases, personnel seem to be responsible for the processes related to the root causes were involved. Through the use of the decisional matrix methodology, each of the Project's work teams elaborated a list of potential solutions based on the baseline information collected previously. The criteria used for the selection of the solutions were: importance; time/logistic and economic feasibility; impact. Each work team was encouraged to think creatively and to generate a variety of solutions from which the entire Project team could select. The following potential solutions were selected by each Project.

**AMPROS:**

Solution to Problem #1

Reinforcement of the Project Personnel's knowledge in the weakest subject areas identified in the Evaluation of Knowledge test (such as the phases of Xerophthalmia, Supplementation norms and Basic Vitamin A Messages) and the reinforcement of participatory techniques/methodologies for the entire work team.

Solution to Problem #2

Standardization of the entire team in the dosis in drops (Vitamin A capsules) of children 6 to 11 months of age and actualization in the Vitamin A supplementation and treatment norms, according to the WHO protocol.

Solution to Problem #3

Improve the promotion for the attendance at educational sessions (charlas) through the participation in socio-cultural activities and through home visits.

**HOPE:**

Solution to Problem #1

Establish a systematic model of training on Nutrition, Vitamin A and Vegetable Gardens, focusing on participatory techniques for the Promotors of the area of Totonicapán, which Project HOPE support/train.

Solution to Problem #2

Provide the Health Promotors with training in the use of visual materials and participatory techniques in order to improve their performance and provide follow-up support of the activities they carry-out in order to improve their confidence and motivation levels.

Solution to Problem #3

Strengthen the follow-up/supervision of the activities performed by the Health Promotor, through the design of a supervisory instrument, preferably a checklist for observations, for the use of the Technicians during the monitoring of the educational activities which the Health Promotors conduct with the community mothers (charlas and cooking demonstrations).

## VIII. Implementing and Evaluating Quality Improvement Efforts

In order to achieve improvement in the quality of the educational services related to Vitamin A which each Project provides to their target population, detailed work plans were elaborated for immediate implementation of the solutions proposed by each of the participating work teams. The following factors were included in the elaboration of each of the work plans:

1. Objectives
2. Steps to be taken or Activities to be developed
3. Indicators (Monitoring and Evaluation)

As a conclusion to this phase, each group - through a narrative technique -presented the identified problem, causes/roots, solutions and plan of action with corresponding monitoring and evaluation components.

The following Problems and Indicators were included in the work plans elaborated by each Project (for more detailed information related to the "steps to be taken" see AMPROS, Annex 14A and HOPE, Annex 14B).

AMPROS:

Problem #1

**Inadequate Content of Educational Sessions/Mothers Receiving Incomplete Information at Educational Sessions**

Indicator: Percent of Extensionists With a Score of 100% on Technical Examinations

Indicator: Percent of Extensionists Who Can Properly Identify All Stages of Xerophthalmia

Indicator: Number of Key Messages Identified by Extensionsists

Indicator: Number of Extensionists Repeating All Key Messages and asking Mothers to do the Same as Summary Activity at the Close of Each Educational Session

Indicator: Number of Extensionists Utilizing at least one Participatory Method During all Educational Talks (charlas)

Indicator: Knowlege Level of Participant Mothers

Problem #2

**Lack of Standardization of Number of Drops Equaling 100,000 IU of Vitamin A (half of a Capsule) for Children 6 to 11 Months of Age**

Indicator: Percent of Extensionists Who Can Properly Identify Supplementation Regimens

Indicator: Number of Extensionists Who Are Supplementing Children 6 to 11 months Correctly in the Next Vitamin A Campaign

Problem #3

**Low Level of Participation at the Nutrition Lectures and Cooking Demonstrations**

Indicator: Number and Percentage of Project Mothers that Received Education Through Lectures

Indicator: Number and Percentage of Project Mothers that Received Education Through Cooking Demonstrations

Indicator: Number of Project Mothers that Received Education Through Home Visits

Indicator: Number of Promotional Meetings with Community Leaders/Promotional Visits to Important Community Gathering Places

**HOPE:**

Problem #1

**Inadequate Training for all Health Promotors (not Comprehensive/Integrated)**

Indicator: Number of Monthly Training/Reinforcement Courses Given to Health Promotors Based on Weak Points Detected on Technical Examinations

Indicator: Number of Health Promotors Evaluated on a Monthly Basis

Indicator: Percent of Health Promotors With a Score of at least 75% on Technical Examinations

Problem #2

**Failure on the Part of the Health Promotors to Carry out Their Assigned Activities**

Indicator: Number of Training Sessions for Health Promotors, with the HOPE Technical Staff, Emphasizing the use of Participatory Techniques

Indicator: Number of Educational Sessions Carried-out by the Health Promotors According to their Monthly Work Plan

Indicator: Number of Health Promotors Utilizing at Least One Participatory Method During all Educational Talks (charlas)

Indicator: Number of Health Promotors Utilizing Visual Educational Materials Appropriately

Problem #3

**Lack of Systematic, Effective Supervision and Monitoring Plan For Vitamin A-related Educational Activities**

Indicator: Number of Protocols/Guides Developed for Supervision and Monitoring of the Vitamin A-related Educational Component

Indicator: Number of Technicians That Were Supervised in a Systematic Manner Utilizing the Newly Developed Guides

Indicator: Number of Health Promotors That Were Supervised/Monitored in a Systematic Manner Utilizing the Newly Developed Guides

Indicator: Number of Supervsions Extrapolated to the Ministry of Health (MOH), Ministry of Agriculture (DIGESA) and other NGOs

## IX. Forming a Quality Team or Circle

Prior to the formation of the Quality Circle or Team as part of the monitoring plan, technical advice was given to both project's staff by the consultant regarding: 1.) how to work more efficiently in groups; 2.) the process of maturation of a group; 3.) some of the reasons for failure of cases quality teams in various cases. The methodologies used by the consultant were directed reading and group discussion related to the concept of team work.

In order to ensure the involvement of "staff" from all levels who are most knowlegeable about the process related to the pre-defined problem areas, the formation of the Quality Team/Circle should include those who are involved with, contribute inputs or resources to, and/or benefit from the activity or activities in which the problem occurs. The AMPROS team was able to follow the guidelines for the formation of a Quality Circle through the integration of ten people including the Technical Coordinator, 4 Project Supervisors, 1 Agricultural Technician, 4 Field Extensionists and the Administrative Assistant. While the HOPE team ran into constraints due to the fact that the Health Promotors are Volunteers who are not directly subordinate to the Project personnel, therefore their Quality/Follow-up Team included only "upper" level staff, a total of seven people, 2 Supervisors, 4 Technicians and a volunteer physician.

While the definition and analysis of the problem areas, the identification of the root causes and the development and implementation of the plan of action were team efforts, the monthly monitoring of indicators was determined to be the responsiblity of the Quality Circle/Team in each Project. The QA Circle was responsible for providing summary information (in graphic form) on a monthly basis in order for each Project to make decisions related to whether or not a given solution has been proven effective and sustainable or ineffective and must be abandoned or modified.

The QA Team was also responsible for identifying new solutions to the pre-defined problem areas and/or identify new problem areas through a team process or through data generated by the existing monitoring system.

## X. Monitoring Quality

The Monitoring System, which is central to a QA Program, must be designed in order assess "processes" not just outcomes. The Monitoring System is composed of the routine collection and review of data, on various levels, which helps to assess whether program norms are being followed, activities are being carried-out, and whether quality indicators have improved. The design of the Monitoring System requires the translation of statements

about expected quality improvements into measurable indicators. Performance thresholds must be set, information sources selected, a system for collecting data and compiling results must be designed, and finally monitoring activities must be assigned to specific personnel (QA Circle/Team).

**AMPROS:**

During the implementation phase, from September to November, 1996 all Field Extensionists incorporated into their usual monthly data collection for the Health Information System (HIS), data related to various quality indicators such as: 1.) use of participatory methods during educational talks and 2.) number and percentage of Project Mothers receiving education through home visits. The number of Project Mothers receiving education through charlas and cooking demonstrations, as well as the number of promotional meetings with community leaders were already included in the information reported by the Extensionists as part of the HIS.

Supervisors corroborated the data reported by the Extensionists through their supervisory reports. A specific supervisory checklist related to the quality of educational activities was also designed and implemented by the Supervisors in conjunction with their usual supervisory checklist (see Annex 15).

The QA Circle met on a monthly basis, in order to monitor and to provide follow-up on the activities established in the previously designed work plan as well as to monitor the QA "process", utilizing as a base, the results related to each quality indicator designed for the three problem areas. The QA Circle was responsible for reviewing, analyzing and summarizing the data collected by the team. Aside from a verbal monthly report, the members of the Circle also designed instruments (graphic) for reporting the data to the rest of the team (see Annex 16). These graphs, which were displayed in the field office, allowed the team to visualize the advances in the QA process and to analyze whether or not the activities previously determined were appropriate for reaching the level and type of quality desired. Any changes to activities or indicators were made on the level of the entire team with technical support from the QA Circle.

**HOPE:**

During the implementation phase, from September 1996 to February 1997, two different people were in charge of the QA activities for Project HOPE. The second person took over the direction of the project in November, exactly half way through the implementation phase. Due to the lack of a QA Circle (HOPE's decision), the change in Direction and the fact that the "HOPE" field workers are Volunteer Health Promotors from the MOH, certain components of the monitoring system, which as stated earlier is central to a QA Program, are lacking.

At bi-monthly meetings with HOPE staff (Supervisors and Technicians), discussions were held related to the advances of certain QA-related activities such as the training/re-orienting of Health Promotors and the distribution of visual aids. Yet, due to the lack of



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an established HIS between Health Promotors and HOPE staff, data related to specific quality indicators was not collected, analyzed nor summarized and presented in a visual manner for the entire team to review. The QA Team was unable to incorporate instruments such as supervisory checklists related specifically to the quality of educational activities into their usual supervisory forms, therefore much of the data that was indeed collected and reported to the Project Manager was data based on completion of activities not on assessing process.

**In General:**

The monitoring system was to be designed, implemented and modified during both an initial three month implementation phase and a two to three month follow-up phase - where monitoring responsibilities were to be transferred to field personnel. Project AMPROS was able to carry-out both the initial and follow-up phases of the monitoring system, while due to the weak link in project HOPE's monitoring system, their initial implementation phase was extended to a six month period and the follow-up phase was dropped.

## XI. Assessing Process & Outcomes - Final Evaluation

During a one week period (12/96 - AMPROS and 4/97 - HOPE), the QA process was evaluated in order to determine whether the solutions proposed by the quality improvement plan for each project were proven to be effective. In order to measure the level of knowledge related to Vitamin A, the consultant designed tests for the Technicians (Supervisors) and the Field staff (Extensionists-AMPROS & MOH Health Promotors-HOPE), and the project staff once again carried-out supervised interviews with mothers. In order to measure performance of the Extensionists and Health Promotors in their delivery of educational activities (talks and cooking demonstrations), observations were made by both the consultant and project Supervisors. Data from each project's monitoring/information system was also reviewed by the consultant.

**Instruments used in Final Evaluation:**

-Test to measure the knowledge related to Vitamin A of the AMPROS staff (TS-AMPROS-001, Annex 17), HOPE Technical personnel (Annexes 2) and Health Promotors (Annex 3).

-Guide for interviewing mothers with children under six years of age, in order to measure knowledge related to Vitamin A in both AMPROS and HOPE project areas (Annex 7).

-Check list for observation of performance of Extensionists (Annex 10) and Health Promotors (OB-02, Annex 11) during an educational activity (talk or cooking demonstration) in the community.



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-Guide for interviewing Vitamin A Coordinator and QA Project Manager of HOPE (Annex 21).

Due to the timing of the final evaluation (December), the AMPROS team was able to implement a follow-up phase as stated earlier, for three months (January - March) during which some of the QA activities were transferred to other project personnel. The follow-up phase focused on the fact that in January, as part of AMPROS' sustainability activities, more responsibility was given to the Community Volunteers in relation to the educational activities. Two new instruments were designed by the QA Circle: 1.) A supervisory checklist implemented by the Extensionists for use in monitoring the quality of educational activities carried out by the Community Volunteers and 2.) A guide implemented by the Supervisors for evaluating mothers knowledge following the educational activity given by the Volunteer (see Annex 22).

## IV. RESULTS

### A. AMPROS:

Problem #1

**Inadequate Content of Educational Sessions/Mothers Receiving Incomplete Information at Educational Sessions**

Indicator: Percent of Extensionists With a Score of 100% on Technical Examinations

Indicator: Percent of Extensionists Who Can Properly Identify All Stages of Xerophthalmia

Indicator: Number of Key Messages Identified by Extensionsists

Indicator: Number of Extensionists Repeating All Key Messages and asking Mothers to do the Same as Summary Activity at the Close of Each Educational Session

Indicator: Number of Extensionists Utilizing at least one Participatory Method During all Educational Talks (charlas)

Indicator: Knowlege Level of Participant Mothers



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Solution to Problem #1

Reinforcement of the Project Personnel's knowledge in the weakest subject areas identified in the Evaluation of Knowledge test (such as the phases of Xerophthalmia, Supplementation norms and Basic Vitamin A Messages) and the reinforcement of participatory techniques/methodologies for the entire work team.

Methods Used to Improve:

-Training and refresher courses for all personnel
-Retraining in participatory methods
-Increase use of participatory methods in a sustematic manner
-Increase use of specific adult education techniques in order to ensure transfer of information
-Increase number of Extensionists using all key messages in each educational session
-Having mothers repeat key messages at end of each educational session

Outcomes:

All three levels of staff involved in health education as well as project Mothers were tested in order to evaluate their basic knowledge level related to Vitamin A. The summary results are compared in ***Table 2*** with baseline and monitoring analyses.

Other results from the same test showed that the percentage of Project Staff able to identify all six Vitamin A Key Messages improved from 68% to 100% while the ability to properly identify all stages of Xerophthalmia rose to 99.5%.

The Supervisors of the QA Circle, with the support of the consultant, observed each Extensionist at least once during the delivering of an educational session (total number of observations = 18). The following results are compared with the baseline analysis in ***Table 3.***

***Table 2: Knowledge Level Related to Vitamin A***

| Level of Staff | Baseline | Monitoring | Final Eval. |
|---|---|---|---|
| Supervisors | 69% (n=4) | 89.5% (n=4) | 100% (n=3) |
| Technician | 56% (n=2) | 81% (n=1) | 100% (n=1) |
| Extensionists | 50% (n=16) | 81.4% (n=15) | 98.5% (n=14) |
| Project Mothers | 54% (n=310) | --- | 84.3% (n=285) |
| Total Staff: | 58.3% (n=22) | 83.9% (n=20) | 99.5% (n=18) |



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*Table 3: Extensionists' Delivery of Educational Sessions*

| Technique observed | YES - implemented | | NO - not implemented | |
|---|---|---|---|---|
| | Baseline | Final | Baseline | Final |
| 1. Initial Motivation | 56% (9) | 67% (12) | 44% (7) | 33% (6) |
| 2. Reinforce Importance of Theme | 62% (10) | 72% (13) | 38% (6) | 28% (5) |
| 3. Establish Good Relationship with Mothers | 87% (14) | 94% (17) | 13% (2) | 5% (1) |
| 4. Explanation of Theme | 81% (13) | 83% (15) | 19% (3) | 17% (3) |
| 5. Creativity | 69% (11) | 83% (15) | 31% (5) | 17% (3) |
| 6. Use of Visual Aids | 87% (14) | 89% (16) | 13% (2) | 11% (2) |
| 7. Group Discusion | 69% (11) | 78% (14) | 31% (5) | 22% (4) |
| 8. Utilize Examples | 50% (8) | 72% (13) | 50% (8) | 28% (5) |
| 9. Utilize at Least One Participatory Technique | 19% (3) | 100% (18) | 81% (13) | 0% (0) |
| 10.Repeat 6 Key Messages to Mothers | 62% (10) | 89% (16) | 38% (6) | 11% (2) |
| 11.Ask Mothers to Repeat Key Messages (Verification) | 50% (8) | 89% (16) | 50% (8) | 11% (2) |
| 12.Ask if There are any Questions | 75% (12) | 72% (13) | 25% (4) | 28% (5) |
| 13.Verify General Understanding of Theme | 75% (12) | 89% (16) | 25% (4) | 11% (2) |
| 14.Evaluate Mothers' Participation in Educ. Session | 0% (0) | 50% (9) | 100% (16) | 50% (9) |

The process of improving the quality of the educational sessions motivated creativity among the project staff and resulted in the development and exchange of various participatory techniques between Supervisors and Extensionists.

Problem #2

**Lack of Standardization of Number of Drops Equaling 100,000 IU of Vitamin A (half of a Capsule) for Children 6 to 11 Months of Age**

Indicator: Percent of Extensionists Who Can Properly Identify Supplementation Regimens



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Indicator: Number of Extensionists Who Are Supplementing Children 6 to 11 months Correctly in the Next Vitamin A Campaign

Solution to Problem #2

Standardization of the entire team in the dosis in drops (Vitamin A capsules) of children 6 to 11 months of age and actualization in the Vitamin A supplementation and treatment norms, according to the WHO protocol.

Methods Used to Improve:

-Retraining of Project Staff and MOH using a learn by example approach
-Standardization of average number of drops equivalent to 100,000 I.U.
-Detailed observation of supplementation of children 6 - 11 months (as well as 12 to 71 months) during Vitamin A campaigns

Outcomes:

All three levels of staff (Technicians, Supervisors and Extensionists) were able to standardize the number of drops extracted from each Vitamin A capsule (8 drops in a 200,000 IU capsule) and therefore determine the equivalent of a 100,000 IU dose (4 drops). MOH staff was also standardized in a similar hands-on manner, obtaining the same results for 200,000 IU and 100,000 IU doses.

Observations made by supervisors during the Vitamin A Campaign following the standardization of drops, reflected that 100% of the Field team was indeed administering the correct 4-drop/100,000 IU dosis of Vitamin A to children from 6 to 11 months of age.

All staff was tested by the external consultant and it was determined that the knowledge level of the workers related to the supplementation protocol for children 6 to 11 months as well as 12 - 71 months was 100%.

Problem #3

**Low Level of Participation at the Nutrition Lectures and Cooking Demonstrations**

Indicator: Number and Percentage of Project Mothers that Received Education Through Lectures

Indicator: Number and Percentage of Project Mothers that Received Education Through Cooking Demonstrations

Indicator: Number of Project Mothers that Received Education Through Home Visits



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Indicator: Number of Promotional Meetings with Community Leaders/Promotional Visits to Important Community Gathering Places

Solution to Problem #3

Improve the promotion for the attendance to educational session (charlas) through the participation in socio-cultural activities and through home visits.

Methods Used To Improve:

-Household visits to mothers not in attendance
-Improved educational practices (participatory lectures)
-Promote the delivery of educational sessions with each cooking demonstration
-Increased contact with community leaders

Outcomes:

The goal for attendance by target population mothers (30% - suggested by the QA Circle and approved by the team) was met by 97%. At the Initial Diagnosis, overall attendance was measured to be 15.6% and improved at Final Evaluation to 29.2% (see Annex 16).

The number of mothers given education through home visits was increased from a Baseline value of 2 to a Final Evaluation value of 1,064 (see Annex 16).

The number of cooking demonstrations that were accompanied by an educational session improved from 74% to 86% during the implementation phase.

Contact was increased with community leaders through a total of 61 promotional meetings and 59 informational meetings throughout the months of September, October and November.

B. HOPE:

Problem #1

**Inadequate Training for all Health Promotors (not Comprehensive/Integrated)**

Indicator: Number of Monthly Training/Reinforcement Courses Given to Health Promotors Based on Weak Points Detected on Technical Examinations

Indicator: Number of Health Promotors Evaluated on a Monthly Basis

Indicator: Percent of Health Promotors With a Score of at least 75% on Technical Examinations

Solution to Problem #1

Establish a systematic model of training on Nutrition, Vitamin A and Vegetable Gardens, focusing on participatory techniques for the Promotors of the area of Totonicapán, which Project HOPE support/train.

Methods Used to Improve:

-Standardize key messages related to Vitamin A
-Training and refresher course to all HOPE personnel and Health Promotors

Outcomes:

All key messages related to Vitamin A (inlcuding Nutrition and Gardening) were standardized and all Health Promotors participated in two comprehensive training/refresher courses carried out by HOPE Technicians.

Health Promotors were not evaluated on a monthly basis, yet along with all other staff involved in health education as well as project Mothers, they were tested in order to evaluate their basic knowledge level related to Vitamin A (questions were included related to general Nutrition as well as Gardening) as part of the final evaluation. The summary results are compared with the baseline analysis in ***Table 4.***

***Table 4: Health Promotors' Knowledge Level Related to Vitamin A***

| Level of Staff | Baseline | Final Eval. |
|---|---|---|
| Supervisors | 80% (n=2) | 91% (n=2) |
| Technicians | 80% (n=4) | 91% (n=4) |
| Promotors | 52% (n=10) | 65% (n=41) |
| Project Mothers | 72% (n=96) | 75% (n=83) |
| Total "Staff": | 70.7% (n=16) | 82.3% (n=18) |

Problem #2

**Failure on the Part of the Health Promotors to Carry out Their Assigned Activities**

Indicator: Number of Training Sessions for Health Promotors, with the HOPE Technical Staff, Emphasizing the use of Participatory Techniques

Indicator: Number of Educational Sessions Carried out by the Health Promotors According to their Monthly Work Plan

Indicator: Number of Health Promotors Utilizing at Least One Participatory Method During all Educational Talks (charlas)

Indicator: Number of Health Promotors Utilizing Visual Educational Materials Appropriately

Solution to Problem #2

Provide the Health Promotors with training in the use of visual materials and participatory techniques in order to improve their performance and provide follow-up support of the activities they carry out in order to improve their confidence and motivation levels.

Methods Used to Improve:

-Monthly training and refresher courses in participatory methods
-Distribution of visual educational materials to all Health Promotors

Outcomes:

Training/refresher courses in participatory methods were indeed carried-out at each bi-monthly meeting of HOPE staff (Technicians and Supervisors) yet there is no monthly training documented for the Health Promotors.

The total number of educational sessions carried out by the Health Promotors according to their monthly work plan was unable to be monitored due to the fact that the Promotors did not turn their monthly plans in to HOPE. It was impossible to calculate any improvement in the percentage of work actually carried out in comparison to that which was planned. Although, the educational sessions monitored by the Technicians were indeed planned in a coordinated manner between the Promotor and the HOPE staff.

In relation to the number of Health Promotors utilizing at least one participatory method and adequately using visual educational materials during all educational talks (charlas), the following observations were made:

-According to the information given by the Health Promotors upon beginning the QA process and the observations by the consultant, they were not using participatory methods nor visual educational materials in a consistent manner during their charlas to mothers.

-In order to implement the initial solution, the HOPE personnel considered the incorporation of participatory methods and visual aids as part of the training of the Technicians and the Health Promotors.

-Considering that the participatory methods were not actually being incorporated into the field educational activities of the Health Promotors until October, the November visit from the consultant became an opportunity to observe the Health Promotors in order to monitor their progress and to reorient their activities, moving the final evaluation up to March of 1997.

-During the actual final evaluation in March, Health Promotors were again observed and a substantial improvement was noted. *Table 5* presents the data collected at Baseline, Monitoring (Nov.) and the Final Evaluation:

***Table 5: Health Promotors' Knowledge Level Related to Vitamin A***

| Techniques utilized by Promotor during Observation of Educational Charla | Baseline (8/96) (n=10) | Monitoring (11/96) (n=34) | Final Eval (3/97) (n=14) |
|---|---|---|---|
| *Repeat key educational messages as reinforcement at end of charla | 0 | 34% | 79% |
| *Adequate use of visual aids | 0 | 83% | 100% |
| *Use of participatory method | 0 | 77% | 93% |

Problem #3

**Lack of Systematic, Effective Supervision and Monitoring Plan For Vitamin A-related Educational Activities**

Indicator: Number of Protocols/Guides Developed for Supervision and Monitoring of the Vitamin A-related Educational Component

Indicator: Number of Technicians That Were Supervised in a Systematic Manner Utilizing the Newly Developed Guides

Indicator: Number of Health Promotors That Were Supervised/Monitored in a Systematic Manner Utilizing the Newly Developed Guides

Indicator: Number of Supervsions Extrapolated to the Ministry of Health (MOH), Ministry of Agriculture (DIGESA) and other NGOs

Solution to Problem #3

Strengthen the follow-up/supervision of the activities performed by the Health Promotor, through the design of a supervisory instrument, preferably a checklist for observations, for the use of the Technicians during the monitoring of the educational activities that the Health Promotors conduct with the community mothers (charlas and cooking demonstrations).

Methods Used to Improve:

-Develop Protocols/Guides for Supervision and Monitoring of the Vitamin A-related Educational Component

Outcomes:

As of the final evaluation, Protocols/Guides are being developed and will be implemented for the supervision and monitoring of the Vitamin A-related educational activities carried out by Technicians and Health Promotors (a protocol currently exists in draft form).

A number of tools exist in order to indirectly supervise educational activities on a monthly basis such as registers of number of Supervisory visits made to Health Promotors and the Health Promotors' rosters of mothers who attend a given educational activity. Unfortunately these tools do not allow for the evaluation of the quality of the supervisory visit nor the educational activity. The guide used for the initial QA Assessment could have been adapted to fit this need, yet the Technicians were unable to incorporate its use on a monthly basis.

No supervsions were reported to have been extrapolated to the Ministry of Health (MOH), Ministry of Agriculture (DIGESA) or to other NGOs. Yet information was passed on to the other organizations in an informal manner through the Health Promotors/Volunteers who were coordinating activities with HOPE in the Totonicapán area.

## V. DISCUSSION

It must be considered that during the first quarter of the project (planning phase), both Project HOPE and I.E.F. were notified by USAID/BHR/PVC/CS that their projects in Guatemala would not be receiving funding for extensions, as requested. As a result, activities for the HOPE area of Totonicapán and for the I.E.F./AMPROS project area were to continue only through March of 1997. Calculating that the projects would be in a phase-down period in the first months of 1997, prior to the close of the projects, it was decided to shorten the implementation phase of the OMNI project from 10 to 8 months, with a follow-up phase of 2 to 3 months from January to March of 1997, when project activities were less likely to be "normal" and could potentially interfere with proper assessment of QA methods. For reasons stated earlier, the final evaluation of HOPE's QA activities was indeed carried-out in March.

Although the implementation phase was shortened, concrete results were indeed observed related to all three proposed project aims.

**"Can QA methods can be adapted easily for use in monitoring and evaluating a communications plan."**

As reflected in the activities of the AMPROS QA circle as well as the entire team, it is quite easy to adapt QA methods to an existing HIS where monitoring and evaluating tools have already been implemented, yet are lacking a focus on the "quality of process". Whereas in

the case of HOPE, due to the lack of a pre-existing HIS and the lack of the formation of a true QA Circle, the adaptation of QA methods was a bit more difficult and was only possible in the evaluation (initial and final) of the QA process.

The ease with which QA methods can be incorporated into the monitoring of a communications plan depends strongly on the level of supervision, communication and responsibility between all levels of "workers" (Project Staff as well as Volunteers). The strong dependency on Volunteers at the critical interface with the target population, specifically those from other Institutions that are not directly subordinate to the Project Staff, is very debilitating to the monitoring phase of these interface activities.

**"What are the most efficient and effective performance indicators that can be used by different levels of health workers and supervisors."**

Both Projects were able to define efficient and effective performance indicators to measure the delivery and impact of Health and Nutrition educational materials, based on the existing supervision and information systems, the target population, project objectives, educational goals and support materials used for training on all levels. The measurement of these performance indicators by the AMPROS staff during the monitoring phase was crucial to the provision of feedback to the Field workers and to the continued improvement of their interpersonal communications skills and use of visual aids.

The definition of such indicators by all levels of both Project Teams helped to shift the focus of activities to that of improving quality and assuring impact, from that of simply carrying-out responsibilities. The monthly presentations of the results of the monitoring of performance and other indicators by the AMPROS QA Circle led to a constant, very constructive, re-evaluation of activities as well as a healthy sense of competition to improve individual as well as overall quality on all levels of health workers and supervisors.

**"What are the nutritional behaviors of mothers and children that can be measured pre- and post-intervention."**

Due to the reduction in the implementation phase, a discussion was held with Dennis Zaenger and Paul Richardson of the QAP/URC during which it was determined that the new time period would allow sufficient time to draw necessary conclusions related to the quality of the educational interventions and to changes in knowledge level of participants. As a result, the pre- and post-intervention measurements were changed from that of "nutritional behaviors" of mothers to that of "Nutrition/Vitamin A knowledge" of mothers.

The results of AMPROS' measurments at baseline (pre-test), monitoring and final evaluation (post-test) showed marked improvement in knowledge levels of project staff as well as participant mothers. Project staff improved from an average score of 58.3% to 99.5%, while mothers improved from an average score of 54% to 84.3%.

The results of HOPE's measurements at baseline (pre-test) and final evaluation (post-test) showed a slight improvement in knowledge level of project staff and Health Promotors and basically no improvement in participant mothers. Project staff improved from an average



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of 80% to 91%, while mothers basically maintained their same score (average of 72% to 75%) and Health Promotors improved from an average of 52% to 65%, yet both their pre- and post-test averages were below those of the participant mothers.

Due to the constraints related to the fact that the Health Promotors are Volunteers who are not directly subordinate to HOPE staff and to the lack of an existing HIS between HOPE and the MOH, the QA methodology suffered numerous shortcomings mentioned earlier such as the lack of a QA Circle incorporating all levels of "workers" involved in the communications plan, lack of development of protocols for supervision and monitoring, lack of monthly feed-back related to the quality indicators, etc. It is likely that these methodologic shortcomings are reflected in both the low knowledge level of Health Promotors as well as the lack of improvement in knowledge level of participant mothers. It is also speculated that the difference in knowledge levels between mothers and Health Promotors is due to the fairly high turnover of the MOH Volunteers as well as the fact that there are many health-related NGOs working in the Totonicapán area.

## VI. CONCLUSIONS

In conclulsion, there is no recipe for developing a QA program. What is clear is that such a program must include a comprehensive set of quality assessment and improvement activities and indicators that are incorporated into the organization's routine monitoring and evaluation functions. It is indeed a creative process that requires flexibility in order to adapt to a given PVO's/NGO's unique program features as well as to their target population's unique characteristics and needs. The following is a suggested list of key activities are usually carried out in building a QA program and most often take place concurrently, along with continuous renegotiation as the program evolves and conditions change.

| Key Activities in the Development of a Quality Assurance Program |
|---|
| * Foster Commitment to Quality<br>* Conduct a Preliminary Review of QA-related Activities<br>* Develop the Purpose and Vision for the QA Effort<br>* Determine Level and Scope of Initial QA Activities<br>* Assign Responsibility for QA<br>* Allocate Resources for QA<br>* Develop a Written QA Plan<br>* Strengthen QA Skills and Critical Management Systems<br>* Disseminate QA Activities<br>* Manage Change QAP/URC |



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As Public-Health oriented PVOs and NGOs learn more about the QA process, they are likely to discover that some of their current activities are indeed related to quality improvement. These existing activities as well as an existing health information system, the understanding of staff at all levels of how their day-to-day work relates to quality improvement and the specific support of top-level managers from early on in the overall vision of quality improvement provide the foundation upon which to build a comprehensive QA program.

## VII. RECOMMENDATIONS

- QA methods should be incorporated into the design of a communications plan from its initiation.

- The specific incorporation and support of the Project Manager during the entire QA process is a key factor in determining the success of the quality activities.

- It is necessary that the QA circle be a multidisciplinary representation of "workers" from all levels. Those "workers" who are involved with, contribute inputs or resources to, and/or benefit from the quality activities must be specifically included in the QA circle (ie. Field workers and/or Volunteers).

- The ease with which QA methods can be used for the monitoring and evaluating of a communications plan depends strongly on the existence of an established HIS where monitoring and evaluating tools have already been implemented, yet are lacking a focus on "quality of process".

- The level of supervision, communication and responsibility which exists between all levels of "workers" (Project Staff as well as Volunteers) is essential to a functioning QA program.

- The strong dependency on Volunteers at the critical interface with the target population, specifically those from other Institutions that are not directly subordinate to the Project Staff, is very debilitating to the monitoring phase of the interface activities, unless upper level staff from the other Institutions is involved in the QA process.

- Changes in the coordination of the QA Circle/QA activities may limit adequate follow-up of the monitoring of quality indicators, specifically if the new coordinator has not been involved in the QA process from its initiation.

- The definition of efficient and effective performance indicators and the measurement of these indicators during the monitoring phase is crucial to the provision of feedback to the "staff".

- The summary presented on a monthly basis (initially) by the QA circle must be in graphic form, displayed in a central location and discussed with the entire team in order to determine whether or not quality indicators have improved and as a result if future quality activities must be reoriented.

- The team can consider the quality improvement effort a success when it has evidence that the problem has been resolved: the data show that the problem no longer exists and the changes (solutions) have been incorporated into routine procedures. The quality improvement efforts are complete when the team feels content with its efforts and their effectiveness.



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## VIII. REFERENCES

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## IX. ANNEXES

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| Annex 2: | Guide for Evaluation of Technician's Knowledge |
| Annex 3: | Guide for Evaluation of Promotor's Knowledge |
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| Annex 19: | Interview to Measure Knowledge of Vitamin A in Mothers Who Are Project Beneficiaries (With children under 6 years of age) |
| Annex 20: | Format for Final Evaluation |
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ANNEX 01

INTERNATIONAL EYE FOUNDATION

QUALITY ASSURANCE OF THE EDUCATION SERVICE PROVIDED BY THE AMPROS PROJECT

INTERVIEW TO MEASURE HEALTH WORKERS' KNOWLEDGE RELATED TO VITAMIN A
(CN - 103)

No._____

A. General Aspects
1. Date: _____
2. Name: _____
3. Communities under his/her responsibility
_____
_____
_____

4. Sector:_____
5. Position in the Project
   a. Supervisor
   b. Extensionist
   c. Other. Specify _____

6. How long have you worked in your present position?
   1a. 1 - 6 months
   2b. 7 - 12 months
   3c. 1 - 2 years
   4d. More than 2 years

7. Educational Level
   1a. Elementary incomplete
   2b. Elementary complete
   3c. Middle school incomplete
   4d. Middle school complete
   5e. High school incomplete
   6f. High school complete
   7g. University incomplete
   8h. University complete

B. KNOWLEDGE

8. Where is Vitamin A stored in the body?
   a) Heart
   b) Lungs
   c) Liver
   d) Kidneys
   e) In all the organs of the body

9. Who should receive Vitamin A capsules?
   a) Women 4 months post partum
   b) Children during the first 6 months of life
   c) Children from 6 months to 5 years
   d) Adolescents

10. A mother who has a one week old baby should receive Vitamin A
    a. Yes b. No

11. What key messages to you transmit to mothers about Vitamin A?
    a) It helps growth and development
    b) It reduces severity of diarrheal disease, ARI and measles
    c) Mothers should receive Vitamin A supplements post-partum (first 30 days after birth) to fortify their milk
    d) Foods that have Vitamin A include leafy green vegetables, yellow and orange fruits and vegetables
    e) Dairy products like milk, cream and fresh cheese contain Vitamin A.
    f) Eggs, liver, lungs and heart have Vitamin A.

12. Name 5 functions of Vitamin A.
    a) growth and development of children
    b) skin
    c) prevent xerophthalmia (vision)
    d) maintain epethelial integrity
    e) protection against disease
    f) differentiation or regeneration of cells
    g) didn't mention any
    h) other responses _____

13. What is the relationship between Vitamin A and measles?
    a) Avoids complications of measles
    b) Other response

14. What is the relationship of Vitamin A to diseases such as diarrhea and pneumonia?
    a) Decreased morbi-mortality/Protection against infections
    b) Other response

15. In your opinion, which of the following foods have Vitamin A?

| | | |
|---|---|---|
| a. strawberries | b. oranges | c. watermelon |
| d. sweet potatoes | e. "guisquil" | f. watercress |
| g. parsley | h. carrots | i. apples |
| j. papaya | k. Coca Cola | l. packaged soup mixes |
| m. "quilete" | n. spinach | ñ. ripe mangos |
| o. liver | p. milk | q. lemons/limes |
| r. tangerines | s. cantaloupe | t. breast milk |
| u. avocado | v. eggs | w. cabbage |
| x. beets | | |

16. Should Vitamin A capsules be given to a pregnant woman?
    a. Yes b. No

17. Who <u>should not receive</u> Vitamin A capsules?
    a) women of reproductive age (if they are more than a month post partum)
    b) children under 6 months
    c) children over 6 years
    d) pregnant women

18. What dose of Vitamin A should a 7 month old baby receive as a supplement?
    a) half a capsule
    b) other response

19. What dose of Vitamin A should a 13 month old baby receive as a supplement?
    a) a whole capsule
    b) other response

20. What is the correct dose of Vitamin A capsules for women immediately post partum?
    a) one capsule in the first 30 days postpartum
    b) other response

21. What is the correct dose of Vitamin A to be used as treatment for severely malnourished children between 6 and 11 months of age?
    a) first, half a capsule, then another half capsule 24 hours later and then a half capsule between 15 and 22 days later.
    b) other response

22. What is the first sign of Vitamin A deficiency in the eye?
    a) Night blindness
    b) other response

23. What is conjunctival xerosis?
    a) dryness of the eye, a sign of xerophthalmia, a sign of Vitamin A deficiency
    b) other response

24. What dose of Vitamin A should be given to a 3 month old child?
   a) none
   b) other response

IF THE RESPONSE WAS a) go to question 25. If the response was b) go to question 26.

25. Why don't children under 6 months of age receive Vitamin A supplements?
   a) They receive Vitamin A through breast milk
   b) other response

26. What is the classification for Xerophthalmia?
   (Circle the letter for each answer mentioned)

   a) night blindness
   b) conjunctival xerosis
   c) Bitot's spots
   d) corneal xerosis
   e) corneal ulcer
   f) scarring
   g) didn't know any

27. If you don't have any more Vitamin A capsules available for your community work, what do you do?
   a) ask supervisor for some more
   b) wait until more are supplied
   c) other, specify _____

28. What activities is this project carrying out to prevent Vitamin A deficiency in the community?
   a) gardens
   b) food demonstrations
   c) Vitamin A education
   d) supplementation
   e) doesn't know

29. How is Vitamin A found in vegetable sources?
   a) as B-carotene
   b) other response

30. How is Vitamin A found in animal sources?
   a) as retinol
   b) other response

ANNEX 02

# HOPE IEF OMNI

(EVATEC - 004)
NUTRITION, VITAMIN A AND GARDENS PROGRAM

QUALITY ASSURANCE PROJECT

GUIDE FOR EVALUATION OF TECHNICIAN'S KNOWLEDGE

Name:_____ Date: _____

1. The principal functions of Vitamin A include:
   - Maintain corneal integrity — YES ( ) NO ( )
   - Interaction with various opsines at the retinal level to form visual pigment — YES ( ) NO ( )
   - Help to avoid skin infections — YES ( ) NO ( )
   - Help to resist lung and stomach diseases — YES ( ) NO ( )
2. Some sources of Vitamin A are:
   - Beef liver, kidneys, heart and lungs — YES ( ) NO ( )
   - Spinach, carrots, melons — YES ( ) NO ( )
3. What is the most serious degree of xerophthalmia?
   - keratomalacia — YES ( ) NO ( )
4. What is nutrition?
   - It is a science that studies foods and the way the body uses them. — YES ( ) NO ( )
5. Some sources of micronutrients (iron and iodine) are:
   - Swiss chard, spinach, watercress — YES ( ) NO ( )
   - Beans, peas, lentils, sesame seed — YES ( ) NO ( )
   - Shellfish, iodized salt — YES ( ) NO ( )
   - Milk, cheese, and eggs — YES ( ) NO ( )
6. Identify three goitrogenic foods:
   - Broccoli — YES ( ) NO ( )
   - Cabbage — YES ( ) NO ( )
   - Cauliflower — YES ( ) NO ( )
   - Peanuts — YES ( ) NO ( )
7. Vegetables are classified as:
   - Roots and stems — YES ( ) NO ( )
   - Leaves, flowers and fruits — YES ( ) NO ( )

8. Some conditions to consider for good selection and location of land are:
   - Flat or with conservation techniques YES ( ) NO ( )
   - Protected from wind YES ( ) NO ( )
   - Close to home YES ( ) NO ( )
9. Some conditions for soil preparation are:
   - Plow YES ( ) NO ( )
   - Break up lumps YES ( ) NO ( )
   - Incorporation of organic material YES ( ) NO ( )
10. Three important conditions for seed selection are:
   - Adaptability YES ( ) NO ( )
   - Purity YES ( ) NO ( )
   - Quality YES ( ) NO ( )

ANNEX 03

# HOPE IEF OMNI

(EVATEC - 004)
NUTRITION, VITAMIN A AND GARDENS PROGRAM

QUALITY ASSURANCE PROJECT

GUIDE FOR EVALUATION OF PROMOTER'S KNOWLEDGE

Name:_____ Date: _____

1. What is nutrition?
- It is a science that studies foods, the way our bodies use them to form muscles, bones and organs in order to be healthy and strong, and to support us when we get sick. YES ( ) NO ( )

2. What foods give strength and energy?
- Carbohydrates: Oatmeal, bread, wheat, tortillas, rice, corn and beans. YES ( ) NO ( )
- Fats, oil, lard, butter and margarine YES ( ) NO ( )
- Fruits, vegetables and roots (tubers) YES ( ) NO ( )
- Avocado, plantain, banana, manioc (yuka), sweet potatoes, "ichintal" YES ( ) NO ( )

3. What food groups help us to grow? YES ( ) NO ( )
- Proteins, like meat, chicken, milk, cheese, cream and eggs YES ( ) NO ( )
- Vitamins and minerals

4. What foods help to protect against diseases?
- Mother's milk YES ( ) NO ( )
- All dark yellow fruits and vegetables and dark green vegetables or leaves. YES ( ) NO ( )

5. Note three kinds of gardens
- Family YES ( ) NO ( )
- School YES ( ) NO ( )
- Community YES ( ) NO ( )

6. For management of gardens, planting can be:
- Direct YES ( ) NO ( )
- Indirect YES ( ) NO ( )

7. Which are the steps to follow for land preparation?

- Plow YES ( ) NO ( )
- Break up lumps YES ( ) NO ( )
- Incorporation of organic material YES ( ) NO ( )
- Disinfect YES ( ) NO ( )

8. What repellent plants do you know of?

- Mint YES ( ) NO ( )
- Marigolds YES ( ) NO ( )
- "Apazote" YES ( ) NO ( )
- Others: _____

9. Vitamin A is necessary for:

- Preventing blindness YES ( ) NO ( )
- Protecting children from diarrheal diseases YES ( ) NO ( )
- Protecting children from respiratory diseases YES ( ) NO ( )
- Protecting the skin YES ( ) NO ( )
- Growth and development YES ( ) NO ( )

10. What does a lack of Vitamin A cause?

- Difficulty seeing at night or in shadows (night blindness) YES ( ) NO ( )
- White spots on the skin YES ( ) NO ( )
- Frequent ARIs YES ( ) NO ( )
- Frequent diarrheal diseases YES ( ) NO ( )

11. How is a lack of Vitamin A treated?

- Supplementation with capsules YES ( ) NO ( )
- Increased consumption of foods which contain this vitamin YES ( ) NO ( )

12. Vitamin A is found in:

- Beef liver and organ meats YES ( ) NO ( )
- Dark yellow or green vegetables YES ( ) NO ( )
- Incaparina YES ( ) NO ( )
- Milk and eggs YES ( ) NO ( )

13. Up to what age should a child be exclusively breastfed?

- Six months YES ( ) NO ( )

14. Is breastfeeding for up to 24 months (2 years) complemented with good nutrition, advisable? YES ( ) NO ( )

15. Mention the key messages about Vitamin A that you share with mothers:

_____

## ANNEX 04

## INTERNATIONAL EYE FOUNDATION

Questionnaire for Evaluating Human Resources
(Aptitudes, performance)

No. _____ (INPUT 102)

1. Position:

2. Profession:

3. Date:

4. Educational level

| Grade | Completed | Incomplete |
|---|---|---|
| Elementary | | |
| Middle School | | |
| High School | | |
| Higher Education | | |

5. What activities do you carry out within the Project?
   a) Training of health volunteers
   b) Education for mothers
   c) Supervision
   d) Monitoring of activities
   e) Execution of other activities
   f) Planning
   g) Other (specify) _____

(NOTE: Original in Spanish jumps from question 5 to 7)

7. How long have you been working on the Project?
   a) less than 6 months
   b) from 6 months to 1 year
   c) more than 1 year

8. Do you work in the field?
   a) Yes
   b) No

If you answered yes, go to question 9. If you answered no, go to question 10.

9. What percentage of your time is spent
   a) Working in the community ( )
   b) Working in the office ( )
   c) Outside of the office ( )
   d) In other activities outside the office ( )
   e) Traveling to or within the community ( )

10. Do you feel that the resources supplied by the project in order to do your job are:
   a) Adequate
   b) Very limited
   c) Insufficient

11. Why? _____

_____

## II. TRAINING

12. Have you received education related to your work in the last 6 months?
   YES NO

13. When was the first time you received training in Vitamin A?
   a) Immediately after being hired
   b) Did not receive training in the first month
   c) Doesn't remember
   d) Other

14. Who provided the training in Vitamin A?
   a) Technical coordinator - project manager
   b) Supervisors
   c) Agrarian Technical Advisor
   d) Other invited professionals
   e) Other (specify) _____

15. Had you been trained with regard to Vitamin A by other institutions?
   a) YES Which institution? _____
      In what? _____
   b) NO

16. Did you receive written material during the educational sessions on Vitamin A?
   a) YES What? _____
   b) NO

17. Was any practical exercise included in the vitamin training sessions?
   a) YES What? _____
   b) NO

18. Has the training you received with regard to Vitamin A been useful for carrying out your job?
    a) YES How? _____
    b) NO Why? _____

19. Do you think it is necessary that you continue being trained in aspects related to Vitamin A?
    a) YES In what? _____
    b) NO

20. Can you tell me approximately how many trainings in Vitamin A you have received during the course of your work with this project?
    a) Only one
    b) Two to five
    c) Six or more
    d) None

21. What educational session on Vitamin A have you liked most?
    _____
    Why? _____

22. Do you like to give Vitamin A talks at the community level?
    a) A lot
    b) It's okay
    c) Not much

23. Do you use any support material for your Vitamin A talks or educational sessions?
    a) YES b) NO

24. Have you received training in educational methodologies or techniques?
    a) YES b) NO

25. When you were trained in Vitamin A, did they use a lot of medical terminology that was hard to understand?
    a) YES b) NO

26. When you were trained in Vitamin A, did they use any type of audiovisual educational materials? (Flip charts, videos, etc.)
    a) YES b) NO

27. When you were trained in Vitamin A, did they use any techniques like games or group work?
    a) YES b) NO

28. Were the explanations you were given clear?
a) YES b) NO

29. When you received educational talks or sessions on Vitamin A, were you comfortable enough to ask questions about the topic?
a) YES b) NO

III. PERFORMANCE

30. You plan your work:
a) monthly
b) weekly
c) daily
d) don't plan

31. Do you do any kind of evaluation of mothers' knowledge after your educational talks on Vitamin A?
a) YES b) NO

32. Have you asked mothers for information about their level of satisfaction with the talk? (THAT IS, HAVE YOU ASKED IF THEY LIKED THE TALK?)
a) always
b) sometimes
c) almost never
d) never

33. Do you always comply with the Vitamin A talks that are scheduled?
a) YES b) NO Why?_____
_____

34. Do you have meetings with your supervisors and colleagues to discuss and analyze progress towards meeting the goals for educational sessions (talks, cooking demonstrations)?
a) YES b) NO

35. Of the activities that you carry out in your job, which are most important in your opinion: (Number them in order of importance from 1 to 7)
a) _____Education
b) _____Community organization
c) _____Deworming campaigns
d) _____Supplementation with Vitamin A (children and postpartum women)
e) _____Gardens
f) _____Cooking demonstrations
g) _____Other

36. What population group do you think benefits most from the Vitamin A intervention?

_____

37. Do you think people appreciate your work?
a) YES b) NO

38. How large is the population of children under 6 years of age attended by your project?

_____

39. What is the average percentage of coverage of mothers who attend educational sessions (talks and demonstrations) in the communities you are responsible for ?

_____

40. Have you encountered difficulties in the development of your Vitamin A educational activities?

| | | |
|---|---|---|
| a) Planning | YES | NO |
| b) Execution | YES | NO |
| c) Organization | YES | NO |
| d) Monitoring | YES | NO |
| e) Evaluation | YES | NO |
| f) Coordination | YES | NO |
| g) Communication | YES | NO |

41. In your opinion, which of the following factors has affected your performance in educational activities (cooking demonstrations)?
a) Time factor
b) Lack of continuity
c) Lack of knowledge of the topic
d) Lack of support from the institution
e) Lack of incentive
f) Feeling that in AMPROS you are not appreciated
g) Lack of credibility in the community for your work
h) Lack of motivation
i) Lack of knowledge of methodologies and participatory techniques for non-formal education of adults
j) Lack of supervision
k) Others. Specify _____

_____

l) None

42. Which of the following factors have facilitated the performance of your job, especially the educational component.
   a) Training received
   b) Materials available
   c) Monthly meetings with team
   d) Community acceptance
   e) Coordination with Health Post/Center
   f) Supervision
   g) Others. Specify _____

   _____

43. Do you prepare any report of your activities?
   a) YES (Go to question 44) b) NO

44. How do you do it?
   a) Verbally
   b) In writing
   c) Other

45. Do you follow any format?
   a) YES b) NO

46. How often do you present reports?
   a) Monthly
   b) Weekly
   c) Daily
   d) None

47. Do you turn your report in on time?
   a) YES b) NO
   Why? _____

   _____

48. After each Vitamin A training session, have you been tested to evaluate your knowledge of the topic?
   a) YES b) NO

49. How is attendance at the Vitamin A talks for mothers?
   a) Good
   b) Adequate
   c) Insufficient

50. Do you know the approximate number of people expected to attend your talks and/or cooking demonstrations?
   a) YES b) NO

51. Do you know the Project's educational objectives with regard to Vitamin A?
a) YES b) NO
If yes, answer the following question, if no, go on to question 52.

Write these objectives: _____

_____

_____

## IV. SUPERVISION

52. Does anyone supervise your field work?
a) YES b) NO

53. Who supervises it?

_____

54. In your opinion the frequency of supervision is:
a) Very frequent
b) Sufficient
c) Very little
d) You are never supervised

55. When someone has supervised you in one of the Vitamin A activities have they told you:

| | | |
|---|---|---|
| a) how to improve | YES | NO |
| b) what was wrong | YES | NO |
| c) what a good job you did | YES | NO |
| d) nothing | YES | NO |

THANK YOU FOR THE INFORMATION YOU HAVE PROVIDED

## ANNEX 05

## INTERVIEW WITH SUPERVISORS

Date:

1. Name of Supervisor: _____
2. Who are the extensionists you are responsible for?

3. Fill in the following table:

| EXTENSIONIST | NUMBER OF VITAMIN A TALKS (APRIL) | IN SUPERVISION USED CHECKLIST 3 M SUP | VERBAL NO DEMONSTRA-TABLE SUPERVISION | DID NOT SUPERVISE |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

ANNEX 06

# PROJECT HOPE

## GUIDE FOR FOCUS GROUP WITH TECHNICIANS AND SUPERVISORS

1. Can you tell me how you supervise the promoters?
2. Do you use any format for monitoring training activities in the field?
3. Why?
4. How do you select critical areas that need supervision in the educational component?
5. By whom and how are the promoters supervised?
6. How does the supervisor monitor the technicians?
7. Do you have a monthly plan for monitoring and supervision based on needs that have been detected?
8. Do you give feedback on the information obtained during the supervision?
9. In your opinion, does the supervisory system or mechanism you currently have facilitate or limit decision making?
10. Do the promoters, technicians know what aspects of their performance are going to be taken into account during supervision of training activities?

At the end, review all pertinent documentation with the team.

ANNEX 07

INTERNATIONAL EYE FOUNDATION
AMPROS PROJECT

INTERVIEW WITH MOTHERS OF CHILDREN UNDER 6 YEARS OF AGE
(EFF - 1)

N_____

1. Date:
2. Interviewer: _____
3. Mother's complete name: _____
4. Name of the Community: _____
5. Sector: _____
6. Name of the extensionist who visits her: _____

**A. KNOWLEDGE:**

7. Have you heard about Vitamin A?
   1. Yes
   2. No

8. Do you know how you get Vitamin A?
   1. Yes (Go to question 9)
   2. No (Go to question 10)

9. How?
   1. Capsules
   2. Diet (foods rich in Vitamin A)
   3. Gardens
   4. Other. Specify _____

10. Do you think that you can get Vitamin A from some foods?
    1. Yes
    2. No Why?_____

11. What foods contain Vitamin A? (Can be more than one answer)

**A. GREEN VEGETABLES**

a. "macuy" ( )
b. "chipilin" ( )
c. "bledo" ( )
d. spinach ( )
e. swiss chard ( )
f. broccoli ( )
g. "txoloj" ( )
h. "samat" ( )
i. cilantro ( )
j. "chomtee" ( )
k. "roctish" ( )
l. sweet peppers ( )

**B. YELLOW FRUITS/VEGETABLES**

a. carrots ( )
b. sweet potatoes ( )
c. squash ( )
d. mango ( )
e. ripe plantain ( )
f. cantaloupe ( )
g. papaya ( )
h. "injerto" ( )
i. "ayote" ( )

**C. ANIMAL PRODUCTS**

a. meat, fish, liver ( )
b. breast milk ( )
c. cheese ( )
d. egg yolk ( )

12. People of what ages are at greatest risk of suffering from lack of Vitamin A?
1. children from 6 months to 5 years
2. children under 6 months of age who are not breastfeeding
3. women immediately postpartum
4. children with measles
5. children who are malnourished, have diarrhea or ARI
6. Other. Specify:_____

_____

13. Do you know the symptoms of Vitamin A deficiency?
    1. YES (Go to question 14)
    2. NO (Go to question 15)

14. What are the symptoms of Vitamin A deficiency?
    1. night blindness
    2. dry eyes (even when tears are present)
    3. children don't grow normally
    4. spots, dryness and itching of skin
    5. more frequent diarrheal infections
    6. more frequent respiratory infections
    7. other. Specify: _____

    _____

15. How can we prevent Vitamin A deficiency?
    1. Vitamin A capsules
    2. Eat fortified foods (sugar, Incaparina, margarine)
    3. Eat dark green leafy vegetables and yellow and orange vegetables
    4. Eat yellow and orange fruits
    5. Eat dairy products
    6. Eat animal products
    7. Prevent infections
    8. Other. Specify: _____

    _____

16. How did you learn about Vitamin A?
    a. AMPROS extensionists
    b. Radio
    c. Other. Specify: _____

17. Can you tell me the advice they give in the talks about Vitamin A? (that is the key messages)
    1. It helps growth and development
    2. It helps diarrhea, respiratory illnesses and measles to be less severe
    3. During the first 30 days after childbirth a woman should receive a Vitamin A capsule to enrich the milk she gives her baby
    4. Foods that contain Vitamin A are dark green leafy vegetables, fruits and vegetables that are yellow and orange
       Dairy products, milk, cream and fresh cheese have Vitamin A
    5. Animal products such as liver, heart and lungs have Vitamin A
    6. Doesn't know
    7. Other. Specify: _____

## B. SATISFACTION WITH EDUCATIONAL SERVICES PROVIDED

18. Have you gone to the Vitamin A talks? **(Specify that they are the Vitamin A talks)**
    a. YES (Go to question 20)
    b. NO (Go to question 19)

why

19. What **don't** you go to the talks?
    a. Lack of time
    b. Lack of interest
    c. Don't like them
    d. They are boring
    e. Don't like the topic
    f. Wasn't invited
    g. They aren't important
    h. The time is not a good one for you.
    i. Other. Specify: _____

**GO TO QUESTION 29**

20. How many Vitamin A talks have you attended this year? (From January to June) **(Specify that they are the Vitamin A talks)**
    a. one
    b. other (specify) _____

21. Why do you attend the talks they give in the community?
    a. They are important for our health
    b. To learn more
    c. Curiosity
    d. I like them
    e. Because I was invited
    f. I have the time
    g. Other. Specify _____

22. Do you think the explanations they give in the talks are:
    a. Easy to understand (clear)
    b. Difficult to understand. Why? _____
    _____
    c. More or less clear. Why? _____
    _____

23. If you don't understand something in the talk, do you ask the person giving the talk to explain?
    a. YES
    b. NO Why? _____
    _____

24. Does the person who gives the Vitamin A talks use any type of materials (posters, drawings, etc.) or games?
    a. YES
    b. NO

25. After the talks have you been given any materials?
    a. YES
    b. NO

26. How long do the talks last?
    a. Half an hour
    b. One hour
    c. Two hours
    d. Three hours
    e. Other

27. Do you think that this time is:
    a. Too much
    b. Adequate
    c. Too little
    d. Other

28. How do you think the talks could be improved or how would you like them to be?

    _____

29. Have you attended any cooking demonstrations?
    a. YES (Go to question 31)
    b. NO (Go to question 30)

30. Why?
    1. Lack of interest
    2. Lack of time
    3. They are boring
    4. I don't like them
    5. The schedule doesn't work for me
    6. They don't teach anything new

    (GO TO QUESTION 32)

31. What do they teach, what do they say?

    _____

    _____

32. Do you have a Vitamin A family garden?

a. YES (Go to question 33)
b. NO (This is the end of the interview)

33. What do you have planted in the garden?

_____ _____
_____ _____
_____ _____

34. Why do you think people in your community don't have gardens?

_____
_____

ANNEX 08

# HOPE IEF OMNI

(EVAMA - 002)
NUTRITION, VITAMIN A AND GARDENS PROGRAM

QUALITY ASSURANCE PROJECT

GUIDE FOR EVALUATION OF MOTHER'S KNOWLEDGE

Name:_____ Date: _____
Time involved in project: _____

1. Name six foods that are rich in Vitamin A
- Milk, cream, butter — YES ( ) NO ( )
- Carrots — YES ( ) NO ( )
- Beef liver — YES ( ) NO ( )
- "Hierba mora" or "macuy" — YES ( ) NO ( )
- Kidneys, lungs, heart — YES ( ) NO ( )
- "Ayote" — YES ( ) NO ( )
- Other — YES ( ) NO ( )

2. What is a family garden?
- A garden whose production is meant for family consumption — YES ( ) NO ( )
- Other _____

3. At what age can you give a child well-cooked, mashed carrot?
- Newborn — YES ( ) NO ( )
- At 6 months — YES ( ) NO ( )
- At 12 months — YES ( ) NO ( )

4. What diseases are caused by a lack of Vitamin A?
- Blindness — YES ( ) NO ( )
- White spots on the skin — YES ( ) NO ( )
- Frequent acute respiratory infections — YES ( ) NO ( )
- Acute diarrhea — YES ( ) NO ( )
- Other _____

5. What is colostrum?
- A special milk that comes from the mother's breasts immediately after the baby is born — YES ( ) NO ( )
- A special milk that protects the child from diseases, is very nourishing and has Vitamin A — YES ( ) NO ( )

6. Until what age should a baby be exclusively breastfed?

- 6 months YES ( ) NO ( )
- 9 months YES ( ) NO ( )
- 12 months YES ( ) NO ( )

7. What leafy green vegetables that have Vitamin A do you know of in your community?

- Swiss chard YES ( ) NO ( )
- Spinach YES ( ) NO ( )
- "Hierba mora" YES ( ) NO ( )
- "Bledo" YES ( ) NO ( )
- "Chipilin" YES ( ) NO ( )
- Others _____

8. What happens to a child with night blindness?

- Decreased vision in the dark because of lack of Vitamin A YES ( ) NO ( )

ANNEX 09

# PROJECT HOPE

(EVAPRO - 003)

## NUTRITION, VITAMIN A AND GARDENS QUALITY ASSURANCE PROJECT
**Level of Satisfaction of Mothers with Educational Services Provided**

## INTERVIEW WITH MOTHERS

1. Have you attended the Vitamin A talks?
   a) Yes (Go to question 3)
   b) No (Go to the next question)

2. Why don't you attend the Vitamin A talks?
   a) Lack of time
   b) lack of interest
   c) don't like them
   d) they are boring
   e) don't like the topic
   f) wasn't invited
   g) thinks they aren't important
   h) the schedule doesn't work for you
   i) other (specify) _____

3. How many Vitamin A talks have you attended this year?
   a) One
   b) other (specify) _____

4. Why do you attend the Vitamin A talks in your community?
   a) They are important to me
   b) to learn more
   c) curiosity
   d) I like them
   e) because I was invited
   f) I have the time
   g) other (specify) _____

5. In your opinion the explanations they give in the talk are:
   a) easy to understand
   b) difficult to understand

6. If you don't understand something do you ask the person who gave the talk?
   a) YES
   b) NO

7. Does the person who gives the talks use any type of material (posters, drawings, etc.) or games?
   a) YES
   b) NO

8. After the talks have they given you any materials?
   a) YES
   b) NO

9. How long do the talks last?
   a) A half hour
   b) one hour
   c) two hours
   d) three hours
   e) other

10. Do you think this time is:
    a) too much
    b) adequate
    c) too little
    d) other

11. How do you think the educational talks could be improved or how would you like them to be? _____

    _____

12. Have you attended any cooking demonstrations?
    a) YES
    b) NO

13. Why?
    a) Not interested
    b) not enough time
    c) they are boring
    d) I don't like them
    e) the schedule doesn't work for me
    f) they don't teach anything new

14. What do they teach or tell you in these demonstrations?

_____

15. Have your attended any cooking demonstrations?
    a) YES (go to question 17)
    b) NO

16. Why?
    a) Not interested
    b) not enough time
    c) they are boring
    d) I don't like them
    e) the schedule doesn't work for me
    f) they don't teach anything new

17. What do they teach or tell you in these demonstrations?

_____

ANNEX 10

INTERNATIONAL EYE FOUNDATION

QUALITY ASSURANCE IN THE VITAMIN A EDUCATIONAL PROCESS
CHECK LIST FOR MONITORING
(OB - 02)

Name of the educator: _____

Type of activity: _____

Observer/Supervisor: _____

Date: _____

EDUCATIONAL BACKGROUND:

**Services provided:**

| | | |
|---|---|---|
| 1. Does the extensionist ask the mothers questions to evaluate their knowledge, attitudes and practices with regard to the topic? | YES | NO |
| 2. Does he/she do any type of warm up activity? | YES | NO |

**Discussion of the Topic:**

| | | |
|---|---|---|
| 3. Clearly defines the purpose of the meeting? | YES | NO |
| 4. Discusses the relevance and purpose of the topic. | YES | NO |
| 5. Emphasizes the importance of prevention in the talk or activity | YES | NO |
| 6. Discusses the benefits of a behavior change (i.e., eating foods rich in Vitamin A) | YES | NO |
| 7. Discusses the dangers of maintaining their present attitudes (not giving foods rich in Vitamin A, or giving supplements to children, etc.) | YES | NO |
| 8. Talked about the complications and danger signs of Vitamin A deficiency. | YES | NO |

**Use of Appropriate Techniques**

| | | |
|---|---|---|
| 9. Establishes good rapport with the participants | YES | NO |
| 10. Avoids use of technical vocabulary or terminology | YES | NO |
| 11. Expresses him/herself clearly | YES | NO |
| 12. Establishes eye to eye contact with all the participants | YES | NO |
| 13. Tries to be creative to keep the participants' attention and to avoid being boring | YES | NO |
| 14. Looks for examples and takes advantage of opportunities that come up during the activity to reinforce behavior changes that can be changed easily | YES | NO |
| 15. Communicates the need for behavior change in a way that isn't threatening or judgmental | YES | NO |
| 16. Shows willingness with regard to the needs of the participants | YES | NO |
| 17. Avoids imposing cultural values and preferences (is impartial) | YES | NO |
| 18. Used visual demonstrations: drawings, dramatizations, models, tables, etc. | YES | NO |
| 19. Promotes group discussion and participation during the presentations | YES | NO |
| 20. Gives realistic examples or solutions with regard to the topic | YES | NO |
| 21. Repeated or summarized the 6 key messages or did a demonstration activity | YES | NO |
| 22. Asked the participants to repeat the key messages or to do a demonstration activity | YES | NO |
| 23. Verified the participants' understanding of the information | YES | NO |
| 24. Asked the participants if they had any doubts or questions about the topic | YES | NO |
| 25. Adequately distributed time during the activity | YES | NO |

## USE OF MATERIALS

| | | |
|---|---|---|
| 26. Used audiovisual materials during the presentation | YES | NO |
| 27. Distributed appropriate educational materials | YES | NO |

## EXIT INTERVIEW WITH PARTICIPANTS

## THE SUPERVISOR WILL ASK THREE PARTICIPANTS (MOTHERS) THE FOLLOWING QUESTIONS:

Mark YES if they respond correctly:

| | | |
|---|---|---|
| 28. What were the main points discussed today? (ESPECIALLY EVALUATE THE 6 KEY MESSAGES) | YES | NO |
| 29. Do you plan on putting into practice what you learned today? | YES | NO |
| 30. Was what you learned today interesting or useful? | YES | NO |
| 31. Can you name three foods that are rich in Vitamin A? | YES | NO |

40. Was there anything you didn't like about this talk?

_____

The supervisor asks the EDUCATOR:

Mark YES if he/she responds correctly:

| | | |
|---|---|---|
| 41. Did you cover all the points you planned to cover? | YES | NO |

ANNEX 11

# PROJECT HOPE

## NUTRITION, VITAMIN A AND GARDENS QUALITY ASSURANCE PROJECT
**Level of Satisfaction of Mothers with Educational Services Provided**

## OBSERVATION OF PROMOTERS (OB - 02)

Name of the educator: _____

Type of activity: _____

Observer/Supervisor: _____

Date: _____

EDUCATIONAL BACKGROUND:

**Services provided:**

| | | |
|---|---|---|
| 1. Does the extensionist ask the mothers questions to evaluate their knowledge, attitudes and practices with regard to the topic? | YES | NO |
| 2. Does he/she do any type of warm up activity? | YES | NO |

**Discussion of the Topic:**

| | | |
|---|---|---|
| 3. Clearly defines the purpose of the meeting? | YES | NO |
| 4. Discusses the relevance and purpose of the topic. | YES | NO |
| 5. Emphasizes the importance of prevention in the talk or activity | YES | NO |
| 6. Discusses the benefits of a behavior change (i.e., eating foods rich in Vitamin A) | YES | NO |
| 7. Discusses the dangers of maintaining their present attitudes (not giving foods rich in Vitamin A, or giving supplements to children, etc.) | YES | NO |

| | | |
|---|---|---|
| 8. Talked about the complications and danger signs of Vitamin A deficiency. | YES | NO |

**Use of Appropriate Techniques**

| | | |
|---|---|---|
| 9. Establishes good rapport with the participants | YES | NO |
| 10. Avoids use of technical vocabulary or terminology | YES | NO |
| 11. Expresses him/herself clearly | YES | NO |
| 12. Establishes eye to eye contact with all the participants | YES | NO |
| 13. Tries to be creative to keep the participants' attention and to avoid being boring | YES | NO |
| 14. Looks for examples and takes advantage of opportunities that come up during the activity to reinforce behavior changes that can be changed easily | YES | NO |
| 15. Communicates the need for behavior change in a way that isn't threatening or judgmental | YES | NO |
| 16. Shows willingness with regard to the needs of the participants | YES | NO |
| 17. Avoids imposing cultural values and preferences (is impartial) | YES | NO |
| 18. Used visual demonstrations: drawings, dramatizations, models, tables, etc. | YES | NO |
| 19. Promotes group discussion and participation during the presentations | YES | NO |
| 20. Gives realistic examples or solutions with regard to the topic | YES | NO |
| 21. Repeated or summarized the 6 key messages or did a demonstration activity | YES | NO |
| 22. Asked the participants to repeat the key messages or to do a demonstration activity | YES | NO |
| 23. Verified the participants' understanding of the information | YES | NO |

24. Asked the participants if they had any doubts or questions about the topic YES NO

25. Adequately distributed time during the activity YES NO

**USE OF MATERIALS**

26. Used audiovisual materials during the presentation YES NO

27. Distributed appropriate educational materials YES NO

**EXIT INTERVIEW WITH PARTICIPANTS**

**THE SUPERVISOR WILL ASK THREE PARTICIPANTS (MOTHERS) THE FOLLOWING QUESTIONS:**

Mark YES if they respond correctly:

28. What were the main points discussed today? (ESPECIALLY EVALUATE THE 6 KEY MESSAGES) YES NO

29. Do you plan on putting into practice what you learned today? YES NO

30. Was what you learned today interesting or useful? YES NO

31. Can you name three foods that are rich in Vitamin A? YES NO

40. Was their anything you didn't like about this talk?

_____

The supervisor asks the EDUCATOR:
Mark YES if he/she responds correctly:

41. Did you cover all the points you planned to cover? YES NO

## ANNEX 12

## INTERNATIONAL EYE FOUNDATION
## AMPROS PROJECT

Interview Guide for Project Staff with Technical Administrative Staff

1. What type of support do you receive from the project coordinators to carry out your educational activities?

2. What type of incentives do you receive during the course of your work?

3. Have you received Vitamin A support materials from the project?

4. What methodology has the project used for your training?

5. Have the training sessions you have received from the project been useful for your work?

6. Tell us something about the communication that exists between you and your immediate boss(es).

7. Do you think that the project's resources are limited, adequate or insufficient?

8. What difficulties do you have in your work?

9. Do you feel motivated to work in the different activities?

10. Do you plan your activities? (Ask to see planning.)

11. What is your beneficiary population?

12. Do you have any problem with the monitoring of educational activities?

13. Have you received specific training in Vitamin A?

14. Is there anything you would like to say about your work? (Positive or negative)

ANNEX 13A

AMPROS

SUMMARY OF THE FINDINGS OF THE ACTUAL SITUATION CONCERNING THE HUMAN RESOURCES AND MATERIALS WHICH THE PROJECT HAS

a. **Characteristic of the human resources:**

I. **Technical Level:**

a. Educational level: Superior (100%)
n= 2 (a Doctor and an Agricultural Engineer)

b. Seniority in the Project:
- Less than 1 year: 100%

II. **Supervisors Level:**

a. Educational level: High School (100%)
n= 4

b. Seniority in the Project:

| | (N) | (%) |
|---|---|---|
| Less than 1 year: | 0 | 0% |
| 1- 2 years: | 2 | 50% |
| > 2 years: | 2 | 50% |

III. **Extensionists Level:**

a. Educational level: **n= 16**

| | (N) | (%) |
|---|---|---|
| . Primary School: | 6 | 37.5% |
| . Secondary (7th - 9th grade): | 5 | 31.2 |
| . High School: | 4 | 25.0 |
| . Superior | 1 | 6.3 |

b. Seniority in the Project:

| | | |
|---|---|---|
| a. one- six month | 2 | 12.5 |
| b. seven-eleven month | 1 | 6.3 |
| c. one-two years | 7 | 43.7 |
| d. More than two years | 6 | 37.5 |

**KNOWLEDGE ON VITAMIN A AMONG THE HEALTH PERSONNEL**

| | |
|---|---|
| 1. Technical Level: | 56% |
| 2. Supervisors Level: | 69% |
| 3. Extensionists Level: | 50% |

**1. TECHNICAL LEVEL**

**a. Knowledge on the Vitamin A Metabolism**

50% (1) of the technicians (2) has basic knowledge on metabolism.

Concerning the sources of vitamin A, 100% (2) know the vegetables and animal sources. **Only 50% (1) identified other sources of vitamin A like breast-feeding.**

**b. Relationship of the Vitamin A with Measles, ARI, DDC.**

50% (1) of the technicians (2) know two to three functions of the vitamin A and know the relationship of the vitamin A with the Acute Diarrhoea Diseases and Acute Respiratory Infections.

**100% (2) is not clear of the relationship between vitamin A and Measles.**

**c. Supplementation with Vitamin A Capsules**

100% (2) of the technicians know that children under 6 months of age should not be supplemented with vitamin A according to the Supplementation Norms. **Only 50% (1) know the reason of the norm.**

100% of the technicians (2) incorrectly understand the supplementation protocol for children under 1 year of age.

100% (2) know the supplementation norms for children over one year of age.

100% (2)do not know the treatment protocol in case of measles and severe malnutrition.

100% (2) know the supplementation norms for the immediate post-partum.

**d. Vitamin A and the Vision**

100% (2) of the Technical Personnel of the Project is not clear of the Xerophthalmia classification.

**e. Key Messages on Vitamin A**

100% (Physician and Agricultural Engineer) know one of the five messages of vitamin A in relation to the diet (vegetables sources). 50% (1) (Physician) know three messages (Growth and development; Protection of Illnesses and Diet).

2. **SUPERVISORS LEVEL**

**a. Knowledge on Metabolism of the Vitamin A**

100% (4) of the Supervisors of the Project have basic knowledge on metabolism of the vitamin A.

Sources: 100% know at least 3 animal sources; 3 vegetable sources and other sources like breast-feeding.

**b. Population Risk**

100% (4) of the supervisors know the population risk of vitamin A that the project serve.

**c. Vitamin A Functions**

75% (3) know the main functions of the vitamin A

d. Supplementation with Vitamin A Capsules

100% (4) of the Supervisors know that, according to the norms children under 6 months of age should not be supplemented with vitamin A.

**100% of the Supervisors (4) incorrectly understand the Supplementation Protocol for children under 1 year of age.**

100% (4) know the supplementation norms for children over one year of age.

**100% (4) do not know the treatment protocol in cases of measles and severe malnutrition.**

100% know the supplementation norms in the immediate post-partum.

**e. Relationship of vitamin A and Xerophthalmia**

100% (4) of the supervisors ignore the classification of Xerophthalmia. But they do know the concept of night blindness.

**f. Key messages on Vitamin A**

100% know three to four messages on vitamin A.

3. EXTENSIONISTS LEVEL

**a. Metabolism**

81.1% (13) Extensionists know that vitamin A is stored in the liver.

75% (12) ignore that the vitamin A is present in the form of beta carotenes in vegetables sources and of retinol in the animal sources.

In regard to the sources, 100% (16) know at least 3-4 foods of the several sources of vitamin A.

b. Supplementation with Vitamin A Capsules

100% (16) of the Extensionists know that children under 6 months of age should not be supplemented

with vitamin A, according to the norms. But only 50% identified the relationship between vitamin A with breastfeeding as reason of this norm.

100% (16) of the Extensionists incorrectly understand the supplementation protocol for children under 1 year of age. (With a capsule of 200.000 units three children are been supplemented).

100% (16) know the supplementation norms for children over a year of age.

100% (16) do not know the protocol for the treatment of cases of measles and severe malnutrition.

100% know the supplementation norms in the immediate post-partum.

### c. Relationship of the Vitamin A and the Vision

100% (16) ignore the classification of xerophthalmia. Only one person (6.25%) recognizes that the first visible sign of Vitamin A deficiency is the night blindness.

During the monitoring some interviews of opinion were made to the Project Extensionists in order to know the degree of satisfaction of them with regards to the activities that are conducted and their performance in general.

ANNEX 13B

HOPE

5. **SUMMARY OF THE SITUATION FOUND IN PROJECT HOPE IN RELATION TO THE NUTRITION, VITAMIN "A" AND VEGETABLE GARDEN PROGRAMS.**

I. **SUPERVISORS:**

The Project has two Supervisors:

1. A Physician
2. An Agricultural Engineer

Both Supervisors were interviewed and both have an acceptable level of knowledge on nutrition, vitamin "A" and Vegetable Gardens, for the position they have as supervisors. Both have under their responsibility the supervision of four technicians, who are the people that supervise the Health Promoters.

At the moment they lack of a systematic model of supervision. There are meetings every two weeks, in these meetings the Supervisors evaluate part of the work of the technicians, and the Technicians make presentations to the team work.

II. **TECHNICIANS:**

The level of knowledge of the technical personnel concerning nutrition, vitamin "A" and vegetable gardens, was evaluated using a test.



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RESULTS OF THE TEST TO THE HEALTH TECHNICIAN IN NUTRITION, VITAMIN "A" AND VEGETABLE GARDENS PROGRAM.

QUETZALTENANGO, AUGUST 1996

| TECHNICIANS | PERCENTAGE (%) |
|---|---|
| 1. Technician a | 63 |
| 2. Technician b | 85 |
| 3. Technician c | 93 |
| 4. Technician d | 82.5 |
| AVERAGE | 80.08% |

III. HEALTH PROMOTERS:

a. KNOWLEDGE OF THE HEALTH PROMOTERS ON VEGETABLE GARDENS

1. Types of Vegetable Gardens

| TYPE OF VEG. GARDENS | FREQ. | % |
|---|---|---|
| 1. Knows the three types (family, school and community) | 4 | 40 |
| 2. Do not know any of them | 1 | 10 |
| 3. Know some of them | 5 | 50 |
| TOTAL | N=10 | 100% |

Concerning the types of vegetable gardens only 40% of the promoters know that there are family, schools and community vegetable gardens. 50% know some of them and the remaining 10% ignore this information totally.

From the five Promoters that know some types of vegetable gardens, 100% identify the family vegetable gardens, 60% the communal vegetable gardens, and none of these the schools vegetable gardens.

2. **VEGETABLE GARDENS MANAGEMENT**

| INF. ON VEG. GARDEN MANAGEMENT | FREQ. | % |
|---|---|---|
| 1. Direct and Indirect | 7 | 30 |
| 2. Do not know | 3 | 30 |
| TOTAL | N=10 | 100% |

70% of the Health Promoters know that the seeding could be direct and indirect.

3. **LAND PREPARATION CONDITIONS**

| KNOWLEDGE | FREQ. | % |
|---|---|---|
| 1. Complete | 3 | 30 |
| 2. Incomplete | 7 | 70 |
| TOTALS | N=10 | 100% |

70% of Health Promoters have a partial knowledge about the conditions in land preparation in order to make a vegetable garden.

This knowledge is distributed in the following way:

| KNOWLEDGE ABOUT: | YES | NO |
|---|---|---|
| 1. Fallow | 6 | 1 |
| 2. Crumb the clods | 4 | 3 |
| 3. Incorporation of organic material | 7 | 0 |
| 4. Tablones | 6 | 1 |
| 5. Desinfection | 6 | 1 |
| totals | n=7 | |

2. **KNOWLEDGE OF NIGHT BLINDNESS**

90% identify the Night Blindness as a result of Vitamin "A" Deficiency.

3. **KNOWLEDGE OF VITAMIN "A" SOURCES**

80% (8) identify the animal and derived sources, vegetables sources, and other sources of vitamin "A". 20% (2) only identify some.

From that 20% (2) the 100% (2) identify animal and vegetables sources. Both ignore other sources like Incaparina and breastfeeding.

c. **KNOWLEDGE OF THE HEALTH PROMOTERS IN NUTRITION**

1. **BREASTFEEDING**

Only 50% (5) of the Health Promoters identify the period of exclusive breastfeeding in the first 6 months of life.

The 60% (6) refer the continuation of breastfeeding to 24 months.

2. **NUTRITION**

100% (10) of the Health Promoters have an idea of the concept of nutrition.

a. KNOWLEDGE OF STRENGTH AND ENERGY SOURCES

Only 20% (2) of the Health Promoters of the Project know all the foods that are strength and energy sources. 80% (8) only know some sources.

b. THE 80% THAT ONLY KNOW SOME SOURCES, IS DISTRIBUTED IN THE FOLLOWING MANNER:

75% (6) only carbohydrates
37% (3) only fats: avocado, bananas, yucca
50% (5) fruits, vegetables, and tuberculous

c. KNOWLEDGE OF FOODS THAT HELP THE GROWTH

30% (3) identified the proteins, such as meat, chicken, cheese, cream and eggs.

c. OBSERVATIONS ON THE PERFORMANCE OF THE HEALTH PROMOTERS

Four observations of the Charlas on vitamin "A" that the Health Promoters of the Project did with the mothers, were made. The communities visited were the following:

1. Xenaná
2. Patuluc
2. Chipop
4. Patzan

**Results:**

a. PRE - EVALUATION

No initial evaluation to the mothers at beginning of the educational session was done.

b. TOPIC DISCUSSION

- Only 25% (1) discuss about the danger that the no consumption of foods rich in vitamin "A" represents. The remaining 75% (3) did not discuss it.

- 25% (1 of 4), establish a good dynamic of group and promote the participation and the group discussion.

In 100% of the observations (4) the relevance of the subject, the purpose of the meeting and the benefits that bring the consumption of foods rich in vitamin "A" was discussed.

c. APPROPRIATE TECHNIQUES

In the 100% of the observations (4), the following was observed:

- Good relationship with the participants
- Clarity in the presentation of the topic
- Visual contact with all the participants
- Creativity

100% (4) of the Health Promoters used demonstrations of visual aids such as flip charts. They brought food rich in vitamin "A" to show it to the mothers.

50% (2) provided examples or realistic solutions concerning the topic of discussion.

## IV. INFORMATION OBTAINED FROM THE MOTHERS

Results on interviews of opinion to mothers.

70 mothers were interviewed in order to know their opinion, about the Charlas that the project give on nutrition, vitamin "A" and vegetable gardens.

100% (70) of these mothers expressed that they feel satisfied and they like to attend to the educational Charlas given by the project.

The reasons for which they attend the educational charlas are listed in the following chart:

| REASONS TO ATTEND | FREQ. | % |
|---|---|---|
| 1. To learn about foods (aliments) | 13 | 18.6 |
| 2. To learn about vitamin "A" | 7 | 10 |
| 3. To learn about children care | 22 | 31.4 |
| 4. To learn about health subjects | 20 | 28.6 |
| 5. CARE Program | 2 | 2.9 |
| 6. To learn about the use of foods (aliments) | 2 | 2.9 |
| 7. To learn the importance of foods (aliments) | 1 | 1.4 |
| 8. To learn experiences of other people | 2 | 2.9 |
| 9. Did not give any opinion | 1 | 1.4 |
| TOTALS | n=70 | 100% |

According to the opinions of the mothers the majority attended in first place, to learn more about the care of the children and in second place, in order to know several topics of health.

Among the reasons for which some mothers do not attend the educational activities, are the following:

CAUSES OF UNNATTENDANCE ACCORDING TO THE OPINION OF THE MOTHERS

| REASONS FOR UNNATTENDACE | FREQ. | % |
|---|---|---|
| 1. Lack of time of the mothers | 14 | 20 |
| 2. Mothers do not want to attend | 14 | 20 |
| 3. Did not give any opinion | 6 | 8.6 |
| 4. Mothers are not interested | 13 | 18.6 |
| 5. Their husband do not give them permission to attend | 2 | 2.9 |
| 6. Lack of consciousness (they feel they do not need to attend) | 16 | 22.9 |
| 7. Conformism | 5 | 7.1 |
| TOTALS | n=70 | 100% |

According to the interviews the most important reasons of unnattendance are the lack of consciousness of the mothers, regarding the need to know more on health issues and the lack of interest.

Concerning the schedule they consider more appropriate, they expressed the following:

| HOURS | FREQ. | % |
|---|---|---|
| 1. 8:00 - 9:00 a.m. | 58 | 82.9 |
| 2. 9:00 - 10:00 a.m. | 2 | 2.9 |
| 3. 11:00 - 12:00 m. | 4 | 5.7 |
| 4. 1:00 - 2:00 p.m. | 1 | 1.4 |
| 5. 2:00 - 3:00 p.m. | 1 | 1.4 |
| 6. 3:00 - 4:00 p.m. | 2 | 2.9 |
| 7. Did not give any opinion | 2 | 2.9 |
| TOTALS | n=70 | 100% |

The most favorable schedule for the charlas is from 8:00 - 9:00 a.m. since according to the mothers this does not interfere with the rest of their occupations in the house.

**KNOWLEDGE OF THE MOTHERS ON NUTRITION AND VITAMIN A**

A test was passed to evaluate the knowledge (see annexes) to 96 mothers that attend regularly to the educational sessions of the project. The percentage of knowledge of these mothers was 71.86%

From the 96 evaluated mothers, 61.5% (59) have one year attending the Program, 18.8% (18) have 13 to 24 months of attending the program, 8.3% (8) have 25 to 36 months of attending it and the remaining, 11.5% (11) have more than five years.

**KNOWLEDGE OF THE MOTHER ON FOODS RICH IN VITAMIN A**

41.7% (40) know at least six sources of foods rich in Vitamin A. 1.0% (1) do not know any source and the 57.35% remaining (55) know less than six foods rich in Vitamin A.

From these 55 mothers, 26 (47.3%) identify the milk as a source of Vitamin A; 7 (12.7%) identified foods from animal origin; 21 (38.2%) identified the "ayote" as a source of vitamin A and 15 (27.3%) identified another type of foods like radish leaves, turnip, beet leaves, onion shaft. (See annexes).

The source of Vitamin A more commonly noted for the mothers is the carrot. (55 mothers were asked and 50 named the carrot 90.9%).

**KNOWLEDGE OF THE MOTHERS IN REGARD TO VEGETABLE GARDENS**

96.8% (92) could explain what a family vegetable garden is.

**KNOWLEDGE ON THE INTRODUCTION OF FOODS**

75% (72) of the mothers referred to the "six months of age" as the period of introduction of foods for a baby.

**KNOWLEDGE ON THE DISTURBS THAT THE LACK OF VITAMIN A CAUSES**

60.5% (46) of the 96 mothers identified the Night blindness.

35.5% (27) of the 96 mothers, identified the white spots in the skin.

39.5% (30) of the 96 mothers identified the relationship with ARI'S.

57.9% (44) of the 96 mothers identified the relationship with Acute Diarrhoea.

We can not established through the test if the mothers know the relationship between ARI, DDC with Vitamin A as a factor or if the lack of vitamin A is cause factor of the illness.

**KNOWLEDGE OF THE MOTHERS ON BREAST-FEEDING**

66.7% know what the calostrum is. The remaining 33.3% (32) ignore it.

76% (73) know that the children should only receive exclusive breastfeeding during the fist six months of age, the remaining 24% ignore it.

ACTION PLAN
PROYECTO AYUDA MUTUA PRO SALUD (AMPROS)
1996

| PROBLEM | ACTIVITY | DATE OF SEPT. | OCT. | NOV. | MEASURE | RESPONSIBLE |
|---|---|---|---|---|---|---|
| Mothers do not receive the basic information on Vit. "A" | Training and re-training to the personnel. Education on Xerophthalmia and participatory techniques. | 13 | | | # of employees that got 100% of the knowledge. | Dr. Ariel Obregon |
| | Use of transference of knowledge technique | x | x | x | # of employees that use at least one participatory technique during his personal presentation (charlas) | Supervisors |
| | At the end of the activity repeat or reinforce the key messages and make questions about it | x | x | x | (Observation during the development of the weekly activity) supervision | |
| | Written Evaluation | 27 | | | Oral evalution of the message to the mothers<br><br>Number of extensionists that repeat and ask about the 6 key messages | Dra. Marylena Arita |

ANNEX 14A

AMPROS

| PROBLEM | ACTIVITY | DATE OF EXECUTION | | | MEASURE | RESPONSIBLE |
|---|---|---|---|---|---|---|
| | | SEPT. | OCT. | NOV. | | |
| Low assistence to the charlas and demonstrations. | Negotiate with other institutions the donation of some materials like oil, flour, etc. for the demonstrations in some communities. | X | | | | Martha de Piedrasanta |
| | Meeting with the extensionists to determine the strategy to use in the charla. | X | | | | Supervisors. |
| | Implementation of the strategy to use. | X | X | X | # of mothers that received education during visits.<br><br># of mothers that received education in meeting seesions | Extensionist.<br><br>Supervisors. |
| | Inform to the community leaders of the progress of the activities. | X | | | # of meetings with the leaders by month. | Extensionist Supervisors |
| | Promote the assistence to the educational activities by visits to churches, communities, etc. | X | X | X | 3 of visits done to church communities. | Extensionist |
| | Select a mother who has more assistance and participation in the educational activities giving a photograph in communities with low response. | X | | | # of mothers selected by month | Extensionists. |
| | Organization and participation in the sociocultural and educational activities with the presence of the project authorities | X | X | X | # of activities organized where the project is participating | Extensionist Supervisors Technician Manager and Manager. |

| PROBLEM | ACTIVITY | DATE OF EXECUTION | | | MEASURE | RESPONSIBLE |
|---|---|---|---|---|---|---|
| | | SEPT. | OCT. | NOV. | | |
| Children between 6-12 months are not receiving a sufficient dose of Vit.A | Inform about the problem and the Action Plan | 13 | | | | Quality team. |
| | Actualization session of the suplementation norms of Vit.A capsules (WHO) | 13 | X | | See the results and questions of the test related to the subject. | Quality Team. |
| | Standarize the drops in the suplementation of Vit. A | | Half month meeting | | # of extensionists that are suplementing correctly. | Supervisor with groups. |
| | Vitamin A campaign | | Second half month | | # of extensionists that are suplementing correctly. | Supervisor with groups. |

ANNEX 14B

HOPE

**ACTION PLAN**

- **PROBLEM # 1**

No all the health promoters were completely trained.

1. **OBJECTIVE OF THE PLAN**

To establish a model of systematic training, with emphasis in participatory methodologies and use of materials on nutrition, vitamin A and vegetable gardens to 60 promoters of communities of Totonicapán, where the Project HOPE is working; in order to improve the quality of knowledge transmission.

| ACTIVITIES | MEASURES | DATE | RESPONSIBLE |
|---|---|---|---|
| Meeting with the Health Promoters to present them the proposed solutions | Two meetings | Sept. | Technicians Supervisors |
| Elaborate a lesson plan, based on the weak points detected in the last test of knowledge passed to the promoters in August 1996 | A monthly plan according to the needs | Sept. Oct. Nov. | All the team |
| Monthly test to evaluate the promoters knowledge | # of promoters evaluated by month (n=60)<br><br># of Promoters that improved their knowledge with a percentage over 52% (for the final monitoring, 75% is expected) | Sept. Oct. Nov. | All the team |
| Elaborate a chronogram of the improvement of educational activities/ promoters | A monthly chronogram | Sept. Oct. Nov. | All the team |

ACTION PLAN

GROUP # 2:

- Problem# 2

Nonfulfillment of the tasks assigned to the Promoter

A. OBJECTIVE

Strengthening and providing follow-up to the 100% (60) of the Health Promoters that support the Project HOPE, in the use of materials and participatory techniques, in order to generate assurance and confidence among the Health Promoters during their performance in the training activities.

B. STEPS

1. Meeting with Technical Personnel and Supervisors in order to define the strengthening of the weak points on nutrition, Vitamin A, vegetable gardens and in the use of educational material at the interior of Project HOPE.

2. Revision of materials with the Promoters (verify that all have their complete material).

3. Define follow up strategies (for activities like charas or cooking demonstrations ).

4. Standardization in the use of guides in order to train staff.

5. Standardize the Personnel in the use of guides of training for Health Promoters, Technicians and Supervisors.

| ACTIVITIES | MEASURES | DATE | RESPONSIBLE |
|---|---|---|---|
| 1. A meeting with the technicians, supervisors and coordinators to discuss the steps to follow in the immediate implementation of the plan and further advances | # of meetings accomplished/ month | Sept. | Coordinator |
| 2. Reinforcement meetings at the interior of HOPE in the use of Vitamin A, nutrition with emphasis in training techniques | # of meetings accomplished by month in which emphasis was made on use of techniques | Sept. Oct. | Supervisors Technicians |
| 3. Making of a planing of a demonstrative Charlas using a participatory methodology by the technical personnel (so that the health promotor can observe how the technicians introduce the participatory techniques during the Charlas) | # of demonstrative Charlas accomplished by the technicians in which they use at least one participatory technique/ month | Sept. | Supervisors |
| 4. Make a solicitude to the Hope Manager of a vehicle to support the monitoring activities | Solicitude sent to the Manager | Sept. | Supervisors Technicians |

| | | | | |
|---|---|---|---|---|
| 5. | Make with the health promoters a chronogram of the Charlas they give (in which they use the participatory methodology) | # of Charlas given in accordance with the monthly chronogram<br><br># of health promoters that used their material properly (what has been stipulated in the observation guide of the supervisor)<br><br># of health promoters that used at least one participatory techniques in their lectures | Sept.<br>Oct.<br>Nov. | Technicians |

ACTION PLAN

- PROBLEM # 3

Lack off effectiveness and systematization in the system of supervision and monitoring for the educational activities on nutrition, vitamin A and vegetable gardens.

1. **Objective of the Plan**

Strengthening the system and follow up of the educational activities of the Health Promoters that is done by the Technicians, designing a supervision instrument.

| | ACTIVITIES | MEASURES | DATE | RESPONSIBLE |
|---|---|---|---|---|
| 1. | Make protocols of supervision monitoring for the educational component | # of protocols made | Sept. | Supervisor |
| 2. | Systematic supervision to the technicians according to the monthly calendar using the supervision guide | # of technicians that were supervised using the supervision guide properly | Sept.<br>Oct.<br>Nov. | Supervisor |
| 3. | Share the acquired experience on follow-up to the counterparts: DIGESA, MOH, and NGO's | # of experiences shared | | |

ANNEX 15

**AMPROS PROJECT - Field Supervision by Coordinators - Check List**

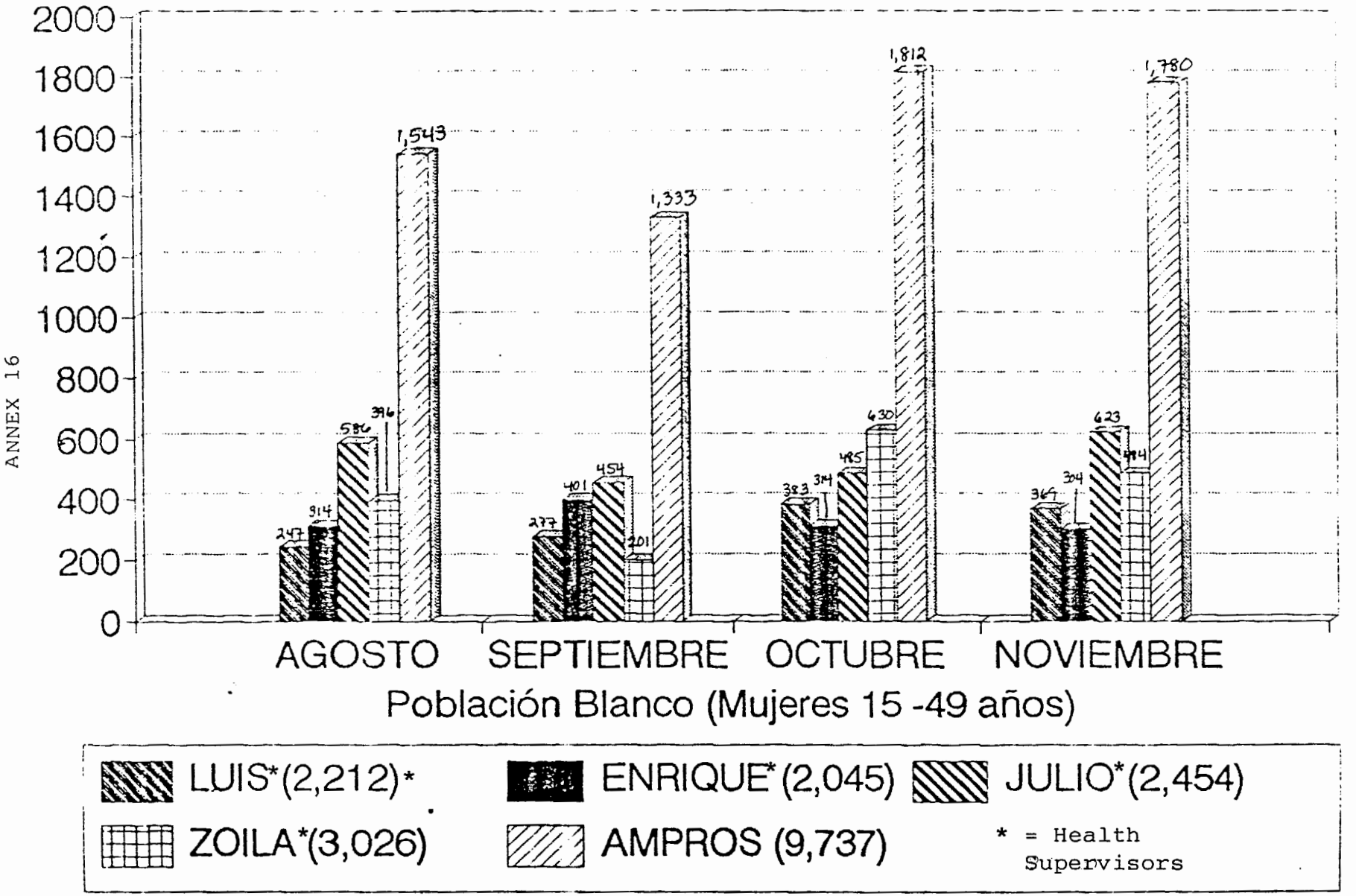
Name of the Extensionist: _____ Community: _____

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **1. Date** | | | | | | | | |
| **2. Diarrhea records** | | | | | | | | |
| a) ORS balance (O.K./NO) | | | | | | | | |
| b) Fill out correctly (YES/NO) | | | | | | | | |
| c) People know where to get it (YES/NO) | | | | | | | | |
| | | | | | | | | |
| **3. Seed records** | | | | | | | | |
| a) Money balance (O.K./NO) | | | | | | | | |
| b) Seed - bag balance (O.K./NO) | | | | | | | | |
| c) Fill out correctly (YES/NO) | | | | | | | | |
| d) People know where to get it(YES/NO) | | | | | | | | |
| | | | | | | | | |
| **4. School Garden** | | | | | | | | |
| a) planted (YES/NO) | | | | | | | | |
| b) 2+ sources of Vitamin A (YES/NO) | | | | | | | | |
| | | | | | | | | |
| **5. Family Gardens -Check 2 at random** | | | | | | | | |
| a) numbers & | | | | | | | | |
| b) planted (YES/NO) | | | | | | | | |
| c) 2+ sources of Vitamin A (YES/NO) | | | | | | | | |
| | | | | | | | | |
| **6. Talk** | | | | | | | | |
| a) Appropriate topic (YES/NO) | | | | | | | | |
| b) According to guide (YES/NO) | | | | | | | | |
| c) Leader participation (YES/NO) | | | | | | | | |
| d) Good participation of women (YES/NO) | | | | | | | | |
| e) # of participants | | | | | | | | |
| f) Use of audiovisual material (YES/NO) | | | | | | | | |
| g) Evaluation of learning (YES/NO) | | | | | | | | |
| | | | | | | | | |
| **7. Cooking Demonstration** | | | | | | | | |
| a) Appropriate recipe (YES/NO) | | | | | | | | |
| b) Nutritional education (YES/NO) | | | | | | | | |
| c) Women participated (YES/NO) | | | | | | | | |
| d) # of participants | | | | | | | | |
| e) Evaluation of learning (YES/NO) | | | | | | | | |
| | | | | | | | | |
| **8. Feedback from Leaders** | | | | | | | | |
| a) Quality of work - extensionist | | | | | | | | |
| b) Quantity of work - extensionist | | | | | | | | |
| G = Good, A = Acceptable, N = Not satisfactory | | | | | | | | |

Name of extensionist: _____ Community: _____

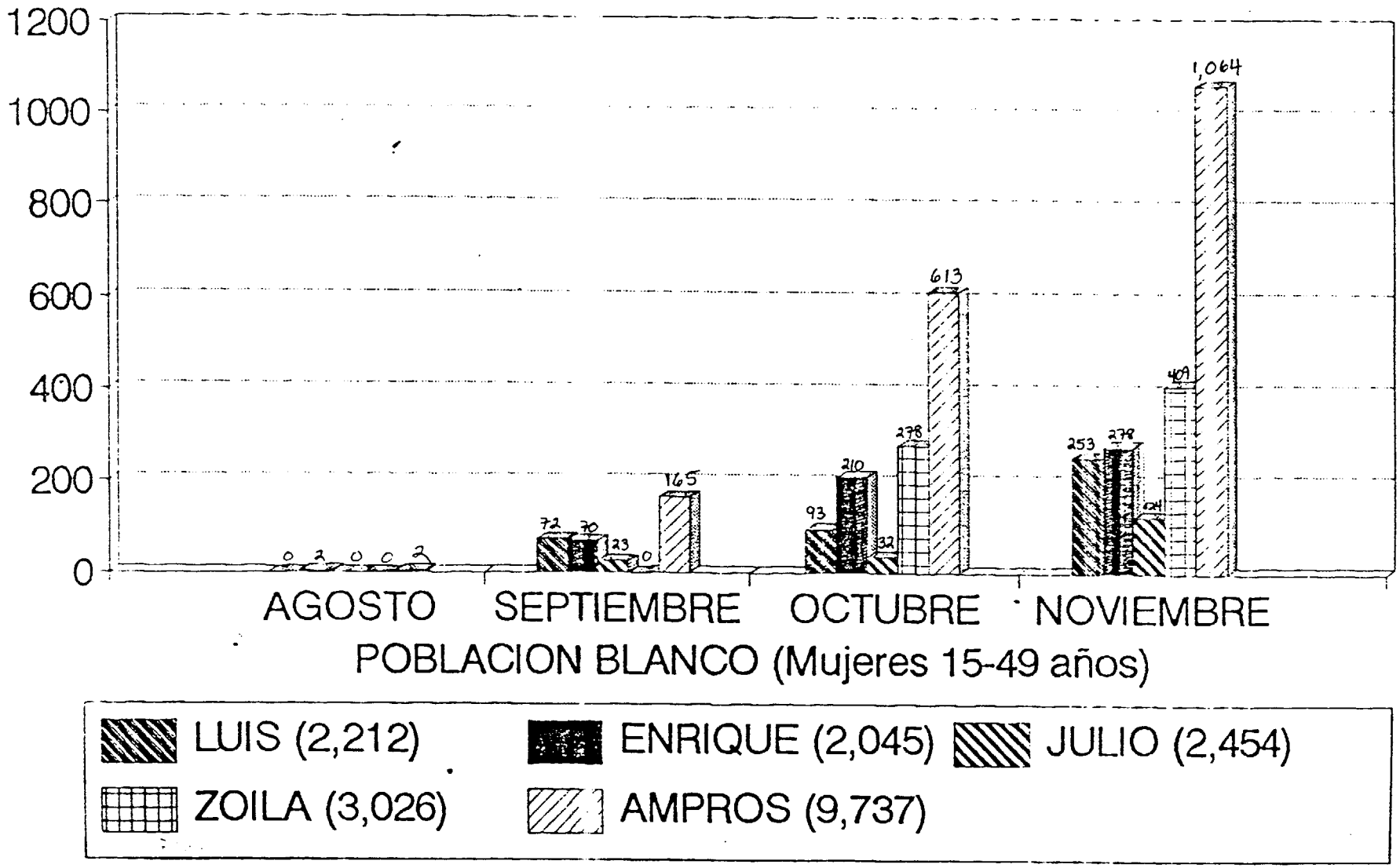
| | Date | | | | | |
|---|---|---|---|---|---|---|
| | **SERVICES DELIVERED** | | | | | |
| 1 | Extensionist evaluates mothers' knowledge | | | | | |
| 2 | Carries out a warm up activity | | | | | |
| | **DISCUSSION OF THE TOPIC** | | | | | |
| 3 | Defines purpose of meeting | | | | | |
| 4 | Discusses relevance and purpose of topic | | | | | |
| 5 | Emphasized importance of prevention in activity | | | | | |
| 6 | Discussed danger of maintaining current attitudes | | | | | |
| 7 | Discussed dangers of lack of Vitamin A | | | | | |
| 8 | Discussed benefits of behavior change | | | | | |
| | **USE OF APPROPRIATE TECHNIQUES** | | | | | |
| 9 | Establishes good rapport with participants | | | | | |
| 10 | Avoids use of technical vocabulary/terminology | | | | | |
| 11 | Expresses self clearly | | | | | |
| 12 | Establishes eye contact with all participants | | | | | |
| 13 | Tries to be creative to keep attention | | | | | |
| 14 | Seeks examples to reinforce behavior changes | | | | | |
| 15 | Communicates desire for behavior change | | | | | |
| 16 | Is willing to understand participants' needs | | | | | |
| 17 | Is impartial w/regard to cultural values | | | | | |
| 18 | Uses visual aids | | | | | |
| 19 | Promotes participation in presentations | | | | | |
| 20 | Gives examples or solutions with regard to topic | | | | | |
| 21 | Repeated 6 key messages | | | | | |
| 22 | Asked participants to repeat messages | | | | | |
| 23 | Verified understanding of information | | | | | |
| 24 | Adequate distribution of time | | | | | |
| 25 | Asked if there were any doubts/questions about topic | | | | | |
| | **EXIT INTERVIEW WITH PARTICIPANTS** | | | | | |
| 26 | Used audiovisuals | | | | | |
| 27 | Distributed adequate educational material | | | | | |
| 28 | What were the main points? | | | | | |
| 29 | Do you think you will put into practice what you learned? | | | | | |
| 30 | Was what you learned interesting or useful? | | | | | |
| 31 | Name three food rich in Vitamin A | | | | | |
| 32 | Was there anything you didn't like about talk? | | | | | |
| 33 | Did you communicate all the points you had planned? | | | | | |

# ASISTENTES A CHARLAS

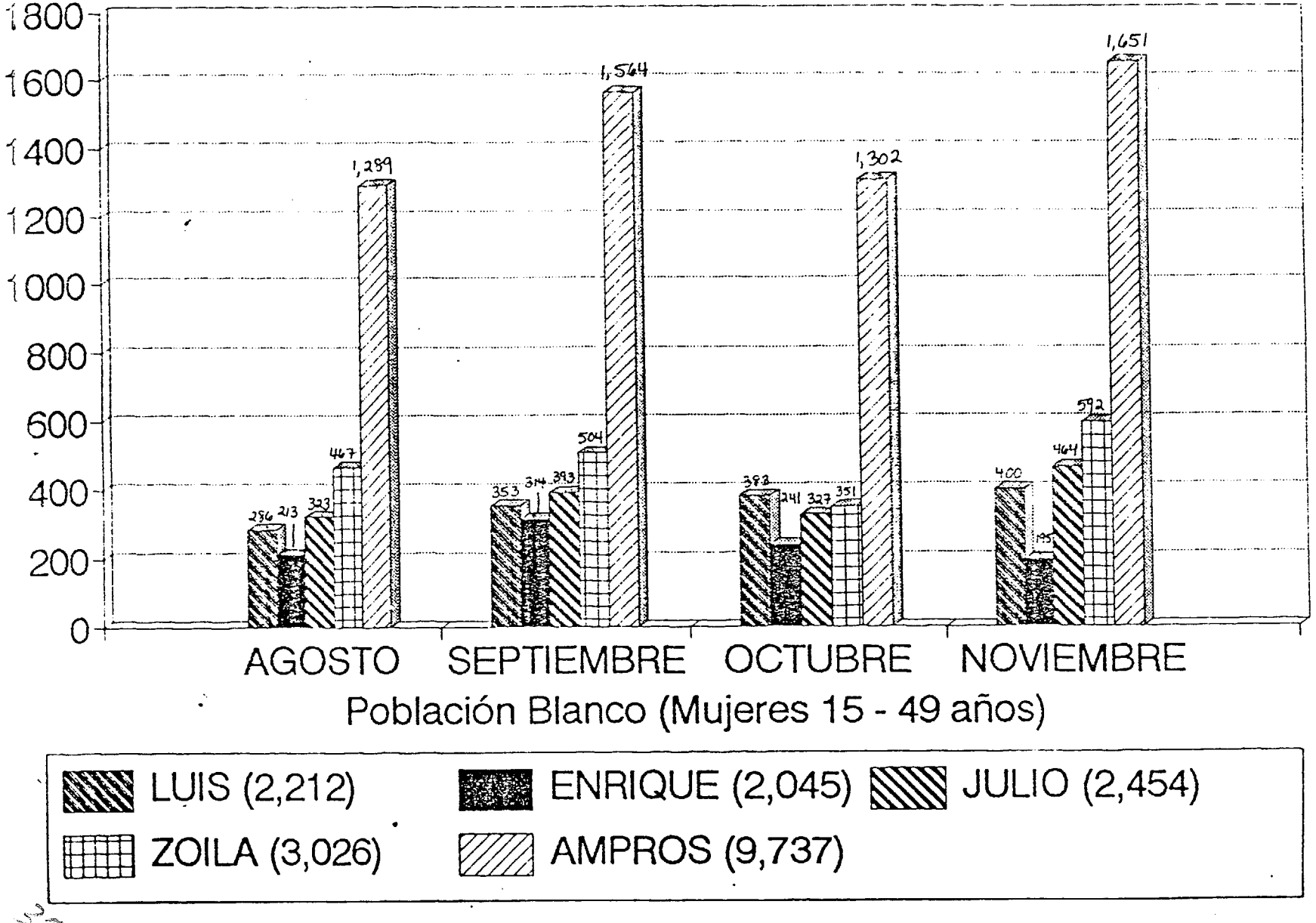



ANNEX 16

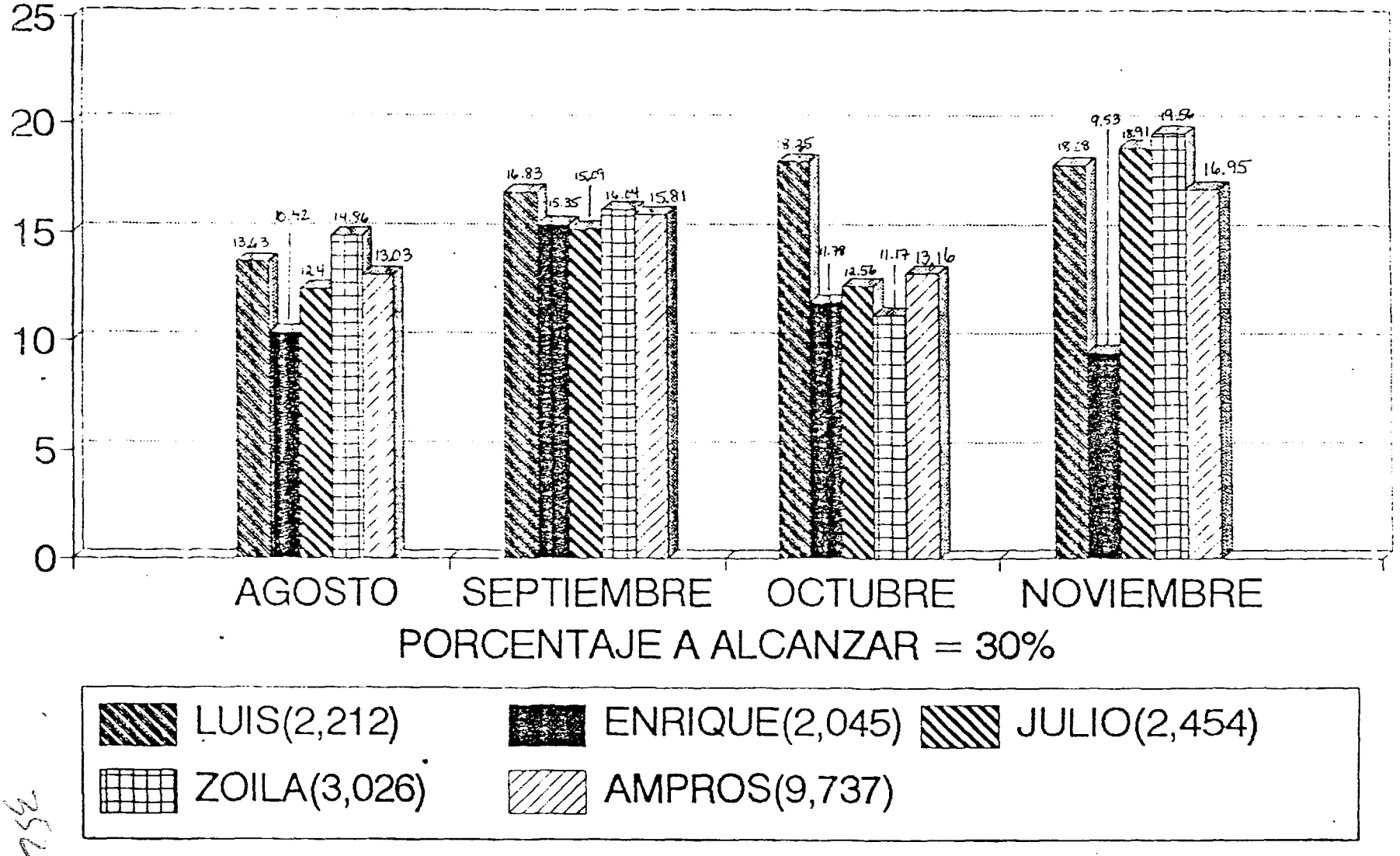
# EDUCACION A TRAVES DE VISITAS
## DOMICILIARIAS



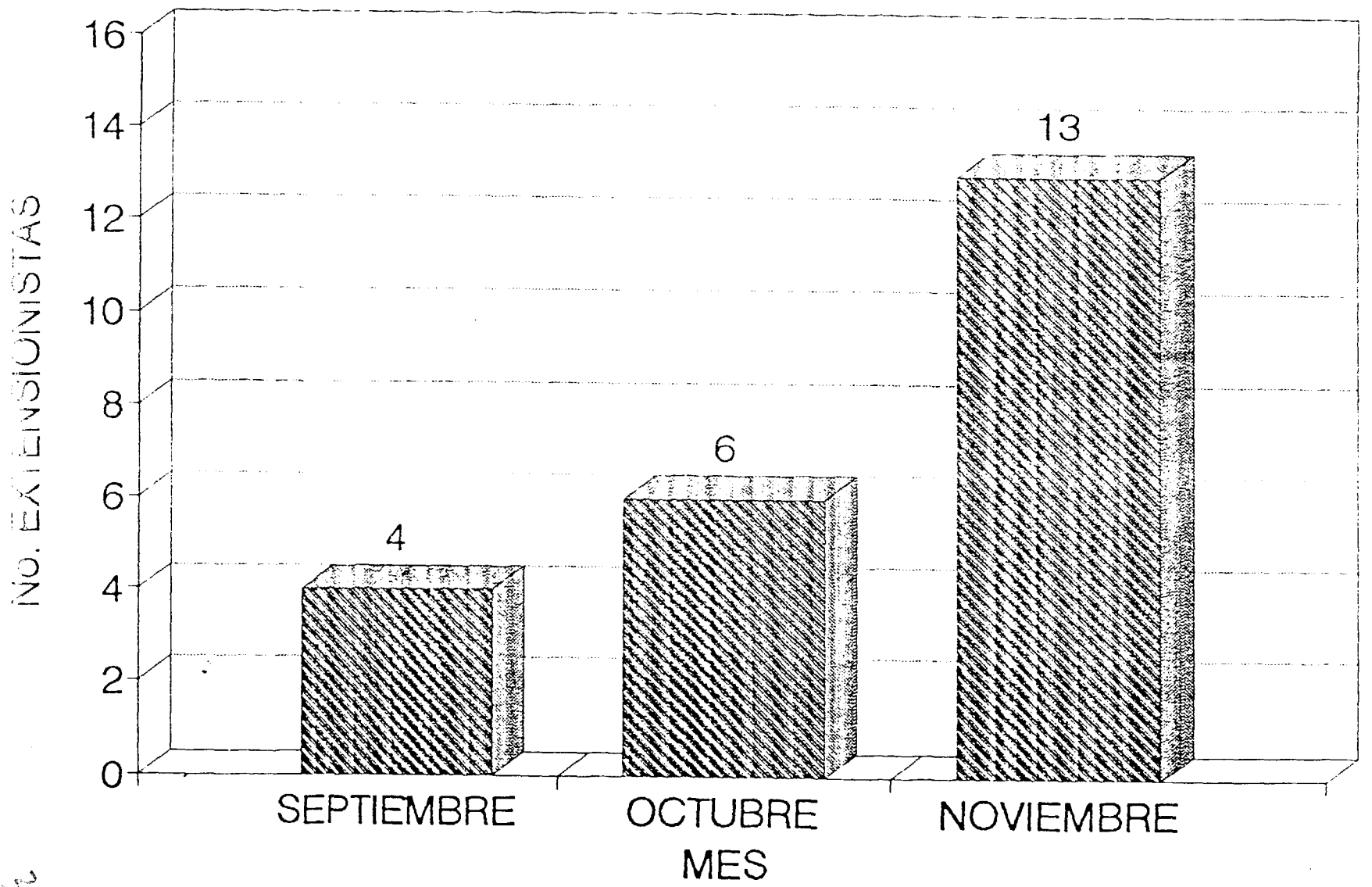
# ASISTENTES A DEMOSTRACIONES



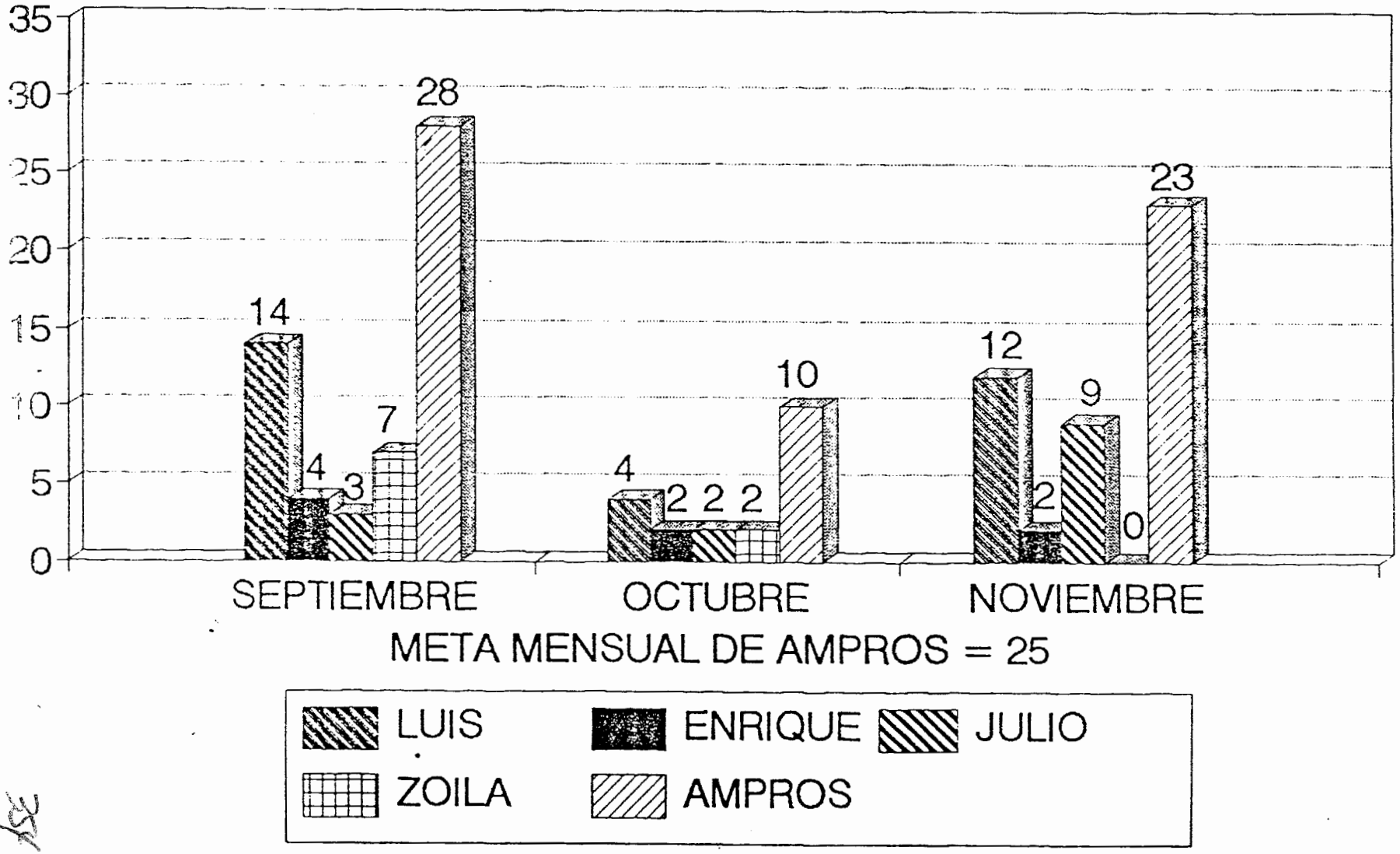
# ASISTENCIA A DEMOSTRACIONES
(PORCENTAJE)



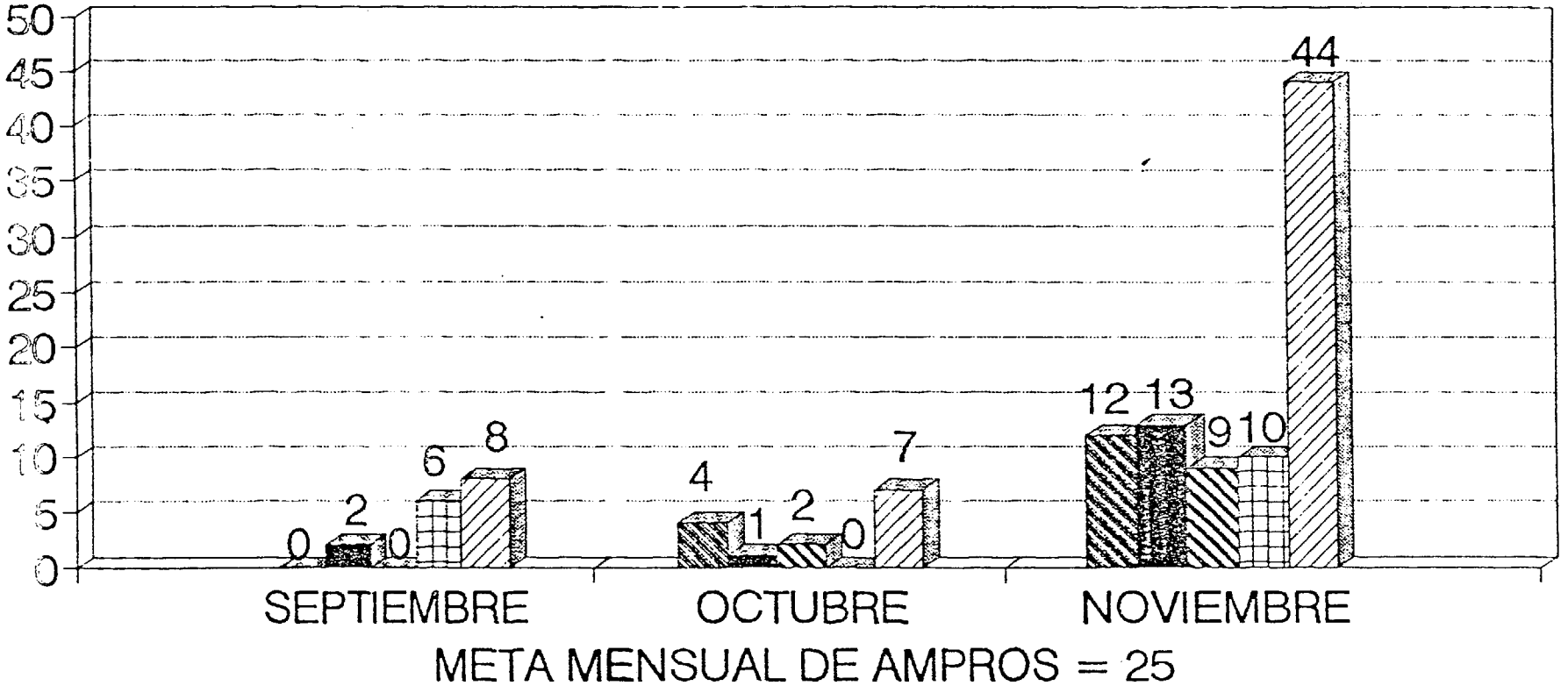
# EXTENSIONISTAS QUE USAN TECNICAS PARTICIPATIVAS EN TODAS SUS CHARLAS



# NUMERO DE REUNIONES DE PROMOCION

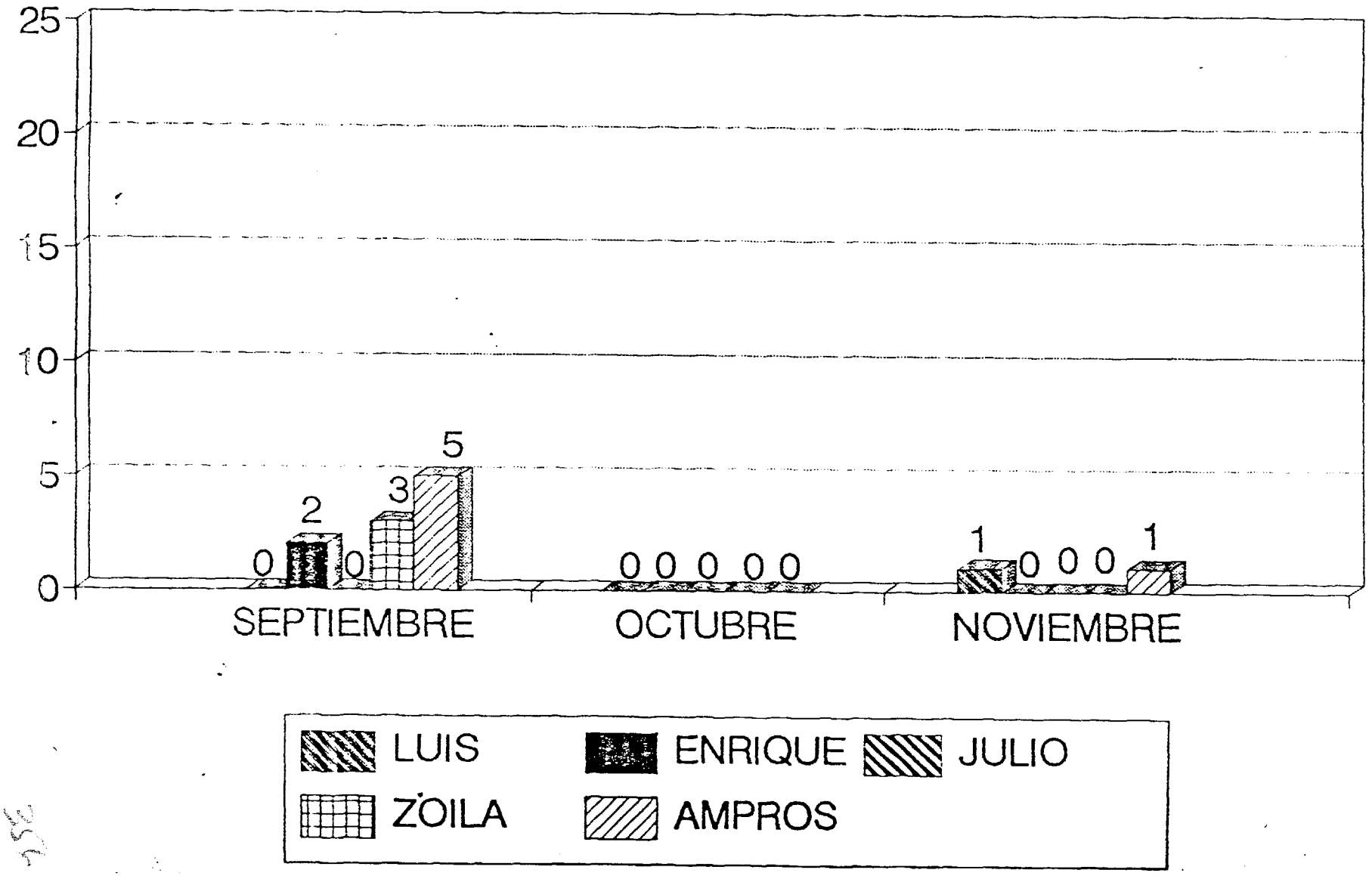


# NUMERO DE REUNIONES DE INFORMACION




35

# NUMERO DE ACTIVIDADES SOCIOCULTURALES EN DONDE PARTICIPA AMPROS



ANNEX 17

INTERNATIONAL EYE FOUNDATION

QUALITY ASSURANCE OF THE EDUCATIONAL SERVICES
PROVIDED BY THE AMPROS PROJECT

TEST TO MEASURE PROJECT HEALTH WORKERS' KNOWLEDGE OF VITAMIN A
(TS - AMPROS -001)

Name: _____

Date: _____

Position : _____

1. Write the six messages that you transmit to mothers about Vitamin A. (Specifically, write the messages prepared by the project.)

   1. _____
   _____

   2. _____
   _____

   3. _____
   _____

   4. _____
   _____

   5. _____
   _____

   6. _____
   _____

2. List the classification for Xerophthalmia.
   1. _____
   2. _____
   3. _____
   4. _____
   5. _____

3. Describe the Supplementation Scheme for a child from 6 to 11 months of age:
   Dosage: _____ every _____

4. Describe the Supplementation Scheme for a child from 12-55 months of age:
Dosage: _____ every _____

5. What is the relationship between Vitamin A and measles, ARI, and ADD?

6. Why is Vitamin A important for children?

_____

_____

ANNEX 18

# HOPE IEF OMNI

## NUTRITION, VITAMIN A AND GARDENS PROGRAM
## QUALITY ASSURANCE PROJECT
## GUIDE FOR EVALUATION OF SUPERVISOR'S KNOWLEDGE

Name:_____ Date: _____

1. Does he/she know the objectives of the project? YES NO

2. Which focus on the educational process?
   - Training of institutional staff YES NO
   - Training of volunteer staff YES NO
   - Training of community staff YES NO
   - Preparation of educational material YES NO

3. What group is Vitamin A supplementation directed at?
   - Children from 6 - 72 months of age YES NO
   - Postpartum women YES NO

4. Which of the interventions carried out in the community prevent Vitamin A deficiency?
   - Supplementation with capsules YES NO
   - Consumption of vegetables rich in Vitamin A YES NO
   - Consumption of all kinds of foods YES NO

5. Which of the following activities are contemplated in the nutritional objective?
   - Increase in exclusive breastfeeding during the first six months YES NO
   - Promotion of consumption of local foods which have high nutritional value and are rich in Vitamin A YES NO
   - Promotion of consumption of vegetables YES NO

6. Which program strategies are most important?
   - Inter-institutional coordination YES NO
   - Community participation YES NO
   - Preparation of educational materials YES NO
   - Sustainability YES NO

7. Which are the components of the program?
   - Nutrition YES NO
   - Vitamin A YES NO
   - Gardens YES NO

8. Is the cycle of participatory learning the methodology used for training? YES NO

9. Of the following phrases, which do you think form part of the supervision process?
   - Direction and support of staff in a team atmosphere YES NO
   - Training and assistance in the identification and solution of problems YES NO
   - Service quality and effectiveness improves continually YES NO

10. Which method do you apply during supervision?
   - Observation of service delivery YES NO
   - Evaluation at the community level of the impact of interventions YES NO
   - Review of records and supplies YES NO
   - Evaluation of the technical knowledge of the staff YES NO

11. Do you have a supervision plan or schedule? YES NO

12. Do you share comments with the technician in order to improve the quality of service delivery? YES NO

13. Do you collaborate with the technicians in the planning and organization of their work? YES NO

14. Do you use a supervision guide or instrument? YES NO

15. Who keeps the supervisor's records?
   - Supervisor YES NO
   - File YES NO
   - Director YES NO

16. Do you talk to the technicians regarding the parameters that are evaluated during the supervision activities? YES NO

17. Do you receive adequate support for you supervisory activities? YES NO

ANNEX 19

INTERNATIONAL EYE FOUNDATION
AMPROS PROJECT/ COBAN, GUATEMALA

QUALITY ASSURANCE OF EDUCATIONAL SERVICES
PROVIDED BY THE AMPROS PROJECT

INTERVIEW TO MEASURE KNOWLEDGE OF VITAMIN A
IN MOTHERS WHO ARE PROJECT BENEFICIARIES
**(With children under 6 years of age)**

**MS - AMPROS 002**

Date: _____

Interviewer: _____

Mother's complete name: _____

Name of the community: _____

Name of the extensionist who visits her: _____

1. What messages have you been taught or have you heard about Vitamin A?
(Open question, circle or underline the correct responses given by the mother.)

   a) Helps with growth and development
   b) Keeps diarrheal diseases, ARI and measles from being so serious
   c) Mothers should be supplemented postpartum (first 30 days after birth) to fortify their milk
   d) Foods that have Vitamin A are leafy green vegetables, and yellow and orange vegetables
   e) Dairy products like milk, cream and fresh cheese have Vitamin A
   f) Eggs, liver, lungs and heart have Vitamin A
   g) Other response

2. I will name some foods and I want you to tell me if you think they have Vitamin A.
   a) Papaya
   b) "Guisquil"
   c) Ripe plantain
   d) Oranges
   e) Milk

3. Why is it important to give Vitamin A to postpartum women (those who have just had a baby)?
   a) To fortify the milk that will be given to the child
   b) Other response

4. Why is it important to give Vitamin A to children from 6-7 months?
(Open question, circle or underline the correct responses that the mother gives.)

a) Helps growth and development/ protects against diseases/ skin/ so that ARIs, measles or diarrhea will be less severe/ for vision
b) Other response

5. How did you learn about Vitamin A?
(Open question, circle or underline the correct responses that the mother gives.)
a) Extensionist/AMPROS volunteer
b) Radio
c) Other (specify) _____

6. How many Vitamin A talks have you attended since September? (Sept., Oct., Nov.)
(SPECIFY THAT IT WAS ON VITAMIN A)

7. Why do you attend the talks they give in your community?
(Open question, circle or underline the correct responses that the mother gives.)
a) They are important for our health
b) To learn more
c) Curiosity
d) I like them
e) Because they invited me
f) I have the time
g) Other (Specify) _____

8. Do you think the explanations they give in the talks are:
a) Easy to understand (clear)
b) Difficult to understand. Why? _____
_____
c) More or less clear. Why? _____
_____

9. Have you attended any cooking demonstrations?
a) Yes
b) No (Go to question 11)

10. What did they teach or tell you there?
_____
_____

11. Do you have a family garden?
a) Yes (What do you have planted?) _____
b) No

ANNEX 20

# INTERNATIONAL EYE FOUNDATION
# AMPROS PROJECT, COBAN, GUATEMALA
# FORMAT FOR FINAL EVALUATION

## OBSERVATIONS

Name of educator: _____

Type of activity: _____

Name of observer/supervisor: _____

Date: _____

**EVALUATION**

| | | |
|---|---|---|
| 1. Did the extensionist ask the mother any questions to evaluate her knowledge before presenting the topic? | YES | NO |

**DISCUSSION OF THE TOPIC**

| | | |
|---|---|---|
| 2. Did he/she explain the purpose of the activity to the mothers? | YES | NO |

**USE OF APPROPRIATE TECHNIQUES**

| | | |
|---|---|---|
| 3. Expresses him/herself clearly | YES | NO |
| 4. Uses visual aids like drawings, dramatizations, models, tables, etc. to explain the topic | YES | NO |
| 5. Promotes group discussion and participation by the mothers during the activity | YES | NO |
| 6. Provides the group with examples of the topic | YES | NO |
| 7. Repeated or summarized the six key Vitamin A messages | YES | NO |
| 8. Asked the participants to repeat the key messages or to do some demonstrative activity. | YES | NO |
| 9. Asked the participants if they had any doubts or questions about the topic. | YES | NO |
| 10. Verified the understanding of the knowledge acquired by asking the mothers questions | YES | NO |

## VERIFICATION QUESTIONS

Name at least two participatory techniques used by the extensionist during the educational activity. (Examples: Games, small group activities, drama, etc.)

1. _____

2. _____

## ANNEX 21

## PROJECT HOPE - OMNI

## FINAL EVALUATION OF THE NUTRITION, VITAMIN A AND GARDENS PROJECT FOR QUALITY ASSURANCE OF EDUCATIONAL SERVICES

## INTERVIEW FOR THE COORDINATOR/EDUCATOR OF THE PROJECT

1. Do you have a specific plan for training of the promoters?
   If he/she says YES, go to question 2.
   If he/she says NO, go to question 3.

2. Is it a weekly, monthly, quarterly, etc. plan?

3. How do you select the content for each promoter training session?

4. How do you detect the promoter's reinforcement needs?

5. Do you have a schedule of educational and reinforcement activities for promoters?

6. What training methodology do you use?

7. What type of evaluation do you use to verify participants' understanding?

8. How often do you do it?

**VERIFICATION QUESTIONS**

9. Can you show me your training plan?

10. Can you give me a demonstration of the lesson content you would use for (nutrition, Vitamin A, gardens)?

11. Can you show me a schedule of educational and reinforcement activities?

12. Can you show me the average acquired by the promoter in the months of November and January?

ANNEX 22

## FORM FOR EVALUATION OF MOTHERS

Name of the Mother: _____ Community: _____

Name of the Extensionist: _____

| Date: | | | | | | | |
|---|---|---|---|---|---|---|---|
| Topic of the Month: | | | | | | | |
| 1. What were the principal points taught today? (YES-NO) | | | | | | | |
| 2. Was what you learned today interesting or useful? (YES-NO) | | | | | | | |
| 3. Do you plan to put into practice what you learned today? (YES-NO) | | | | | | | |
| 4. Can you tell me 3 key messages you heard today? (YES-NO) | | | | | | | |
| 5. Is there anything you didn't like about today's activity? (YES-NO) | | | | | | | |

# FORM FOR SUPERVISION OF VOLUNTEERS

Name of the Volunteer: _____ Community: _____

Name of the Extensionist: _____

| Date: | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Did a warm up activity | | | | | | | |
| 2. Established good rapport with participants | | | | | | | |
| 3. Expressed self clearly | | | | | | | |
| 4. Established eye contact with everyone | | | | | | | |
| 5. Tried to be creative to keep attention | | | | | | | |
| 6. Looked for examples to reinforce behavior changes | | | | | | | |
| 7. Discussed benefits of behavior changes | | | | | | | |
| 8. Used visual aids | | | | | | | |
| 9. Used some participatory technique | | | | | | | |
| 10. Promoted participation in the presentations | | | | | | | |
| 11. Knowledge of topic (B-A-G) | | | | | | | |
| 12. Repeated key messages | | | | | | | |
| 13. Asked participants to repeat the messages | | | | | | | |
| 14. Asked if there were doubts about the topic | | | | | | | |
| 15. Number of participants | | | | | | | |

B-A-G = BAD - ADEQUATE - GOOD

# Annex IV: Final Report on Focus Groups

MARTHA DE PIEDRASANTA, MPH, R.D.
CONSULTANT: NORA DE SALAZAR

# INTERNATIONAL EYE FOUNDATION
# QUALITATIVE INVESTIGATION OF PROJECTS AMPROS AND HOPE
# ALTA VERAPAZ/QUETZALTENANGO/SAN MARCOS/TOTONICAPAN

GUATEMALA FEBRUARY, 1997

**BACKGROUND:**

Guatemala is a country with a high index of vision problems, therefore the International Eye Foundation has performed a series of activities with the objetive of reducing such indices.

Project AMPROS has carried out educational activities in the area of Alta Verapaz, in the different communities of the department, with the purpose of reducing the high rates of vision problems. The different activities are performed under the responsibility of the extensionists and the supervisors, previously trained by the institution. Some of the activities include talks on health, hygiene, child care, family garden care and cooking demonstrations using vegetables and herbs as natural souces of vitamin "A".

**OBJECTIVES:**

The main goal of performing this qualitative study is to learn from those who participate in the activities as well as from those who do not, their opinion on the work performed by the project in the community and its impact.

**METHODOLOGY:**

It is a transverse qualitative study, using the technique of focus groups formed by mothers with children six years of age and younger, including four groups: participants of the educational phase; participants who have gardens; participants without gardens; and finally a group of those who do not participate nor have gardens (for more detail on participants see Annex 1).

The sample of communities was selected by the main office of the institution from a list of communities made by the supervisors of the areas they know and that had the characteristics requested for each focus group.

The moderators and observers where trained on February 10th, 1997, and the next day, February 11th, they went to the communities to start their field work, having planned to finish on February the 20th (for discussion cada corresponding to each focus group, see Annex 2).

The field work was performed in four communities of Alta Verapaz (project AMPROS) and in the departments of San Marcos, Quetzaltenango and Totonicapan (Project HOPE).

**LIMITATIONS:**

One of the limitations in the area of Alta Verapaz was the language. The focus groups were in Q'eqchí and as a result, only the technique was evaluated and not the content of the discussions during supervisiory visits.

There were several obstacles in the area of Project HOPE. The main problem was the lack of support from the project personnel, as they do not work directly with the communities. They work through a coordination with other organizations which makes it difficult for the people to identify the activities carried out specifically by HOPE. It was impossible to carry out the totality of focus groups in two communities. In Esperanza (Xela) there was no group in the educational phase and three interviews were held with the people who arrived. The group of participants without gardens was not performed either. In Chipuac (Totonicapan) there was no group of participants with gardens and the group corresponding to particpants without gardens was carried out with three men.

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**WORK PLAN FOR FIELD ACTIVITIES**

| TOWN | COMMUNITY | DATE | TYPE OF FOCUS GROUP |
|---|---|---|---|
| Cobán, A.V. | Samac | 2-11-97 | Parts. Educational Phase |
| Cobán, A.V. | Samac | 2-11-97 | Non-Parts. Without Gardens |
| Cobán, A.V. | Samac | 2-12-97 | Parts. With Gardens |
| Cobán, A.V. | Samac | 2-12-97 | Parts. Without Gardens |
| Sn Juan Chamelco, A.V. | Campat | 2-13-97 | Parts. Educational Phase |
| Sn Juan Chamelco, A.V. | Campat | 2-13-97 | Non-Parts. Without Gardens |
| Sn Juan Chamelco, A.V. | Campat | 2-14-97 | Parts. With Gardens |
| Sn Juan Chamelco, A.V. | Campat | 2-14-97 | Parts. Without Gardens |
| Sn Pedro Carchá, A.V. | Chiyó | 2-17-97 | Parts. Educational Phase |
| Sn Pedro Carchá, A.V. | Chiyó | 2-17-97 | Non-Parts. Without Gardens |
| Sn Pedro Carchá, A.V. | Chiyó | 2-18-97 | Parts. With Gardens |
| Sn Pedro Carchá, A.V. | Chiyó | 2-18-97 | Parts. Without Gardens |
| Sn Pedro Carchá, A.V. | Chizón | 2-19-97 | Parts. Educational Phase |
| Sn Pedro Carchá, A.V. | Chizón | 2-19-97 | Non-Parts. Without Gardens |
| Sn Pedro Carchá, A.V. | Chizón | 2-20-97 | Parts. With Gardens |
| Sn Pedro Carchá, A.V. | Chizón | 2-20-97 | Parts. Without Gardens |
| Totonicapan | Rancho de Teja | 2-11-97 | Parts. Educational Phase |
| Totonicapan | Rancho de Teja | 2-11-97 | Parts. Without Huertos |
| Totonicapan | Rancho de Teja | 2-12-97 | Non-Parts. Without Gardens |
| Totonicapan | Rancho de Teja | 2-12-97 | Parts. With Gardens |
| Quetzaltenango | La Esperanza | 2-13-97 | Parts. With Gardens |
| Quetzaltenango | La Esperanza | 2-13-97 | Non-Parts. Without Gardens |
| San Marcos | Agua Caliente | 2-17-97 | Non-Parts. Without Gardens |
| San Marcos | Agua Caliente | 2-17-97 | Parts. Educational Phase |
| San Marcos | Agua Caliente | 2-18-97 | Parts. Without Huertos |
| San Marcos | Agua Caliente | 2-18-97 | Parts. With Gardens |
| Totonicapan | Chipuac | 2-19-97 | Parts. Without Gardens |
| Totonicapan | Chipuac | 2-20-97 | Parts. Educational Phase |
| Totonicapan | Chipuac | 2-20-97 | Non-Parts. Without Gardens |
| Quetzaltenango | (*)La Esperanza | 2-21-97 | Parts. Educational Phase |
| Quetzaltenango | (*)La Esperanza | 2-21-97 | Parts. Without Gardens |

(*) solo se hicieron entrevistas.

INTERNATIONAL EYE FOUNDATION
REPORT ON FOCUS GROUPS
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## EDUCATIONAL PHASE

* **Educational Phase:**

Most women participate because they talk about their children's health and how to prevent illness, maternal health , how to eat right and of vitamin "A" which helps your eyesight.

* **Time:**

They attend each week and in some communities every two weeks because the extensionist has to cover other communities and can't attend every week is the reason they express.

They take 10 to 30 minutes to reach the meeting place and are away from home for two to three hours. Some are out 7 to 9 hours, but all of them agree with the schedule because it gives them time to make lunch and they are interested in going to learn how to improve things at home.

* **What they like:**

What most of the women like are the talks on child care. Not all of them agreed, as they also mentioned the matter of the gardens and how to learn more about them, as well as the benefits of vitamin "A", hygiene and the protection of pregnant women. Nothing was said about what they disliked of the talks. They considered that everything was nice, that they liked it and that no one else taught them.

* **Improvements:**

They know the project is about to end and they think that maybe other projects could come, without referring to a specific one. They would like to learn new things, and have the recipes written down. They want to know where to buy seed, fearing they won't be able to get any when the extensionist is gone. They do not want the project to leave.

* **Do the husbands agree:**

All of them say that their husbands do agree because they like for them to learn where to find vitamins and their benefits. This is why they let them go and even send them. The husbands know it is for the entire family. They do not get angry because they like what their wives make at home from the cooking recipes. The husbands do not go with any of them because of their work. They work every day and all day long. Other women don't invite their husbands and only one lady said her husband went with her sometimes.

## EDUCATIONAL MATERIAL

* **Material they have seen: (See Annex 3)**

Three communities (Samac, Chizon and Chiyo) said they had seen all of the material, but didn't specify. In Campat they had seen the Vitamin "A" flip charts, the Gardening flip charts, the Acute Lower Respiratory Infection (ALRI) and Extended Program of Immunization (EPI) material, the Health lottery, Illustrations and Control of Diarrheal Disease (CDD) flipchart.

* **What they like:**

Most said the liked everything, but they also mentioned the Vitamin "A" material, "because they should all look like the women in the drawings, really healthy". They said the illustrations were nice and teach how to feed the children. The maternal health material has many illustrations. They mentioned the CDD material because fluids prevent children from dehydrating.

**COOKING DEMONSTRATIONS**

* **Why they participate:**

Because they learn to cook differently, they make good food with vitamin "A" that improves children's health and because it tastes good.

* **Time**

The same as for the educations talks, they meet every week or every two weeks because the extensionist has to cover other communities.

The cooking demonstrations are in the same place, with the exception of one community that had to change because of the ladies that lived too far. Again as for the Educational Talks, they take 10 to 30 minutes to reach the meeting place and are out for 2 to 3 hours, depending on what they make. One lady said it took half a day, but for the rest of the ladies the schedule is fine because they have finished serving lunch and it is every other week. They want healthy families and they are aware of the benefits for them and their families.

* **Do they like the recipes:**

All of them like the recipes because they taste good, they are different and they can make them at home; they are easy and keep their children healthy.

* **Easy:**

For all the ladies they are easy cooking recipes because they are quick, economical, they learn how to make them and their children are healthy and protected.

* **Ingredients**

1. Carrots, oil, potatoes, flour, broth, onions, tomatoes, coriander, salt and eggs.

2. Liver, tomatoes, pepper, oil, salt, carrots and zamat (GLV).

3. Carrot patties: oil, salt, carrots and flour.

4. Cake: Margarine, baking powder, eggs, flour, yeast, sugar apples or carrots and cinnamon.

* **Easy to find ingredients:**

For most of the ladies the ingredients are easy to obtain because they are cheap, they are familiar and can be found in local stores. Some ingredients are hard to find like flour because they have to go to town and buy it.

* **They make them at home:**

All the ladies said they tried them at home because they have vitamin "A" and their husbands can see what they have learned. They are good for their children's health, they are economical, they eat right and their husbands are happy.

* **What their family likes:**

They like them all because they are good, they have vitamin "A" and men know about good food.

* **Do the husbands agree:**

They said that their husbands do agree, they eat something different, they like it, they share with the whole family. This is why the husbands send them to the demonstration, so they can learn. And some others tell their wives to fix the house so the demonstration is held there. Others give their wives money to make them for the family or when they have guests, that's how they know their husbands agree.

* **Do the husbands go:**

They do not because they work said most of the ladies. Some said that their husbands didn't like to go or they were shy. One said that her husband goes with her once in a while and likes it.

* **Sharing ideas:**

(This question was misinterpreted)
The ladies say they would share their ideas with others but they don't because other women don't like for <u>them</u> to teach, they don't have time, and some say that "they will go waste their time if other mothers are teaching, not the extensionist".

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## NON-PARTICIPANTS WITHOUT GARDENS

* **Knowledge of AMPROS Project:**

The majority do know about AMPROS Project, which helps children have good health.

* **Activities performed by the project:**

Those mentioned by all the women are:
- Educational Talks / Sessions on Health and Nutrition
- Demonstrations / Activities on Gardening and Fertilizers
- Cooking Demonstrations

Those least mentioned are:
- Vitamin "A" / Vaccination Campaigns
- Parasite Campaigns
- Ophthalmological Campaigns

The women have not participated in any of these activities because they have to take care of their children. Some women mentioned other reasons: one does not have a husband, another sends her daughter to the talks and another women said her mother goes then she tells her.

Some ladies did participate more than a year ago in the Cooking Demonstrations and the Family Gardening. Currently they can't go because they have alot of work and they don't have time, others did go but since all of them didn't get together the activity was not carried out.

## FAMILY GARDENS

* **Have they heard of the Family Gardens:**

Most of them have heard they are for the growth and development of children, for their nutrition, that carrots have vitamin "A" and that they save money.

* **Why they don't have a Family Garden:**

The main reasons why they don't have a garden are:
- They don't know how to plant one
- They don't have the time because they work or have to take care of their children who get sick often
- They don't know where to obtain seeds

Other less important reasons are:
- They don't have the space
- It is hard to do
- Their hens eat everything

* **Why they decided not to plant:**

Most say they decided not to plant, some say that nobody told them or because they are afraid.

* **Benefits of the Family Garden:**

Everyone agreed that they benefit from having a family garden.

- They don't have to buy vegetables
- They have vitamins
- They prevent diseases
- They don't have to go to town to buy them
- They can make delicious and nutritious food for the children with them

* **Communal Gardens:**

For the majority it is better by themselves, they have a hard time getting together, some don't want to, others are late and cause problems, they don't see results. For other women it is a good idea, but in sections so it would be close by and they would do it together.

Most say their relatives would not participate in the communal gardens because of the time, their husbands have to work and their children have to learn at school.

* **Seeds:**

In three communities most said they knew where to obtain seeds, with the community volunteer or in town but it doesn't sprout. One entire group did not know where to obtain the seeds.

Others said it was easy to obtain seed from the volunteer, that they wouldn't know where else to go and they probably wouldn't germinate.

**EDUCATIONAL TALKS:**

* **They are about:**

Most do not know what the Project's Educational Talks are about because they do not attend. Others said they were about health, cooking and gardens.

They do not attend because they are not invited, because they or their children were sick, because other ladies criticize them and they are shy or they have to take care of their children, chop wood, go to market, or weave and they forget the day of the meeting. One said she had problems with the leader, and another lady believed it was not for every woman.

* **Benefits:**

They all agreed they would benefit from hearing the talks offered by the Project, because they would have good health, they would learn new things, they would plant gardens, learn to cook , have good hygiene, and increase their knowledge.

**COOKING DEMONSTRATIONS**

* **The food they make:**

Most of them have heard of the food they make with the ladies:

- They cook herbs with many vitamins
- Macuy, roctish, cakes, carrots
- Liver, eggs, carrots and radishes
- Carrot patties
- Turnovers
- Wheat with tomatoes and onions

They don't participate because they don't have time, they have to go to market, look for wood, they have alot of work to do taking care of the children and the house. Other reasons are that some criticize alot, others have had personal problems with them, some can't go on Mondays and it's too late and their husbands get angry, or they are shy or don't know if the participants will accept them.

* **Benefits:**

They all think there are benefits for the family to particpate in the cooking demonstrations because they could make nutritious food, that prevents diseases and because less children have died. "Everything they teach is beneficial".

* **Why they decided not to participate:**

They decided not to participate in the project activities because of their household chores. One lady said she didn't attend because there was someone who didn't like her.

* **Changes / Suggestions:**

Make a new group with them, change the schedule so it would be after lunch. They can't attend in the morning. That they find kind people to guide them.

They all agree on attending the project activities in a future opportunity to learn more about health, and know what the others have learned and to know what to cook and plant.

* **Benefits obtained in the community:**

They do recognize the benefits that the community has gained with the work performed by the Project:

- Not so many children die
- The children don't get sick so often
- There are sown lands / gardens planted.
- They teach them how to cook
- There is hygiene at home

* **People that don't have gardens:**

They think that some people don't have a family garden because they don't want to cultivate the land. They show no interest in anything. They are not aware and don't know how to use the products, they say that they don't have time. But that is just an excuse because the extensionist visits each home. Some say that it is not necessary, that they know how to make a meal and others say they planted but it did not sprout.

* **Do the women have time:**

They do have time to work in the family garden because they like to and it is for the entire family. They know it works, they want to teach their children and they are interested and have seen that their children don't get sick.

* **What they do with the crops:**

They eat most of them. They don't sell them, except when they have too much, as happened with the carrots, celery and coriander.

* **Fertilizing:**

Most of them know how to fertilize with a compost pile, but most of them don't use it at home because the extensionist did not have time to show them, because they don't have enough chicken manure. Some forgot how, others use chicken manure and coffee pulp to fertilize.

Those who have a compost pile (the minority) were taught by the extensionist who showed them how to make it and they do use it because it is the best fertilizer, it helps the soil. The vegetables grow big, it is cheap and you don't have to buy it.

* **Benefits of using compost:**

They all recognize the following benefits of using compost:
Better vegetables; All they do is collect things for it and don't have to spend money; The chemical fertilizers are expensive and burn the land.

* **Visits from the people of the project:**

The extensionist visits most of them and misses some because he doesn't have time. The visits vary according to the time the extensionist has. The visits may be weekly, every two to three weeks, every month or whenever they can.

* **How to consider the Project's support:**

It is adequate and they would like for the project to stay longer. It is good, they teach about everything, how to plant a garden and the village is improving, thank God. They would like to learn more. The extensionist motivates them and shows them how to do things.

* **Working without support:**

They think they can continue the work with the family gardens without the project's support by staying in groups and not forgetting what they learned. The problem they have is where to get the seeds when there are none in the community.

* **Support from other organizations:**

They don't know if the other organizations/institutions would support them in continuing with their family gardens, but if they do reach the community and call them they will attend and learn other things to make the community grow.

They would like to have support for the people who sell the seeds in the community.

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**PARTICIPANTS WITH GARDENS:**

* **Initial Motiviation:**

They have participated from the beginning of the project and the reason why they have a family garden is because the extensionist motivated them to do so in order to have nutritious food for their children, they eat right and it tastes good, it is easy to get the seeds and it gives results.

* **Who decided to plant a family garden:**

The women made the decision with the help of their husbands. The men prepare the land and they take care of the garden.

They also decided what to plant because they know what they need to cook. They learned this in the group and the extensionist helps them.

* **Do they garden all year:**

They do plant a garden all year because it is more expensive to buy the vegetables. They fertilize the way they learned, but they have to change the location of the garden because of the lack of water in the summer.

* **What do they plant:**

- Carrots, chard, radishes, zamat, cabbages, celery, squash, beets, onions = because they have vitamin "A" and they are good for your health and eyesight.
- Onions, coriander, spearment = to add flavor to the food.

* **What they like most:**

All of them because they taste good and they have vitamin "A" and they are good for your health and nutritious. Carrots, chards, onions, radishes.

* **The seeds:**

They buy them or obtain them from the community volunteer, They don't know where to buy them in the town and it is too far.

For most of them it is easy to obtain / buy the seeds because they are in the same community, but when the project ends they won't know where to obtain them, except for the radishes that provide their own seed.

They consider that the price of the seeds sold by the project if fair, it is not expensive. But the seeds sold in town are expensive.

* **Who works in the family garden:**

Mostly the women do, and many of them are helped by their husbands.

* **How much time do they dedicate:**

The time they dedicate is variable. They take up to three days to prepare the land, one day to make the corral, one day to clean it and then spend about half to a whole hour each day in the garden.

The women are the ones who dedicate more time to the family garden and they like it because they want to have fresh vegetables for their children's good health. Even if they don't have money, they only have to pick from their garden. It is fun because the crops turn out well and the children also help. It is tiresome but they don't mind because they know the benefits.

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**PARTICIPANTS WITHOUT GARDENS:**

* **Project Activities:**

All of them participated in the project activities and the ones they liked most are the talks because they teach them how to take care and protect their children. The also liked the cooking demonstrations and the family gardens.

* **Family Gardens:**

Some said they do have family gardens, but most of them do not. They have heard about the family gardens, but they don't have the time. The extensionist has told them they should do it.

They don't have a garden because:
- The hens eat it
- It didn't germinate the first time
- It is hard to turn the soil
- They get stolen
- They don't have time, they take care of their children
- They don't know how

* **Who decided not to plant a garden:**

The women decided not to garden because they don't have time or they are not interested.

* **Benefit of the Family Garden:**

All of them recognize the benefits of a family garden:
- Economical
- Fresh vegetables
- They have vitamins
- Prevent diseases
- They have food for their children.

* **Communal Gardens:**

Most of them do not agree about having a communal garden. They would rather have their own gardens but they don't have the space. Not everyone in the group participates, they don't have time because they have to take care of the children.

Other members of the family would not particpate either in the communal gardens because there is no good land, not all cooperate and it would be better to have a garden of their own.

One person said that he would participate and that his brother and his wife like it.

* **Seeds:**

Everyone knows where to buy or obtain the seeds - with the project volunteer. It is simple, they are available in the community but the problem they see will be when the extensionist doesn't visit them anymore.

Most of them know what to do but they don't have a garden. They think it's beneficial and they will have vegetables available in the community. If they buy the vegetables it is more expensive, also the seeds sold in the town are expensive. The seeds that the volunteer has will sprout if they are planted properly.

The prices are: coriander 0.30 centavos a bag; onions 0.40 centavos a bag; there are also bags that cost 0.35, 0.45, 0.50 and 0.60 centavos each.

**INTERNATIONAL EYE FOUNDATION**
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**HOPE**

**PARTICIPANTS IN THE EDUCATIONAL PHASE:**

* **Educational Talks:**

All of them have participated in the educational talks because they need to learn about diseases, home hygiene and how to feed their children. They learn what they don't know about gardens, hens, oral rehydration, child care and they like to be in the group.

* **Time:**

The timing varies from one community to another. Some get together every 8 days, others every 15 days, or every 15 to 20 days because the leaders (Promotors) can't visit often. Others take time when they have religious talks or gather to pray the rosary and in other places the project is ending.

For most of them the time they need to reach the meeting place is between 2 and 5 minutes or sometimes 15 to 20 minutes because they meet at different places, when they take time after praying the rosary in one of the ladies' homes.

The time they are away from home varies from one community to another because in the afternoon they have time to make lunch and others say they hurry with their housework because they want to learn. Only one lady said that the timing was not right, that it was too late and she had to make supper.

* **What they like:**

What they mostly like about the talks is that they teach them to take care of their children, about diseases, about vitamin "A" and everything is interesting to them.

What they don't like is that they don't have cooking demonstrations. They have a hard time learning and if the contents are not repeated to them, they will forget. In some communities they don't like the schedule because the talks are after the DIGESA training and the women are tired and their talk only lasts 15 to 20 minutes.

* **How to improve the talks:**

They should have the meetings more often is what they all agreed. The topics should be repeated so that they can learn them better and they should have patience to teach them and explain things clearly. They would like a specific day for the talks.

* **Do the husbands agree:**

All of them say their husbands agree. They want them to have orientation on how to take care of the children, that's why they go. It is good to be in a group because they learn. That's why they let them go, the husbands tell them to go.

They know they agree because they want them to learn and they let them go. The husbands have said that the talks are good. One husband gave his wife a piece of land for her gardening and wants her to be on time (to the meetings).

Most of the husbands don't go with their wives to the meetings because of their work, that's why they send them.

In one community of Totonicapan, the women said their husbands do go with them to the talks. The reason for this is that the talks are in the Oratory after the religious sessions and the husbands that want to stay, do so.

**EDUCATIONAL MATERIAL**

* **The material they have seen: (See Annex 3)**

One community had not seen any educational material, others said they had seen the vitamin "A" and oral rehydration material. In the remining three communities they mentioned the circles of food with vitamin "A", the gardening and vitamin "A" flip charts, the big and small pictures. (In one community of Totonicapan, they had never seen the vitamin "A" flip charts and they liked them).

* **What they like:**

They like the material that teaches them how to plant vegetables. All the material is good and most of them like it. The material has drawings of squash, carrots, plantain and corn. They mentioned the oral rehydration material because they learn when a child is dehydrated. (They mostly mentioned the contents of the material and not of the material itself.)

**COOKING DEMONSTRATIONS:**

* **Why they participate:**

They participate in the cooking demonstrations because they want to learn to feed their children, to cook differently, they learn to cook herbs that have vitamins, and they learn how not to waste food. (There are no cooking demonstrations in two communities: Chipuac, Totonicapan and La Esperanza, Quetzaltenango.)

* **Time:**

(Rancho de Teja, Totonicapan and Agua Caliente, San Marcos). One community gets together every 8 days because that's when the Promotor arrives. Another community gathers every two or three months because they arrange with the Promotor each time he/she comes, when their next meeting will be.

The cooking demonstrations are usually held at the same place so it takes most of the 2 to 5 minutes (to get there); and a smaller group takes about 30 minutes. They are usually away from home for 1 1/2 to 3 hours for the cooking demonstrations. The schedule is good for them because they like to learn. They hurry in the morning with their housework and leave their lunch ready.

* **Do they like the recipes:**

All of the ladies (that received the cooking demostrations) like the recipes. They learn how to cook food they don't know, they practice at home so they can learn them better. The meals have a differente flavor with fresh vegetables. They add other things to change the flavor and feed the children so they will be healthy.

* **Easy**

All of them say some are easy and some are difficult, other are expensive and some are cheap. The recipes with meat are expensive and the ones with vegetables are not because they have a garden. The difficult ones are the ones they can't remember.

* **Ingredients:**

1. Tomatoes, onions, chards, eggs and oil

2. Cakes: flour, sugar, milk and baking powder

* **Easy to find ingredients:**

It's easy when they don't have to buy them, but hard when they do because of the money. If they don't have the money, they just remain with the desire. It would be much easier if they would plant.

* **Do they make them at home:**

Some say they don't because they haven't bought vegetables and others say they do because their family likes them. They can make the recipes and they are easy.

* **What their family likes:**

(Recipes are only prepared in one community). They say that they like them, prepare them, eat them, and their families ask them to make more. One mother mentioned that her child does not like beets because they remind him of blood and he won't eat anything prepared with them.

* **Do the husbands agree:**

They said that their husbands do agree (in the two communities where cooking demonstrations are carried out), they talk with their husbands and they say that its up to the wives whether or not they want to attend the cooking demonstrations.

They know that their husbands agree with their participation because they give them permission, they don't get angry about the time they spend away from home and they say that what they're learning is beneficial for their children.

* **Do the husbands go:**

All of the women said that their husbands do not go to the cooking demonstrations because they don't have time, they must work. Some said that it was because the husbands aren't invited and others said that the activity is only for women.

* **Sharing ideas:**

(This question was misinterpreted)

A few of the ladies say that they would like to share their ideas and recipes with others because "we all need to learn", but the majority say "no" because other women don't like for <u>them</u> to teach instead of the Promotor, because the mothers don't know anything.

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**NON-PARTICIPANTS WITHOUT GARDENS:**

* **Knowledge of Project HOPE:**

Two communities don't know about Project HOPE, the other two do and they mentioned the credits they give to buy chickens and that they teach them how to take care of the animals. They mentioned the vaccines and vitamin "A" for the children.

The project activities that some recognized are:
- Educational Talks/ Sessions on Health/Nutrition
- Vitamin "A" and Vaccination Campaigns
- Cooking Demonstrations
- Gardening/Compost Pile Demonstrations/Workshops
- Animal Raising (chicken, hens) Demonstrations/Workshops with DIGESA
- Extra Curricular Classes

Most of the people have not participated in the activities because they don't know about the project or think they are just for students and not for ladies or say they can't learn anything because they can't read or write. In one community they did participate, they were given chickens and others participated in the nutrition, hygiene and home care activities. Some participated 18 months ago, others 6 months ago, but now they don't participate because they don't have time, or because of their work or a lack of information.

**FAMILY GARDENS:**

* **Have they heard of the Family Gardens:**

Most of them have, they have planted vegetables at home and they fertilize them. They eat the vegetables. Others have heard of the gardens but they don't know if they are part of Project HOPE.

* **Why do they not have a Family Garden:**

The reasons why they don't have a family garden are the following:
- The ice kills the crops or they grow very little
- They don't have water, there is not enough water in the community and they can't use it to water the gardens. If they do so, the committee will shut off the water to their house
- They don't have the land to garden
- They don't know how
- They can't find the seeds or don't know about them
- They don't have time to prepare the soil and care for the garden

* **Who decided not to plant:**

Most of them want to plant. None decided not to plant and if they didn't plant it was because of the lack of water, or because of the reasons mentioned before. Some said they didn't garden because corn is more important.

* **Benefits of the Family Garden:**

Everyone recognized that it does benefit them to have a family garden:
- They don't spend (money) on going to buy vegetables
- They don't go so far
- They improve their children's health
- They would have clean vegetables
- The vegetables with vitamin "A" help the eyesight
- They would feed the chickens

* **Communal Gardens:**

Most of them say they do agree, they would experiment, learn and practice. They would help each other if they're understanding. The rest say they wouldn't participate in a communal garden because only some would benefit, not everyone works and there is no unity.

Most of them don't think their relatives would like to participate in a communal garden. The husbands have to work, the children are too small, the teenagers would if they could, but only a few because they prefer to go for walks.

* **Seeds:**

Most of them know where to obtain/buy seeds. They mentioned Nahuala, Xela, DIGESEPE, San Marcos, and Totonicapan. It is very hard in the community because there aren't any, some don't know where there are seeds, or find it difficult because of the money.

**EDUCATIONAL TALKS**

* **They are about:**

They don't know, they have not attended the talks, they have not been invited, they have to take care of their children and it's too far, or because they are shy or because it is only or young single women. Most of them have heard that the talks are about vitamin "A", child care, medicine for children, chickens, hygiene for the children and for the home.

* **Why don't they attend:**

They don't attend because they haven't been invited, they are embarrassed because only young single women go (to receive the talks). They don't like to go to the prayer house (church) where they give the talks, or because of their work schedule they don't have time.

* **Benefits:**

They do think it would be good for their family if they attended the educational talks because they would learn how to plant vegetables, take care of their children and learn other things they don't know, for example economical assistance, family health and chicken raising.

**COOKING DEMONSTRATIONS:**

* **The food they make:**

The majority have not heard of the food they make, but some mentioned that they have heard they teach them to cook meals, and cabbage patties with eggs and they are delicious.

They do not participate because they have not been invited. They think it is for the students. Others said it's because they haven't been to their community to teach them.

* **Benefits:**

All of them think there are benefits because they would have good food for their children and for them. They would cook simple vegetables, but well prepared and delicious. They could make them at home and would benefit because they are nutritious and have vitamins.

* **Who decided not to participate:**

They did (the women) because they didn't know.

* **Changes/Suggestions:**

Make a group of married women and talk about gardening and prepare cooking demonstrations. Those who know could share with them, they should come to teach and don't lie about when they say they're going to come and then don't arrive. They should talk to the mayor about the activities so he can remind them. It all depends on the Promotor.

All of them would like to participate in the project activities in a future opportunity, because they wouldn't buy vegetables for their meals. They want to learn how to cook and about gardening, they think vitamin "A" is important for their children.

* **Benefits obtained by the Community:**

Most of them don't think the community has benefited from the work done by the project, because they don't know if it was HOPE. Many people don't believe in the benefit of projects. They can't say because they don't know about HOPE. Some say they do because the young ladies cook at home and on one occassion they were given squash, beet and carrot seeds.

INTERNATIONAL EYE FOUNDATION
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**PARTICIPANTS WITH GARDENS:**

* **Initial Motivation:**

They all have a family garden. The starting date does not coincide. Some say they started seven years ago, others three years ,others two years, a year or five months ago.

* **How did they decide to plant:**

The ladies decided to plant because their money wasn't sufficient and buying seeds was more economical, provided good food for their bodies, they were clean and the Promotor motivated them. Besides the market is too far away, herbs are better than meat and what is left, they can give to the chickens.

* **Who decided to plant the family garden:**

The ladies decided to plant because it was beneficial for the body and they could afford it, even though they don't have money, they have vegetables and they can sell (them) and buy other things.

The ladies decided to plant and their children also helped them decide. Others say their husbands helped them decide, because they know what grows fast.

* **Do they garden all year:**

They don't garden all year because in the cold season the ice burns the vegetables. In the summer they don't grow because there is no water. They only plant during the rainy season in the months of May through October.

* **What do they plant:**

Carrots, chard, beets, cabbages, turnips, radishes, coriander and cauliflower, because the people think that's what their body needs and they're the ones that grow the most, and the ones they eat the most. Chard can take the cold ice, carrots and beets resist the rain, tomatoes and onions will rot in the rainy season.

* **What they like most:**

All of them are the same, they have vitamins. The radishes are harvested after a short time and they have vitamins.

* **The seeds:**

They can buy or obtain the seeds in Quetzaltenango, San Francisco , San Pedro, San Juan Ostuncalco, Almolonga, and at DIGESA. They are not available in the community. Others said they could obtain it from the project, within the same community.

It is hard to get seeds because it is far away, and if they don't have the money for their fare, they can't go. The volunteer does not have all kinds of seeds.

* **Prices:**

In Xela it is expensive for a small amount of seeds: Q1.00 or Q1.50 plus the fare. At the project it is cheap and sometimes they buy them on credit. With the volunteer it is favorable, but in town they have to pay the (expensive) price without bargaining.

* **Who works in the garden:**

The ladies do with their husband's help. Sometimes their children and grandchildren help.

* **How much time do they dedicate:**

They dedicate different amounts of time: some 15 to 30 minutes, others 30 to 60 minutes, others 2 to 3 hours daily and some an entire day per week.

The ladies are the ones who dedicate more time to work in the family garden. Some are helped by their husbands.

They like to work in the garden because they see the results. It is tiresome, but they are happy because they are helped buy its food. They like it because it is a way to have fun and share with their children.

* **People who don't have Family Gardens:**

All of them gave numerous reasons why others don't have a Family Garden such as:

- They don't know how
- They are not interested
- They don't have time to prepare the soil
- They don't have a place to garden
- The seeds are difficult to obtain
- The animals bother the gardens too much
- They make fun of the ones that attend the talks
- They have doubts about the results
- They have the money to buy at the market
- There is no water

* **The women have time:**

They have time to garden because they know they will use the vegetables. They hurry with their housework so they can have time and because they want to grow good vegetables.

* **What do they do with the crops:**

Some eat what they harvest because they don't plant much. Those who harvest a bit more, give some away or sell some, but they eat more than what they give away or sell.

Some sell just as much as they eat because they plant alot. They sell because the vegetables might rot and the profit helps them buy more seeds.

* **Compost Pile:**

Most of them do know that compost is the animals' excrement used for the cornfields.

Most of them don't have compost piles becuase the chickens dig them. They use it for the cornfields. Some don't like it because they have to dig a pit and it is dangerous for the children who could fall in. Some said they do have some for their cornfields and vegetables and that it is more economical than the chemicals.

Their parents taught them how to use the animal excrement with the cornfields and vegetables. They have also learned from institutions like Nueva Luz, DIGESA, and DIGESEPE.

If they use organic fertilizers with the cornfields and vegetables, they will grow more. The chemical fertilizers have a bad smell and hurt their tongues with they eat the vegetables. They are protected from plagues because they use sand and lime, because it is organic it is abundant (but the minority use it).

* **Benefits of using compost:**

All of them say they do benefit because the vegetables grow bigger and they grow more corn.

* **Visits from the people of the Project:**

Most of them have not been visited. They have planted by themselves and others have told them how. Some are new in the project.

* **How do they consider the project's support:**

They don't think the support they have received from the project is sufficient or adequate because there are many things they ignore. They have planted without orientation and better ways might exist. They need more orientation on how to fumigate. The Promotor can't manage going to all the houses.

* **Working without support:**

Most of them say they do, they have worked that way and they know what to do, or they would ask their relatives, even though they would like for HOPE to continue because they need more orientation.

* **Support from other organizations:**

They think they could have support from other organizations and that it is very necessary because there might be many more appropriate ways to plant and they will provide them with seeds. They need more orientation. DIGESA has worked the most. DICOR has worked with closer communities and they have prospered alot. But they have not contacted other organizations.

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**HOPE**

**PARTICIPANTS WITHOUT GARDENS:**

* **Project Activities:**

They have all participated in the project activities on cooking, hygiene, vitamin "A", gardening, crafts, home improvement and nutrition.

They like all the activities because they think they are important. It is useful to know about vitamin "A", about diseases and the crafts are useful. The gardens are useful because of their products and gathering in a group helps them to be more sociable.

* **Family Gardens:**

Only two have family gardens and the rest do not, even though they have heard about them. HOPE gives them the seeds and teaches them how to plant. They don't have to buy them because they are within reach, at home. Those who plant alot can sell and have for their use. The project teaches them how to take care of the gardens, how to use the chickens' excrement as compost. Some of the reasons why they don't plant are the following:

- During the icy season the vegetables die
- They need alot of water and can only garden during the rainy season
- The grass grows faster than the roots of the vegetables
- They don't have stakes for the corrals and the chickens eat the gardens
- They don't have the land
- There is a slug plague
- They don't know where to go for the seeds

* **Who decided not to garden:**

The ladies themselves did, because of so much ice and not enough water, others because they are lazy and the majority do not want to plant.

* **Benefits from the Family Garden:**

All of them recognize the benefits of having a family garden: they won't have to buy, they help prevent diseases, they would have fresh vegetables and it is food that is available for everyone to eat, they have vitamin "A" and there are no other vegetables in the community, they are clean, they could sell them and one can eat the carrots and the leaves.

* **Communal Gardens:**

Most of them think it's good to participate in a communal garden because they could divide the vegetables amoung each other. They could experiment on how to plant, then do the same at home and they could help each other. Some said they had tried but the land owner kept everything. They would do it on a good piece of land and make everyone well aware that it is for everybody. The majority prefer a family garden because they wouldn't need everyone's consent to harvest the vegetables.

The majority say that none of their relatives would like to particpate in a communal garden. The husbands don't have time (because of their work), that is why they send the women. They would rather have a family garden at home. They said that the children can't help because they start playing and end up fighting and scatter the seeds, and besides they don't have time because they study.

* **Seeds:**

Most of them do know where to obtain/buy seeds for their gardens. They can buy them at the market, but it is too expensive, as well as with the HOPE technician, but it is also expensive and in the community of Totonicapan they don't have any seeds left for sale.

It is hard for all of them to buy/obtain seeds because there aren't any in the community. They have to pay a fare to go buy them to town. The project technician doesn't have all kinds of seeds and only sells during certain time periods.

The price of the seeds is Q1.50, Q1.75, Q2.00 and Q3.00, which is expensive according to the women, therefore they can't afford them and sometimes the seeds don't germinate.

## RECOMMENDATIONS

**In General:**

- The project personnel should always have a good relationship/communication with the community leaders in order to facilitate their acceptance in the community as well as take advantage of the locally available "human resources" in order to promote the project activities. The project personnel should also consider that the project will eventually end, but the community leaders could somehow find a way to continue with some of the activities, working to help the community in its development.

- Encourage the mothers who particpate, to be multipliers of what they have learned, sharing their new knowlege with neighbors, family members, friends, etc. Through this process, the project's messages may be heard by some of the mothers who are not directly participating in the activities.

- Promote the idea that the participant mothers invite and personally accompany other mothers to the project activities, in order to help them incoporate into the group more easily and to increase coverage of the project's target population (mothers 15 - 49 years of age).

- Be more flexible regarding the schedule of activities in the communities, considering the suggestions and commitments of people prior to planning the project activities, in order to assure maximum attendance.

- Invite the fathers as well as the mothers to participate in the project activities, especially in the educational sessions on topics such as health and gardening. This is one way of assuring the father's direct involvement in, as well as his approval of, the project activities in the community (culturally very important).

- Divide the community into sectors to offer a closer meeting place for the mothers, reducing the distance and time, which therefore may lead to an improvement in attendance.

**Educational Sessions:**

- Try to plan educational sessions once a week or once every two weeks, so that the sequence of topics is not lost, considering that the mothers are so preoccupied with other responsibilities, it's easy for them to forget what they have learned previously if there's no common thread throughout the sessions.

- Plan the sessions for the afternoon because the mothers have less commitments at home and will be more likely to attend as well as participate in the project activities.

- Teach the subjects slowly and clearly, dedicating a specific time for each topic and if necessary, repeating the same theme a number of times in order to assure that the mothers have learned the key messages of a specific topic before moving on to the next one.

- Use any and all visual educational materials available in sharing each topic. The mothers stated that they like all of the visual materials and with their use, they are able to understand and remember the messages better.

**ANNEX 1**

DATA ON PARTICIPANTS IN FOCUS GROUP ACTIVITIES

**AMPROS: ALTA VERAPAZ**

**EDUCATIONAL PHASE (AMPROS)**

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

| TIME | FREQUENCY | % |
|---|---|---|
| <1 year | 11 | 22.91 |
| 1 year | 12 | 25 |
| >1 year | 24 | 50 |
| 0 | 1 | 2.08 |

PARTICIPANTS IN EDUCATIONAL PHASE (AMPROS)

AGE OF MOTHERS:

| AGE (years) | FREQ. | % |
|---|---|---|
| 15 - 25 | 20 | 41.67 |
| 26 - 35 | 12 | 25.00 |
| 36 - 45 | 14 | 29.17 |
| 46 - 55 | 2 | 4.16 |
| **TOTAL:** | **48** | 100.00 |

**PARTICIPANTS IN EDUCATIONAL PHASE (AMPROS)**

**AGE OF CHILDREN:**

| **AGE** | **FREQUENCY** | **%** |
|---|---|---|
| 0 - 24 months | 31 | 36.90 |
| >24 - 72 months | 53 | 63.10 |
| **TOTAL:** | **84** | 100.00 |

**Cooking Demonstrations:**

- Design a cookbook or handouts in order to be able to give the mothers the recipe written down and/or in drawings after each cooking demonstration, facilitating the preparation of the recipies shared during the demonstrations (at home).

- Be sure that the recipes are simple and economical so that the women will feel more confidence in preparing them for their families.

- Include only ingredients that are locally available (small stores, local markets, gardens or from other projects that donate food) so that they are easily obtained and not overly expensive.

**Gardens:**

- If the goal of the project is to promote family consumption of the production, individual family gardens should be promoted, as they are more acceptable/successful than communal gardens.

- Include the fathers as well as the mothers in the promotion and education on gardens, in order to create an atmosphere of responsiblity amongst the fathers related to improving there families food supply.

- Organize a committee or cooperative within the community to sell seeds locally, assuring their availability for families with gardens.

- Inform the leaders about who is selling seeds in their community so that they can promote access to the venders.

- Encourage the cultivation of native green leavy vegetables and the "production" of their seeds whenever possible in order to assure the availability of local sources of vitamin "A" and iron.

- Include family gardening activities as part of an integrated health and nutrition project, and not as an isolated activity.

**ANNEX 1**

DATA ON PARTICIPANTS IN FOCUS GROUP ACTIVITIES

**AMPROS: ALTA VERAPAZ**

**EDUCATIONAL PHASE (AMPROS)**

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

| TIME | FREQUENCY | % |
|---|---|---|
| <1 year | 11 | 22.91 |
| 1 year | 12 | 25 |
| >1 year | 24 | 50 |
| 0 | 1 | 2.08 |

PARTICIPANTS IN EDUCATIONAL PHASE (AMPROS)

AGE OF MOTHERS:

| AGE (years) | FREQ. | % |
|---|---|---|
| 15 - 25 | 20 | 41.67 |
| 26 - 35 | 12 | 25.00 |
| 36 - 45 | 14 | 29.17 |
| 46 - 55 | 2 | 4.16 |
| **TOTAL:** | **48** | 100.00 |

**PARTICIPANTS IN EDUCATIONAL PHASE (AMPROS)**

**AGE OF CHILDREN:**

| **AGE** | **FREQUENCY** | % |
|---|---|---|
| 0 - 24 months | 31 | 36.90 |
| >24 - 72 months | 53 | 63.10 |
| **TOTAL:** | **84** | 100.00 |

**NON-PARTICIPANTS WITHOUT GARDENS (AMPROS)**

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

Three women in this group had actually participated in AMPROS activities in the past. One had particpated for three months and two for five months, the rest had never attended any of the project activities.

NON-PARTICIPANTS WITHOUT GARDENS (AMPROS)

AGE OF MOTHERS:

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 20 | 41.67 |
| 26 - 35 | 19 | 39.58 |
| 36 - 45 | 9 | 18.75 |
| 46 a 55 | 0 | 0.00 |
| **TOTAL:** | **48** | 100.00 |

NON-PARTICIPANTS WITHOUT GARDENS (AMPROS)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 31 | 34.07 |
| >24 - 72 months | 60 | 65.93 |
| **TOTAL:** | **91** | **100.00** |

**PARTICIPANTS WITH GARDENS (AMPROS)**

**MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:**

| TIME | FREQUENCY | % |
|---|---|---|
| < 1 year | 9 | 18.75 |
| 1 year | 5 | 10.41 |
| > 1 year | 34 | 70.83 |

PARTICIPANTS WITH GARDENS (AMPROS)

AGE OF MOTHERS:

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 12 | 25.00 |
| 26 - 35 | 22 | 45.83 |
| 36 - 45 | 12 | 25.00 |
| 46 - 55 | 2 | 4.17 |
| **TOTAL:** | **48** | **100.00** |

PARTICIPANTS WITH GARDENS (AMPROS)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 27 | 33.33 |
| >24 - 72 months | 54 | 66.67 |
| **TOTAL:** | **81** | **100.00** |

**PARTICIPANTS WITHOUT GARDENS (AMPROS)**

**MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:**

| TIME | FREQUENCY | % |
|---|---|---|
| < 1 year | 11 | 24.44 |
| 1 year | 18 | 40 |
| > 1 year | 16 | 35.55 |

**PARTICIPANTS WITHOUT GARDENS (AMPROS)**

**AGE OF MOTHERS:**

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 23 | 51.11 |
| 26 - 35 | 17 | 37.78 |
| 36 - 45 | 5 | 11.11 |
| 46 - 55 | 0 | 0.00 |
| **TOTAL:** | **45** | **100.00** |

PARTICIPANTS WITHOUT GARDENS (AMPROS)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 33 | 37.08 |
| >24 - 72 months | 56 | 62.92 |
| TOTAL: | 89 | 100.00 |

**MOTHERS' OCCUPATION (AMPROS):**

| OCCUPATION | FREQUENCY | % |
|---|---|---|
| HOUSE WIFE | 189 | 100 |

**READ/WRITE (AMPROS):**

| READ/WRITE | FREQUENCY | % |
|---|---|---|
| YES/SPANISH | 10 | 5.29 |
| YES/Q'EQCHÍ | 28 | 14.81 |
| NO | 151 | 79.90 |
| TOTAL: | 189 | 100.00 |

DATA ON PARTICIPANTS IN FOCUS GROUP ACTIVITIES

**HOPE:**
**QUETZALTENANGO, SAN MARCOS, TOTONICAPAN**

**EDUCATIONAL PHASE (HOPE)**

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

| TIME | FREQUENCY | % |
|---|---|---|
| <1 year | 17 | 62.96 |
| 1 year | 0 | 0 |
| >1 year | 10 | 37.03 |

**PARTICIPANTS IN EDUCATIONAL PHASE (HOPE)**

*AGE OF MOTHERS:*

| AGE (years) | FREQ. | % |
|---|---|---|
| 15 - 25 | 7 | 25.92 |
| 26 - 35 | 11 | 40.74 |
| 36 - 45 | 7 | 25.93 |
| 46 - 55 | 2 | 7.41 |
| **TOTAL:** | **27** | 100.00 |

**PARTICIPANTS IN EDUCATIONAL PHASE (HOPE)**

**AGE OF CHILDREN:**

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 13 | 25.00 |
| >24 - 72 months | 39 | 75.00 |
| **TOTAL:** | **52** | 100.00 |

**NON-PARTICIPANTS WITHOUT GARDENS (HOPE)**

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

None of the women in the group have attended any of the project activities.

NON-PARTICIPANTS WITHOUT GARDENS (HOPE)

AGE OF MOTHERS:

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 12 | 37.50 |
| 26 - 35 | 11 | 34.38 |
| 36 - 45 | 3 | 9.37 |
| 46 a 55 | 6 | 18.75 |
| **TOTAL:** | **32** | 100.00 |

NON-PARTICIPANTS WITHOUT GARDENS (HOPE)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 18 | 22.22 |
| >24 - 72 months | 63 | 77.78 |
| **TOTAL:** | **81** | **100.00** |

PARTICIPANTS WITH GARDENS (HOPE)

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

| TIME | FREQUENCY | % |
|---|---|---|
| < 1 year | 11 | 50.00 |
| 1 year | 5 | 22.72 |
| > 1 year | 6 | 27.27 |

PARTICIPANTS WITH GARDENS (HOPE)

AGE OF MOTHERS:

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 3 | 13.64 |
| 26 - 35 | 10 | 45.45 |
| 36 - 45 | 3 | 13.64 |
| 46 - 55 | 6 | 27.27 |
| TOTAL: | 22 | 100.00 |

PARTICIPANTS WITH GARDENS (HOPE)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 12 | 20.69 |
| >24 - 72 months | 46 | 79.31 |
| TOTAL: | 58 | 100.00 |

PARTICIPANTS WITHOUT GARDENS (HOPE)

MOTHERS' PARTICIPATION IN PROJECT ACTIVITIES:

| TIME | FREQUENCY | % |
|---|---|---|
| < 1 year | 15 | 78.94 |
| 1 year | 0 | 0.00 |
| > 1 year | 4 | 21.05 |

PARTICIPANTS WITHOUT GARDENS (HOPE)

AGE OF MOTHERS:

| AGE (years) | FREQUENCY | % |
|---|---|---|
| 15 - 25 | 5 | 26.32 |
| 26 - 35 | 8 | 42.10 |
| 36 - 45 | 5 | 26.32 |
| 46 - 55 | 1 | 5.26 |
| TOTAL: | 19 | 100.00 |

PARTICIPANTS WITHOUT GARDENS (HOPE)

AGE OF CHILDREN:

| AGE | FREQUENCY | % |
|---|---|---|
| 0 - 24 months | 13 | 23.21 |
| >24 - 72 months | 43 | 76.79 |
| TOTAL: | 56 | 100.00 |

**MOTHERS' OCCUPATION (HOPE):**

| OCCUPATION | FREQUENCY | % |
|---|---|---|
| HOUSE WIFE | 89 | 89 |
| SEAMSTRESS | 6 | 6 |
| MIDWIFE | 1 | 1 |
| OTHERS | 4 | 4 |

**READ/WRITE (HOPE):**

| READ/WRITE | FREQUENCY | % |
|---|---|---|
| YES/SPANISH | 42 | 42.00 |
| NO | 55 | 55.00 |
| WITHOUT INFO. | 3 | 3.00 |
| TOTAL: | 100 | 100.00 |

Annex 2

**FUNDACIÓN INTERNACIONAL DE OJOS**
**GUIA DE DISCUSION DE**
**GRUPOS FOCALES**
**PARTICIPANTES EN LA FASE EDUCATIVA**
GUIA DE DISCUSION No. 1

1. IDENTIFICACION

Grupo Focal: No._____Comunidad:_____
Departamento_____
Moderadora:_____
Observadora:_____
Lugar donde se realizo el grupo focal_____
Fecha_____ Hora_____ Duración_____
Total de participantes:_____

2. OBJETIVOS
   2.1 Identificar la razón por la cual las señoras asisten a las sesiones educativas que realiza el proyecto en la comunidad.
   2.2 Identificar la conveniencia del horario de las platicas y las demostraciones de cocina.
   2.3 Identificar el apoyo que recibe de la familia para asistir a las platicas y demostraciones de cocina.
   2.4 Identificar si las señoras recuerdan fácilmente los ingredientes y las recetas de cocina.

3. INTRODUCCIÓN A LA SESION: (10 minutos)
   3.1 Saludo y bienvenida a participantes
   3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de G.F. - 5.1)
   3.3 Ejercicio de presentación y rompehielo.
   3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACIÓN
   1. Ustedes han participado en las platicas o en las demostraciones de cocina que ha dado el proyecto aquí en la comunidad?
      si; no.

5. DISCUSION

PLATICAS EDUCATIVAS

2. Por qué participan específicamente en las platicas que da el proyecto?

3. A cada cuanto tiempo asisten a las platicas que da el proyecto? por qué?

4. Cuanto tiempo hace para llegar al lugar donde dan las platicas? (se trata de identificar la distancia o el tiempo de la casa al lugar de reunión)

5. Cuanto tiempo tardan fuera de su casa para ir a participar en las platicas?

6. Qué le parece el horario en que dan las platicas?
por qué?

7. Qué es lo que les gusta de las platicas?
por qué?

8. Qué es lo que no les gusta de las platicas?
por qué?

9. Cómo creen que podría mejorar las platicas?

10. Está de acuerdo su esposo a que reciba las platicas?
si; no; por qué?

11. (si,no) cómo sabe si está o no está de acuerdo?

12. su esposo las acompaña alguna vez a las platicas?
si; no; por qué?

** Bueno, ya hablamos sobre las platicas que da el proyecto, ahora me gustaría mostrarles éste material,(MOSTRAR EL MATERIAL EDUCATIVO A LAS MADRES)

13. Cuales de estos materiales han visto en las platicas del proyecto?

14. De éstos, (ya que los hayan mencionado que los han visto), cuales les gusta más?
por qué?

**DEMOSTRACIONES DE COCINA**

15. Por qué participan en las demostraciones de cocina?

16. A cada cuanto tiempo asisten a las demostraciones de cocina que da el proyecto?
por qué?

17. Las demostraciones de cocina, regularmente son en el mismo lugar donde dan las platicas?
si.
no= dónde?

18. (no) Cuanto tiempo hace para llegar al lugar donde dan las demostraciones de cocina?

19. (no) cuanto tiempo tardan fuera de su casa para ir a participar en las demostraciones de cocina?

20. Qué les parece el horario en que les dan las demostraciones de cocina? por qué?

21. Les gustan las recetas de cocina que les enseñan?`
si, no = por qué

22. Son fáciles las recetas que les enseñan?
si, no, por qué?

23. Podrían mencionar los ingredientes de alguna receta de cocina? **(mencionarlos)**

24 Los ingredientes que utilizan para las recetas de cocina son fáciles de encontrar?
si; no; por qué?

25. Preparan las recetas en su casa?
si; no; por qué?

26. Las recetas que le enseñan y que prepara en su casa, le gustan a su familia?
si= por qué?
no= por qué?
algunos si, otros no= por qué? **(asegúrese de profundizar lo suficiente para saber a quienes les gusta y a quienes no les gusta y por qué?).**

27. Está de acuerdo su esposo en que reciba las demostraciones de cocina?
si; no; por qué?

28. Cómo sabe si esta o no de acuerdo?

29. Su esposo la acompaña alguna vez a las demostraciones de cocina?
si; no; por qué?

30. Les gustaria en una proxima oportunidad compartir sus ideas o recetas con las demás señoras?
si; no; por qué?

6. **CIERRE DE LA SESION**
Indique que ha sido muy enriquecedor compartir y conocer la opinión de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.
6.1 Pregunte si alguien quiere agregar algo más.
6.2 agradezca la participación y el tiempo prestado.
6.3 Quédese hasta que se haya ido la última persona.

FUNDACIÓN INTERNACIONAL DE OJOS
GUIA DE DISCUSION DE
GRUPOS FOCALES
NO PARTICIPANTES SIN HUERTOS
GUIA DE DISCUSION No. 2

1. IDENTIFICACION

Grupo Focal: No._____ Comunidad:_____
Departamento:_____
Moderadora:_____
Observadora:_____
Lugar donde se realizo el grupo focal_____
Fecha_____ Hora_____ Duración_____
Total de participantes:_____

2. OBJETIVOS
   2.1 Identificar si las personas de la comunidad conocen las actividades que realiza el proyecto en la misma.
   2.2 Identificar si reconocen algún beneficio sobre las sesiones educativas que da el proyecto.
   2.3 Identificar su percepción sobre el trabajo que el proyecto ha realizado en la comunidad.
   2.4 Identificar posibles cambios para que las señoras asistan a las actividades del proyecto.

3. INTRODUCCIÓN A LA SESION: (10 minutos)
   3.1 Saludo y bienvenida a participantes
   3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de G.F. -5.1)
   3.3 Ejercicio de presentación y rompehielo.
   3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACIÓN
   1. Me gustaría saber si ustedes saben algo del proyecto ( Vitamina "A" o AMPROS/ HOPE)
      si; no.

5. DISCUSION

   2. Saben que actividades realiza el proyecto aquí en la comunidad?
      no; si=cuales?
      (sino saben qué actividades, mencionar)
      01 Jornadas de vitamina "A"/ vacunación.
      02 Charlas/ Sesiones Educativas de Salud/ Nutrición.
      03 Demostraciones de Cocina.
      04 Demostraciones/ trabajo de Huertos/ Aboneras.
      05 Demostraciones/ trabajo pecuario (gallinas/pollos).
      06 Jornadas Oftalmologicas
      07 Jornadas de Desparacitación.
      08 otros.

3. (si) Han participado en alguna de esas actividades?
no= por qué no?

4. (si) Qué actividades?

5. (si) Hace cuánto tiempo?

6. Por qué ya no participa en esas actividades?

Huertos Familiares.

7. Han escuchado ustedes algo sobre huertos familiares, de parte de alguien del proyecto?
no; si= que han escuchado?

8. Ustedes por qué no tienen un huerto familiar?
(Profundizar si dice por falta de tiempo, ejemplo, falta de tiempo para ir a aprender sobre huertos familiares, falta de tiempo para preparar el terreno, falta de tiempo para cuidar el huerto familiar, etc.)

9. Dentro de su familia quien fue que tomó la decisión de no sembrar un huerto familiar?

10. Cree que podría tener algún beneficio tener un huerto familiar?
no= por qué no?
si= cuales?

11. Cómo les parecería a ustedes participar en un huerto comunal? (explicar que es un huerto comunal) sí; no;
Por qué?

12. Alguno de su familia le gustaría participar en un huerto comunal?
si= a quienes?, por qué?
no= Por qué no?

13. Ustedes saben dónde conseguir/comprar la semilla para un huerto?
si= dónde?, con quien?

14. Es fácil conseguir/comprar la semilla?
si; no; por qué?

Platicas Educativas.

15. Saben ustedes de que se tratan las platicas que dan de parte del proyecto?
si; no.

16. (si) De que temas platican o comparten con las señoras?

17. Por qué no asisten a las platicas del proyecto?

18. Cree que podría tener algún beneficio para su familia escuchar las pláticas que da el proyecto? sí; no; por qué?

Demostraciones de Cocina.

19. Han escuchado de los alimentos que preparan con las señoras?
si; no.

20. (si) Qué han escuchado que preparan?

21. Por qué no participan ustedes en las demostraciones de cocina?

22. Cree que podría tener algún beneficio para su familia participar en las demostraciones de cocina que da el proyecto? sí; no; por qué?

23. Quién de su familia tomó la decisión de no participar en las actividades del proyecto?

24. Qué tendría que cambiar para que ustedes asistan a las actividades del proyecto?
por qué?

25. Le gustaría asistir en una próxima oportunidad a alguna actividad del proyecto?
si; no; por qué?, cual?

26. Creen ustedes que la comunidad ha tenido algún beneficio con el trabajo que han realizado con el proyecto?
si; no; por qué?

6. **CIERRE DE LA SESION**

Indique que ha sido muy enriquecedor compartir y conocer la opinión de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.

6.1 Pregunte si alguien quiere agregar algo más.
6.2 agradezca la participación y el tiempo prestado.
6.3 Quédese hasta que se haya ido la última persona.

FUNDACIÓN INTERNACIONAL DE OJOS
GUIA DE DISCUSION DE GRUPOS FOCALES
PARTICIPANTES CON HUERTOS
GUIA DE DISCUSION No. 3

1. IDENTIFICACION

Grupo Focal: No._____Comunidad:_____
Departamento:_____
Moderadora:_____
Observadora:_____
Lugar donde se realizo el grupo focal_____
Fecha_____ Hora_____ Duración_____
Total de participantes:_____

2. OBJETIVOS

2.1 Identificar el por qué, siembran huertos familiares los participantes del proyecto.
2.2 Identificar si reconocen la importancia de un huerto familiar.
2.3 Identificar si reconocen la importancia de consumir el producto de la cosecha del huerto familiar.
2.4 Identificar si consumen o venden el producto del huerto familiar y si venden, si consumen más de lo que venden o si venden más de lo que consumen.
2.5 Identificar el tiempo que le lleva trabajar el huerto familiar.
2.6 Identificar quienes son los más interesados en trabajar los huertos familiares?

3. INTRODUCCION A LA SESION: (10 minutos)
3.1 Saludo y bienvenida a participantes
3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de G.F. - 5.1)
3.3 Ejercicio de presentación y rompehielo.
3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACIÓN
1. Me gustaría saber, cuántas de ustedes tienen huertos familiares?.
Desde hace cuanto tiempo?

5. DISCUSION
2. Cómo fue que ustedes decidieron sembrar verduras u hortalizas? (Cuáles fueron las motivaciones iniciales, económicas, salud, por el proyecto)

3. Dentro de su familia, quien fue que tomó la decisión de sembrar el huerto familiar?

4. Dentro de su familia, quien decidió que sembrar?

5. Siembran su huerto familiar durante todo el año o solo durante un tiempo? si; no; por qué?

6. Qué verduras o hierbas están sembrando? por qué? **(preguntar por cada una mencionada)**

7. Cuáles les gustan más? por qué?

8. Dónde consiguen/compran, la semilla para el huerto familiar? **(profundizar si en el pueblo, en la misma comunidad, el proyecto o dónde)**

9. Es fácil conseguir la semilla? si; no; Por qué?

10. Cómo le parece el precio de la semilla? **(profundizar si en el pueblo, en la misma comunidad, el proyecto o dónde)**

11. Quienes de la familia trabajan el huerto ?

12. Cuanto tiempo le dedica cada uno?

13. Quien le dedica más tiempo al huerto familiar?

14. Cómo le parece trabajar su huerto?
    Agradable
    Divertido **Por qué?**
    Cansado
    Mucho Tiempo

15. Hay personas que no tienen huerto familiar, por qué creen que no tienen? **(profundizar si dicen por falta de tiempo, ejemplo, falta de tiempo para ir a las charlas sobre huertos familiares, falta de tiempo para preparar el terreno, falta de tiempo de cuidar el huerto familiar, etc.)**

16. Cómo es que a ustedes les da tiempo para trabajar su huerto familiar?

17. Que Hacen con lo que cosechan de su huerto familiar? **(vende, comen, otros, profundizar si consumen más de lo que venden o venden más de lo que consumen)**

18. Saben que es una abonera?
    si; no.

19. Alguna de ustedes tiene abonera?
    si: no; por qué?

20. Quién le enseño cómo hacer una abonera? **(profundizar lo suficiente para llegar a la fuente)**

21. Usan el abono orgánico? si; no; por qué?; para qué?

22. (si) Ha tenido algún beneficio usando el abono?
si= cual?
no= por qué no?

23. La visitan de parte del proyecto para ver el huerto familiar? si; no

24. (si) Cada cuanto la visitan?

25. Considera que el apoyo que recibe del proyecto es suficiente, o es apropiado para obtener buenas verduras? (refiriéndose a la técnica del huerto familiar)

26. Creen que pueden continuar con el trabajo de su huerto sin el apoyo del proyecto?
no= por qué?
si= cómo?

27. Creen que podrían tener apoyo de otra institución (es) u organización (es) para poder continuar con el trabajo de su huerto familiar?
si= Cual/es?
no= por qué?

6. **CIERRE DE LA SESION**

Indique que ha sido muy enriquecedor compartir y conocer las opiniones de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.

6.1 Pregunte si alguien quiere agregar algo más.
6.2 Agradezca la participación y el tiempo prestado.
6.3 Quédese hasta que se haya ido la última persona.

FUNDACIÓN INTERNACIONAL DE OJOS
GUIA DE OBSERVACION DE
GRUPOS FOCALES
PARTICIPANTES SIN HUERTOS
GUIA DE DISCUSION No. 4

1. IDENTIFICACION

Grupo Focal: No._____Comunidad:_____
Departamento:_____
Moderadora:_____
Observadora:_____
Lugar donde se realizo el grupo focal_____
Fecha_____ Hora_____ Duración_____
Total de participantes:_____

2. OBJETIVOS
   2.1 Identificar el por qué, no siembran huertos familiares los participantes del proyecto.
   2.2 Identificar si reconocen algún beneficio del huerto familiar.

3. INTRODUCCIÓN A LA SESION: (10 minutos)
   3.1 Saludo y bienvenida a participantes
   3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de G.F. -5.1)
   3.3 Ejercicio de presentación y rompehielo.
   3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACIÓN
   1. Me gustaría saber, si ustedes han participado en alguna actividad del proyecto (Vitamina A o AMPROS / HOPE)? (si), que actividades?

   2. Qué actividades les gusta más? por qué?

5. DISCUSION

   3. Alguna de ustedes tiene huerto familiar?

   4. Han escuchado sobre los huertos familiares de parte de alguien del proyecto?
      no; si= qué han escuchado?

   5. Y, ustedes por qué no tienen huerto familiar?
      (profundizar si dicen por falta de tiempo, ejemplo, falta de tiempo para ir a las charlas sobre huertos, falta de tiempo para preparar el terreno, falta de tiempo para cuidar el huerto familiar, etc.?

6. Dentro de su familia quien fue que tomó la decisión de no tener un huerto familiar?

7. Creen que podría tener algún beneficio tener un huerto familiar?
si= cuales
no= por qué no?

8. Cómo les parecería a ustedes participar en un huerto comunal?
si; no; por qué?

9. A alguno de su familia le gustaría participar en un huerto comunal?
si= Quienes? por qué?
no= por qué?

10. Ustedes saben dónde conseguir/comprar semilla?
si= dónde
no.

11. Es fácil conseguir/comprar la semilla para un huerto? (profundizar más) por qué?

12. Saben ustedes cuánto cuesta la semilla? si; no

13. Cómo le parece el precio de la semilla?

* (Para terminar haga una síntesis positiva, utilizando las respuestas de la pregunta No. 1)

6. CIERRE DE LA SESION

Indique que ha sido muy enriquecedor compartir y conocer la opinión de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.

6.1 Pregunte si alquien quiere agregar algo más.
6.2 Agradezca la participación y el tiempo prestado.
6.3 Quédese hasta que se haya ido la última persona.

ANNEX 3

EDUCATIONAL MATERIAL SHOWN TO FOCUS GROUP PARTICIPANTS

**AMPROS**

| | | |
|---|---|---|
| - | Vitamin "A" | Flipchart, flashcards, posters |
| - | ALRI | Posters with key messages and drawings |
| - | CDD | Flipchart, posters and "Health Lottery" |
| - | EPI | Posters with key messages and drawings |
| - | Maternal Health | Posters with key messages and drawings |
| - | Gardening | Flipchart |

EDUCATIONAL MATERIAL SHOWN TO FOCUS GROUP PARTICIPANTS

**HOPE**

| | | |
|---|---|---|
| - | Vitamin "A" | Flipchart and flashcards |
| - | Nutrition/Vitamin "A" | -Cardboard circles with drawings of Vitamin "A"-rich foods<br>-Small drawings of foods from the Three Basic food Groups<br>-Larger posters of the same drawings |
| - | Gardening | Flipchart |

English Translation

*FOCUS GROUP (#1) QUESTIONS*

*NUTRITION EDUCATION/CHARLAS & COOKING DEMONSTRATIONS*

*(PROJECT MOTHERS WHO PARTICIPATE IN CHARLAS &/OR DEMOS.)*

1. *I would like to know how many of you have participated in charlas &/or cooking demonstrations that the project (AMPROS/HOPE) has given here in the community?*

*Educational Talks:*

2. *Why do you participate (specifically) in the charlas given by the project? (benefits for participant and family?)*

3. *How often do you participate in the charlas? Why?*

4. *How long does it take you to get from where you live to where the sessions/charlas are given?*

5. *How long are you away from your house when you participate in a session/charla?*

6. *Is the timing (hour) of the sessions convenient for you? Why?*

7. *What do you like about the sessions?*

8. *What do you not like about the sessions?*

9. *How could the sessions/charlas be improved?*

10. *Is your husband supportive of your participation in the sessions/charlas? Why?*

11. *How do you know that your husband is/is not supportive of your participation in the sessions/charlas?*

12. *Does your husband accompany you in any of the sessions/charlas?*

*(Show set of all educational materials to group)*

13. *Which of these educational materials have you seen used in the sessions/charlas?*

14. *Of these materials, which one do you like the best? Why?*

*(Make some kind of a "bridge", referring to the responses related to cooking demonstrations in question #1)*

*Cooking Demonstrations:*

15. *Why do you attend the cooking demonstrations given by the project?*

16. *How often do you participate in the cooking demonstrations? Why?*

17. *Are the cooking demonstrations usually in the same location in the community as the sessions/charlas?* *(SI: skip to #20*
*NO: Where? Continue.)*

18. *How long does it take you to get from where you live to where the cooking demonstrations are given?*

19. *How long are you away from your house when you participate in a cooking demonstration?*

20. Is the timing (hour) of the cooking demonstrations convenient for you? Why?

21. Do you like the recipes that are prepared during the demos.? Why?

22. Are the recipes easy? Why?

23. Could you mention the ingredients found in one of the recipes? (name them)

24. Are the ingredients that are used in the recipes easy to find? Why?

25. Do you prepare the recipes at your home for your family? Why?
(SI: continue NO: skip to # 27.)

26. Does your family like the recipes you prepare at home? (Yes/No/some yes, some no - Who?) Why?

27. Is your husband supportive of your participation in the demonstrations?

28. How do you know that your husband is/is not supportive of your participation in the cooking demonstrations?

29. Does your husband accompany you in any of the cooking demonstrations?

30. In the future would you be interested in sharing your own recipes with the other mothers?

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FOCUS GROUP (#2) QUESTIONS

(NON-PROJECT MOTHERS WHO HAVE NEVER HAD GARDENS)

1. I would like to know if any of you know anything about the project (AMPROS/HOPE)?

2. Do you know what activities they are doing here in your community?

3. Have you ever participated in one of their activities? (SI: continue
NO: Why? skip to #7.)

4. Which activities?

5. How long ago?

6. Why do you no longer participate in these activities?

Familiy Gardens:

7. Have you ever heard a talk about gardens by the project staff and/or Volunteer/Promotor?

8. Why don't any of you have a family garden? (If lack of time is mentioned, try to find out time for what part of the process)

9. Who in the family decided not to plant a family garden?

10. Do you feel that having a garden could possibly benefit your family? Why? What type of benefits?

11. Would you be interested in working with a community garden? Why?

12. Would anyone in your family be interested in working with a community garden? Who?

13. Do you know where to get/buy seeds for your family garden? Where? With whom?

14. *Is it easy to buy/get the seeds? Why?*

*Educational Talks:*

15. *Do you know what the project staff and/or Volunteer/Promotor talk about in the sessions/charlas?*

16. *What themes are shared with the mothers?*

17. *Why don't any of you attend the sessions/charlas?*

18. *Do you feel that attending the sessions/charlas could possibly benefit your family? Why?*

*Cooking Demonstrations:*

19. *Have you ever heard anything about the types of food that are prepared in the cooking demonstrations?*

20. *What have you heard about what they prepare?*

21. *Why don't any of you attend the cooking demonstrations?*

22. *Do you feel that attending the cooking demonstrations could possibly benefit your family? Why?*

23. *Who in the family decided not to attend the project activities?*

24. *What would need to change in order for you to be able to attend?*

25. *Would you be interested in attending one of the project activities in the future? Why? Which one?*

26. *Do you feel that your community has benefitted from the work that they have done with the project (AMPROS/HOPE)? Why?*

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*FOCUS GROUP (#3) QUESTIONS*

*(PROJECT MOTHERS WITH GARDENS)*

1. *I would like to know how many of you have gardens? Since how long ago?*

2. *How did you become interested in planting a garden? (look for AMPROS/HOPE involvement, economic &/or health reasons)*

3. *Who in the family made the decision to begin planting a garden?*

4. *Who in the family decided <u>what</u> to plant?*

5. *Do you plant your garden year round or only in certain time periods? Why?*

6. *What vegetables/GLVs are you currently planting in your garden? Why? for each one.*

7. *Which vegetables/GLVs do you like best? Why?*

8. *Where do you get/buy the seeds for your garden?*

9. *Is it easy to buy/get the seeds? Why?*

10. *Are the seeds available at a reasonable cost?*

11. *Who from the family works in the garden?*

12. How much time do each of you spend on your garden?

13. Who spends more time working on the garden?

14. How do you like working in your garden? (Fun, Pleasant, Difficult, Tiring, Time consuming, etc.) Why?

15. Why do you think there are some people who don't have a garden?

16. How is it that you have time to work in your garden?

17. What do you do with what you harvest from your garden? (sell, eat, how much?)

18. Do you know what a compost pile is?

19. Do any of you have a compost pile?

20. Who taught/showed you how to make it?

21. Do you use the fertilizer from the compost pile? Why? For what?

22. Has the use of the compost given you any type of benefit? Why?

23. Does someone from the project visit your garden?

24. How often does someone from the project visit your garden?

25. Do you feel that the technical support that you have received from the project is sufficient enough to be able to obtain good produce?

26. Do you feel that you will be able to continue working on your garden, without the support of the project? Why?

27. Would you be able to receive technical assistance from another institution or organization in order to continue working with your family garden? From whom? Why?

---

FOCUS GROUP (#4) QUESTIONS

(PROJECT MOTHERS WHO HAVE NEVER HAD GARDENS)

1. I would like to know if any of you have participated in any of the project's (HOPE/AMPROS) activities? Which ones?

2. Which of the activities do you like the most? Why?

3. Do any of you have a family garden?

4. Have you ever heard a talk about gardens by the project staff (AMPROS/HOPE) and/or Volunteer/Promotor?

5. Why don't any of you have a family garden?

6. Who in the family decided not to plant a family garden?

7. Do you feel that having a garden could possibly benefit your family? Why? What type?

8. Would you be interested in working with a community garden? Why?

9. Would anyone in your family be interested in working with a community garden? Who? Why?

10. *Do you know where to get/buy seeds for your family garden?*

11. *Is it easy to buy/get the seeds? Why?*

12. *Do you know how much the seeds cost?*

13. *Are the seeds available at a reasonable cost?*

*(finish with a positive synthesis of the information from #1)*

# Annex V: Report on Stakeholders Meeting and List of Participants

# The International Eye Foundation

Guatemala, July 1997

Dear Colleague,

On May 20 of this year the International Eye Foundation (IEF), conducted a workshop on "Cooperation for Integrated Strengthening Of Nutrition and Vitamin A Programs" to which NGOs and GOs which are related directly or indirectly to Nutrition and Vitamin A were invited. Fourteen participated.

The objective of the workshop was the presentation of the results of work carried out by IEF (in collaboration with Project Hope) and the methodologies used to evaluate their activities. These included: Quality Assurance, Focus Groups, Cost/Benefit Analysis, and Impact Evaluation (KAP and Dietary Surveys)

The workshop was divided into two parts: during the morning there was a presentation of results and the methodologies used and in the afternoon the plenary discussion provided for interaction and group participation through which the participants processed and presented the lessons learned. Recommendations were also shared based on their own work experiences.

From our perspective, the workshop was productive, having achieved interaction between NGOs and GOs and at the same time we commited to providing follow-up on a series of recommendations that came out of the sessions (depending on available funding).

Enclosed please find the workshop report. Your comments are welcome as we are sure they will enrich and aid in sharing its contents.

Sincerely,

Martha Piedrasanta
National Director

International Eye Foundation 17 Avenue 5-39, Zone 14, 01014, Guatemala, C.A.
Phone/Fax: (502) 363-7422

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WORKSHOP: COOPERATION FOR INTEGRATED STRENGTHENING OF NUTRITION AND VITAMIN A PROGRAMS" (May 20, 1997)

EXECUTIVE SUMMARY

## BACKGROUND

In August 1995, the International Eye Foundation (IEF) received funds from the Health, Population and Nutrition Office of USAID to fund a project for strengthening the ability of NGOs to provide integrated nutrition programs (Evaluating and Increasing the Ability of Intermediate Organizations (Private Voluntary Organizations -PVOs- and NGOs) which provide Integrated Community Based Vitamin A programs). The objectives include: measurement of impact and cost/benefit analysis in integrated nutrition programs; incorporation of the quality assurance methodology into such programs; integration of impact evaluation methods to strengthen the capacity of the Guatemalan NGOs to provide more effective programs, and sharing the results of these methods to influence National Strategies for Nutrition, Micronutrients and Child Survival.

As one means of complying with these objectives, IEF/Guatemala organized a workshop for NGOs that work in nutrition in Guatemala. Other organizations such as donor agencies and the Ministry of Health were also invited. The meeting was designed to be as participatory as possible. The participants has the opportunity to share experiences and give suggestions about the results shared by IEF for each methodology used in the study.

## METHODOLOGY

Prior to the planning of the workshop, NGOs which work directly or indirectly in Nutrition and Vitamin A were surveyed with regard to their mission and their needs in order to take them into account for the workshop.

The morning session of the workshop consisted of the presentation of results from the impact evaluation study (IES) that IEF carried out in collaboration with Project HOPE. The data were presented in relation to KAPs and Dietary Surveys, focus groups, quality assurance, and cost/benefit analysis, and the methodology of each. After each presentation, time was given for discussion in order to achieve the interaction and participation of all participants.

In the afternoon session the entire group was involved in sharing ideas, lessons learned and recommendations related to the morning's presentations and the experiences of each organization.

IEF's role was to create an environment of solidarity and to stimulate the NGOs to make a commitment to concentrate efforts on improving the monitoring and evaluation of their activities in order to strengthen their Nutrition programs.

In order to support the NGOs in their new commitment, IEF offered technical assistance (to the degree possible within the funding limitations of the current project) in order to prepare an auxiliary manual for carrying out Nutrition/Vitamin A programs, to prepare an inventory of indicators and the questions used for KAPs and key messages related to nutrition and Vitamin A. Inputfrom the organizations themselves was important in order to unify criteria.

PRESENTATION OF TOPICS AND COMMENTS

In collaboration with Project HOPE, IEF shared the results of its Impact Evaluation:

**Dietary Surveys:**

-With regard to children who consumed ≥ 100% of the requirement of retinol in their diet with fortified sugar, improvement was seen from the 34.2% in the 1991 baseline to 77.8% found in the 1996 IES.

**KAP Surveys:**

-Showed improvement from 63% to 85% of the mothers who could identify at least two foods which are rich in Vitamin A.

**Cost/Benefit Analysis:**

-The cost/benefit analysis revealed a cost of $27.50 per new garden and $4.75 per individual supported with a garden; $5,000 for each percentage point of increase in mothers who could identify at least two foods rich in Vitamin A, and $13.00 per individual who improved their level of knowledge; $4,300 for each percentage point of increase in children who consume ≥ 100% of the requirement of retinol in their diet, or $53.00 per child consuming the required amount.

**Quality Assurance:**

-Using the quality assurance methodology, IEF achieved an increase from 50% to 85% in mothers' basic knowledge about Vitamin A as well as increased participation in cooking demonstrations and talks about Vitamin A from 15.6% to 29.2%. Factors which were influential in this increase were: the Extensionists increased their use of participatory techniques from 25% to 81.25% and simplification of topics was achieved at the 100% level.

**General Comments from the Participants:**

During the presentation of results, active participation was achieved as participants shared their experiences with regard to the Impact Evaluations and the difficulties of using only quantitative data without having a balance of qualitative information. They considered the need to use focus group techniques before and during any intervention to evaluate activities. There was no major interaction with regard to Quality Assurance given that the



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majority of organizations do not use this technique. The discussion of the Cost/Benefit analysis with regard to the results dealt with the importance of not interpreting the data in isolation without taking into account comprehensive information about the intervention.

## RESULTS OF THE QUESTIONNAIRE ON MONITORING AND THE FINAL EVALUATION OF THE WORKSHOP

During the course of the workshop a questionnaire regarding the monitoring and evaluation methods used by the NGOs was filled out. The majority of the participants have more experience using quantitative evaluation methods (KAP surveys), about half of the participants have experience with qualitative research and the one that is least used is cost/benefit analysis.

In terms of indicators for monitoring and evaluation in Nutrition, all participants considered it to be necessary and were willing to share indicators in subsequent working groups. All agreed that it will be beneficial to prepare a list of recommended indicators for Nutrition/ Vitamin A Programs.

At the end of the workshop, participants were asked to fill out an evaluation of the workshop itself. All participants rated the sessions between excellent and very good. The majority (90%), considered that IEF was qualified to generate recommendations and were satisfied with what was presented in the workshop. What they most liked about the workshop was that it permitted them to have an open and friendly discussion about a topic which was of interest to all participants. They also appreciated the opportunity to share experiences with other NGOs. What they least liked was the limited time available for discussions and the fact that other NGOs as well as representatives from the Ministry of Health who were invited, did not attend.

The following areas of workshop participant satisfaction were noted:

- The workshop generated a set of recommendations which were feasible for implementation.
- Interest was expressed in doing something worthwhile and concrete as well as providing follow-up to workshop participants.
- The workshop facilitated the initiation or strengthening of institutional relations towards a common goal.
- The topics discussed were of great interest for the implementation of Vitamin A interventions in the programs of the participating NGOs.
- All the expectations of the participating NGOs were met.

## BACKGROUND

In August 1995, the International Eye Foundation (IEF) received funds from the Health, Population and Nutrition Office of USAID to fund a project for strengthening the ability of NGOs to provide integrated nutrition programs (Evaluating and Increasing the Ability of

Intermediate Organizations (Private Voluntary Organizations -PVOs- and NGOs) which provide Community Based Integrated Vitamin A programs). The objectives included: measurement of impact and cost/benefit analysis in integrated nutrition programs; incorporation of the quality assurance methodology into these; integration of impact evaluation methods to strengthen the capacity of the Guatemalan NGOs to provide more effective programs and to share the results of these methods to influence National Strategies for Nutrition, Micronutrients and Child Survival.

As part of the compliance with these objectives, IEF/Guatemala organized a workshop with the NGOs that work in Nutrition in Guatemala. Other organizations such as donor organizations and the Ministry of Health were also invited. The meeting was designed to be as participatory as possible. The participants had the opportunity to share experiences and give suggestions about the results shared by IEF for each methodology used in the study.

## METHODOLOGY

Prior to workshop planning a survey was taken of the NGOs which are directly or indirectly involved in Nutrition or Vitamin A programs. Some of the results included: 100% of the NGOs that responded to the questionnaire were interested in learning new ways of incorporating nutrition education into their health projects/programs. Among the most important problems they mentioned with regard to their experience with Vitamin A and nutrition interventions were:

- -Lack of coordination (among NGOs)
- -Difficulties in obtaining Vitamin A
- -Lack of follow-up in the provision of Vitamin A
- -Ability to evaluate impact
- -Difficulty in determining the presence of the problem
- -Keeping the interest of the private sector
- -Sustainability of the process or of the intervention.

The opinion of the program representatives was taken into account with regard to the ideal time and timing for the workshop. Based on their input, the workshop was only one day long and held mid-week when the NGOs had fewer other commitments.

The morning session of the workshop consisted of the presentation of results from the impact evaluation study (IES) that IEF carried out in collaboration with Project HOPE. The data were presented in relation to KAP and Dietary Surveys, focus groups, quality assurance, and cost/benefit analysis. Twenty minutes were allowed for each presentation with 20-30 minutes of discussion time scheduled after each topic. An interactive/participatory methodology was used. (See notes on each topic presented.)

For the afternoon session, four working groups had been programmed to discuss the methodologies presented in the morning so that each group could present their lessons learned with regard to the experiences of their organizations and their recommendations for the use of



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that methodology in the future. A plenary session was scheduled to be held after the working group discussions, but given the size of the group, and based on the desire of the participants to take advantage of the input from all attendees, the methodology was modified and the small group discussions were cancelled in favor of the plenary discussion where all participants were able to share their ideas and lessons learned as well as brainstorm recommendations. Based on a suggestion by the Peace Corps, the topic of Health and Nutrition Education for School Children was included and helpful ideas for all were shared.

IEF's role was that of creating an environment of solidarity and stimulating the NGOs to commit to concentrating efforts on improving the monitoring and evaluation of their activities to strengthen their nutrition programs. To support the NGOs in complying with their "new commitment", IEF offered technical assistance to the degree possible within the financial framework of their current project.

PRESENTATION OF TOPICS AND COMMENTS (MORNING SESSION)

In collaboration with Project HOPE, IEF shared the results of their Impact Evaluation Study. These included:

TOPIC No. 1
IMPACT EVALUATION

**Summary of the Presentation:**
**Dietary Surveys**
-With regard to children who consume ≥ 100% of the requirement of retinol in their diet with fortified sugar, improvement was seen from the 34.2% found in the 1991 baseline survey to 77.8% found by the IES in 1996.
-The following percentages of the equivalent of retinol consumed by food group were seen:

| SOURCE | AMPROS |
|---|---|
| Animal | 22.2% |
| Vegetable | 16.4% |
| Sugar | 53.0% |
| Fruits | 4.0% |

**KAP Surveys**
-Showed improvement from 63% to 85% of the mothers who could identify at least two foods rich in Vitamin A.

**Comments from the Participants:**
- They recognized that it is important to keep a balance between quantitative and qualitative data which helps to explain changes seen over a six year period.
  "Statistics can help us but we should look for alternatives to evaluate the balance point between theory and practice."



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TOPIC No. 2
CONSUMPTION FREQUENCY - HELEN KELLER INSTITUTE (HKI)
**Summary of Presentation:**

Summary of the technique for consumption frequency designed by HKI.

**Comments from the Participants:**

-This is an instrument which serves to detect whether a community is, or is not at risk of Vitamin A deficiency, but for monitoring purposes a more adequate instrument should be sought.

-Several participants talked about the possibility of coordinating with institutions to share expenses and to carry out a more complete impact study including biological data as a more real indicator and not just depending on dietary surveys that rely on the mother's memory.

**TOPIC No. 3**
**FOCUS GROUPS**

**Summary of the Presentation:**
The information that was obtained from the focus groups with regard to the Community Gardens: "A family garden is better because it is hard to get people together for the community garden, problems develop, it is hard to get results, people don't have time to meet, and only a few take advantage of it."

**Comments from the Participants:**

-Several participants showed more interest in the recommendations for family gardens over community gardens than in the technique itself. They did not agree that there was a preference for family gardens. They reinforced the need for defining the purpose of a garden, whether it be for educational goals, for family consumption, for small enterprise development, etc.

-They considered the need to carry out focus groups before, during and at the end of any intervention. These should be done consistently to ensure better project functioning and to allow the project to adapt to the needs of the people involved.

**TOPIC No. 4**
**QUALITY ASSURANCE**

**Summary of the Presentation:**
In its field projects, IEF has used the Quality Assurance methodology to detect some opportunities to improve the quality of their work and the following priorities were determined:

-Mothers were not receiving basic information about Vitamin A
-Mothers attendance at Vitamin A cooking demonstrations and talks was very poor.



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The steps suggested by the methodology allowed the Extensionists to include participatory educational activities and to simplify their lesson contents which resulted in an increase from 50% to 85% in the mothers' basic knowledge about Vitamin A. The extensionists simplified their educational topics and increased their use of participatory techniques from 25% to 81.25% over a three month period (September to November 1996). Mothers' participation in Vitamin A cooking demonstrations and talks was increased from 15.6% to 29.2%.

**Comments from Participants:**

- Participant discussion of the topic was minimal given that they do not use the technique.
- IEF's experience utilizing the Quality Assurance technique in Coban was summed up in the words of the technical coordinator: "At the beginning we felt that it only added to our workload, but it encourages team work and the positive changes became obvious".

**TOPIC No. 5**
**COST/BENEFIT ANALYSIS**

**Summary of the Presentation:**
The cost/benefit analysis revealed a cost of $27.50 per new garden and $4.75 per individual supported by a garden; $5,000 for each percentage point increase for mothers who could identify at least two foods rich in Vitamin A, and $13.00 per individual whose level of knowledge was improved; $4,300 for each percentage point of increase in children who consumed ≥ 100% of the requirement of retinol in their diet, or $53.00 per child consuming the required amount.

**Commentaries from the Participants:**

- With regard to the use of the time control sheet, there is some doubt about the reliability of its management, although the conclusion was that "it is important to know how much time is being invested in order to determine the cost of the activities related to Vitamin A".
- With regard to the presentation of cost data it is important to not interpret the data at face value without greater knowledge of the situation.
- One difficulty encountered was that the meaning of "benefit" is different for each NGO. This "should be standardized so that greater interaction is possible".

GENERAL COMMENTS ABOUT THE WORKSHOP:

- **When they finish a project, all the organizations should present their results and experiences to the other Organizations.**
- **Many times results are not presented due to failures or mistakes which are committed; IEF was very honest in presenting their results in a forthright manner.**
- **Institutional integration is important to improve health, education and nutritional levels in the country.**
- **Involve all NGOs and GOs in sugar fortification in the country.**



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RESULTS

SUMMARY OF LESSONS LEARNED AND RECOMMENDATIONS MADE DURING THE WORKSHOP ON COOPERATION FOR INTEGRATED STRENGTHENING OF NUTRITION AND VITAMIN A PROGRAMS (AFTERNOON SESSION)

| TOPIC | LESSONS LEARNED | RECOMMENDATIONS |
|---|---|---|
| QUALITY ASSURANCE | *Minimal experience with this methodology | -Carry out a workshop which includes instruction on how to implement the methodology and a follow-up plan |
| FOCUS GROUPS | *Moderator and secretary should speak native language of participants<br>*Should associate quantitative and qualitative data<br>*Useful for planning and evaluation of work<br>*Helps to redirect topics by taking into account the participants' needs<br>*It could be tempting to use the technique indiscriminately because it is cheap and apparently easy. | -Ensure access to the existing Focus Group resource (USAID)<br>-Manage the qualitative analysis of the data |
| IMPACT MEASUREMENT (KAP AND DIETARY SURVEYS) | *Uniformity in the baseline and final evaluation measures<br>*It is difficult to measure/identify "impact"<br>*There is no inexpensive methodology<br>*Define simple indicators<br>*It's hard to find a way to attribute changes within the target population<br>*Evaluation should not be feared, but rather be seen as a useful indicator<br>*Each NGO should define the concept of "impact" before carrying out its activities. | -Studies only in the coverage area, compare with national data<br>-CRS shares its information with regard to measuring impact<br>-Standardization of indicators<br>-More emphasis on the design of evaluations and the monitoring system from the beginning, especially the way in which impact will be evaluated<br>-Need for an umbrella institution to control health actions. |



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| | | |
|---|---|---|
| NUTRITION EDUCATION | *Need for up-dated information about Vitamin A (technical aspects and mechanisms for implementation)<br>* The Ministry of Education is reluctant to include Nutrition in its curriculum. | -Standardization of messages<br>-Vitamin A should be included as part of an integrated health process<br>-Identify better indicators to evaluate nutrition education in the community and/or school<br>-Involve the Ministry of Education by means of the results of a pilot project about the incorporation of Vitamin A in the curriculum<br>-IEF's Vitamin A material should be left with INCAP or other interested documentation centers. |
| VITAMIN A CAPSULES | *It is hard to get supplies of Vitamin A<br>*Delivery of Vitamin A needs to be controlled | -More study of the consumption of fortified sugar in the area of each NGO would be helpful<br>-Promote formation of an expert group that will serve as an advocate for Vitamin A fortification, made up of the MOH, UNICEF, INCAP, the private sector and CONAFOR. |
| COST/BENEFIT ANALYSIS | *Define indicators well, collect only the information that will be used<br>*Place emphasis on the integration of C/B analysis into programs/projects<br>*Compare Costs with Benefits | -Standardize minimum indicators to be able to measure and share information<br>-Prepare a manual on Cost/Benefit Analysis and make it available to interested NGOs. |

**(for more details see Annex A)**

RESULTS OF THE MONITORING AND EVALUATION QUESTIONNAIRE

According to the institutions that participated in the workshop, the most commonly used means of evaluation is that of KAP surveys (67%), followed by qualitative research (58%) and evaluations of quality (42%). The least utilized method (for reasons mentioned previously) is that of Cost/Benefit Analysis (25%). Only CARE, Population Council and AGROSALUD have used more complex qualitative research techniques than those used by

IEF. AGROSALUD has also used a more complex Cost/Benefits Analysis and CARE, a more complex quality assurance evaluation.

In terms of indicators for Nutrition evaluation and monitoring, all consider it to be necessary and are willing to share indicators in subsequent work groups. All consider that it will be beneficial to prepare a list of recommended indicators for Nutrition/Vitamin A programs (See Annex B).

## RESULTS OF THE WORKSHOP'S FINAL EVALUATION

All the participating institutions rated the workshop between excellent and very good. The majority (90%) considered that IEF was qualified to generate recommendations and they were satisfied with what was discussed in the workshop. What they most liked about the workshop was that it permitted them to have an open, friendly discussion about a topic that was of interest to all. Also they felt that it was very positive to have the opportunity to share experiences with other NGOs. What they least liked about the workshop was the time limitations for discussions, (although the time frame was suggested by the NGOs), the lack of attendance by other NGOs and the Ministry of Health which were invited (see Annex C).

The following reasons for satisfaction on the part of the workshop participants were noted:

-The workshop generated a set of recommendations which are feasible for implementation.

-There is interest in doing something worthwhile and concrete as well as for providing follow-up to the participating NGOs in terms of strengthening in their Vitamin A programs.

-This workshop allowed the initiation or strengthening of institutional relations towards a common goal.

-The topics discussed were of great interest for the implementation of Vitamin A interventions in the programs of participating NGOs.

-All the expectations of the participating NGOs were met.

WORK PLAN

| PLANNED ACTIVITIES | PERSON RESPONSIBLE | POSSIBLE DATE |
|---|---|---|
| 1. Quality Assurance workshop | Dr. Marylena Arita and staff of Quality Assurance, Bethesda | October/97 |
| 2. Plan for follow-up of NGOs in their Quality Assurance activities | Dr. Marylena Arita and Nora Salazar | November/97<br>April/98 |
| 3. Delivery of Auxiliary Manual for Execution of Nutrition Programs for NGOs | Martha Piedrasanta<br>Nora Salazar | September/97 |
| 4. Collect the indicators and the questions from the nutrition and Vitamin A related KAPs to generate a list for use by NGOs. | Nora Salazar<br>Martha Piedrasanta | June/97 |
| 5. Meeting to present inventory of indicators proposed by the NGOs and to determine those of greatest priority/functionality and also to define nutrition education messages for school children. | Martha Piedrasanta<br>Nora Salazar | July/97 |
| 6. Negotiate with SLAN the possibility of discussing the following points during the workshop:<br>- Nutrition education in schools<br>- Use of sugar fortification as a strategy vs. the distribution of Vitamin A capsules<br>- Recommendations from experts with regard to supplementation with Vitamin A capsules | Martha Piedrasanta | May/97<br><br>November/97 |



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KNOWLEDGE OF THE MOTHERS ON CHARACTERISTIC HERBS OF THE COMMUNITY

Of the herbs that the project promotes (beet, spinach, Moorish grass, blite), 7.3% (7) of the mothers could name all. The remaining 91.7% (88) only know some of them, which are listed down here:

1. Beet:47.7% (42) of the mothers know it.
2. Spinach: 19.3% (17) of the 88 mothers (91.7%) know it.
3. The Moorish grass: 76.1% (67) mothers know it.
4. The blite: 79.5% (70) mothers named it.

See graphs in Annex 8

5. **IDENTIFICATION AND ANALYSIS OF THE PROBLEMS, MADE BY THE WORK GROUPS**

B. A second phase was developed through a Workshop where the participants (Supervision Staff, Technicians and Health Promoters) used the brain storm technique in order to list the problems. Later on, decided to work three problems, by considering them not single priorities but feasible of solving in a short term.

*QUESTIONNAIRE - STAKEHOLDERS MEETING*

*DRAFT*

*Nombre de la Organización:* _____

_____

*Dirección:* _____

_____

_____

*Tel.:* _____ *Fax:* _____

*Nombre de Director(a):* _____

*Nombre de quien llena el cuestionario:* _____

_____

*Posición en la Organización:* _____

*1.) Tipo de Organización:*

*(Marque con un "X" el tipo que corresponde a la Organización)*

| | |
|---|---|
| *Organización Gubernamental (OG)* | |
| *ONG Internacional* | |
| *ONG Local* | |
| *Organización Privada Voluntaria (OPV)* | |
| *Institución de Investigación* | |
| *Organización Religiosa* | |
| *Entidad Financiera - Apoya Economicamenta a otras Organizaciones* | |
| *Otro:* _____ *(Especifique)* | |

*2.) Han tenido, tienen o van a tener ustedes proyectos/ programas en Nutrición?*

*SI* *NO*

*(SI) Que tipo(s) de programa(s)?* _____

_____

_____

_____

3.) *Tienen interes en aprender nuevas formas de incorporar Educación en Nutrición en sus proyectos/programas de salud?*

*SI* *NO*

4.) *Han tenido, tienen o van a tener ustedes proyectos/ programas/intervenciones en Vitamina "A"?*

*SI* *NO*

*(SI) Que tipo(s) de programa(s) o intervencion(es)?*

_____
_____
_____
_____
_____

5.) *Para que nivel de participante son sus programas?*

*En Salud:* _____

*En Nutrición:* _____

*En Vitamina "A":* _____

6.) *Que información de referencia usan ustedes en cuanto a Nutrición y Vitamina "A"? Título(s) de documento(s) y afiliación con que organización.*

| *Título* | *Organización* |
|---|---|
| | |
| | |
| | |
| | |
| | |

7.) *Hay facil acceso a la información de referencia relacionada a Nutrición/Vitamina "A"?*

*SI* *NO*

*(SI) Localmente* _____ *De afuera* _____

*(NO) Porque?* _____
_____
_____

8.) *Que información les hace falta en cuanto a Nutrición/ Vitamina "A"? (Especifique)* _____
_____
_____
_____
_____

9.) *Les interesaría información sobre:*

a.)___ *Información general sobre Vitamina "A"*
b.)___ *Mensajes Claves en Vitamina "A"*
c.)___ *Como suministrar Vit."A" (niños/madres post-partum*
d.)___ *Como incorporar Vit."A" en el componente educativo*
e.)___ *Apoyo técnico sobre huertos familiares*
f.)___ *Contenido de Vit."A" de las hortalizas y la disponibilidad biológica de lo mismo*
g.)___ *Como incorporar Garantía de Calidad en el componente educativo*
h.)___ *Como hacer una evaluación de Costo/Beneficio en el componente de Nutrición/Vit."A"*
i.)___ *Otro* _____

_____
*(Especifique)*

10.) *Prefieren materiales orientados a:*

| *Quienes* | *Que info. (encircule - de 7.)* |
|---|---|
| _____ *Miembros de la comunidad* | a b c d e f g h i |
| _____ *Trabajadores de Campo* | a b c d e f g h i |
| _____ *Personal Técnico de Proyectos* | a b c d e f g h i |
| _____ *Gerentes de Proyectos* | a b c d e f g h i |
| _____ *Profesionales (sede local o sede central)* | a b c d e f g h i |

# RESULTADOS DE LA ENCUESTA DE ORGANIZACIONES QUE TIENEN INTERVENCIONES EN NUTRICION Y VITAMINA A

Total de Instituciones encuestadas: 44

Total de Instituciones que respondieron: 17

| | |
|---|---|
| 2 | Organizaciones Gubernamentales |
| 2 | Organizaciones no Gubernamentales locales |
| 7 | Organizaciones no Gubernamentales internacionales |
| 1 | Organización Privada Voluntaria |
| 1 | Organización Internacional de Cooperación Técnica |
| 1 | Organización religiosa |
| 1 | Institución de Investigación |
| 1 | Institución Mixta creada por acuerdo Gubernativo |
| 1 | Organización no lucrativa |

SALUD:

2. Maneja la organización proyectos/programas en salud?

SI 15 No 2

Qué tipo de intervenciones ejecutan y/o coordinan en salud?

**Servicios Básicos en salud**

| | |
|---|---|
| Apoyo al ministerio | 1 |
| Atención médico y sicológica | 1 |
| Puestos de Salud | 2 |
| Odontología | 2 |
| Oftalmología/cardiología | 1 |
| Atención epidemiológica | 1 |
| IRA | 1 |
| Inmunizaciones | 1 |
| Control ARI'S | 1 |
| ORS | 1 |
| Desparacitación | 1 |
| Medicamentos esenciales | 1 |
| Salud Oral | 1 |

**Salud preventiva**

| | |
|---|---|
| Producción de materiales | 2 |
| Comadronas | 2 |
| Salud escolar | 1 |
| Educación en salud | 2 |

| | |
|---|---|
| Capacitación | 1 |
| Preventivo | 3 |
| Salud familiar, comunal | 3 |

**Saneamiento ambiental**

| | |
|---|---|
| Saneamiento ambiental | 3 |
| Desarrollo rural | 1 |
| Apoyo a retornados | 1 |
| Agua potable | 1 |

**Nutrición**

| | |
|---|---|
| Nutrición | 4 |
| Vitamina A | 1 |
| Control del crecimiento | 1 |
| Micronutrientes | 1 |

**Planificación familiar**

| | |
|---|---|
| Salud familiar | 3 |
| Planificación familiar | 3 |

**Materno Infantil**

| | |
|---|---|
| Lactancia materna | 2 |
| Comadronas | 1 |
| Materno Infantil | 4 |
| Salud de la mujer | 4 |
| Supervivencia infantil | 6 |

**Otros**

| | |
|---|---|
| Capacitación de recursos humanos | 1 |
| Apoyo y Financiero a instituciones | 1 |

**NUTRICION**

3. Maneja la organización proyectos/programas en nutrición?

SI 13 NO 4

a) Qué tipo(s) de intervenciones en Nutrición han sido ejecutados y/o coordinados en el pasado?

| | |
|---|---|
| Nutrición | |
| Complemento nutricional | 3 |
| Recuperación nutricional | 3 |
| Educación en nutrición | 7 |
| Peso /talla/edad | 3 |

Alimentación

| | |
|---|---|
| Preparación de alimentos | 1 |
| Ayuda alimentaria | 6 |
| Producción local | 1 |
| Huertos familiares | 2 |
| Vitamina A | 2 |
| Lactancia | 1 |

Otros

| | |
|---|---|
| Material educativo | 1 |
| Capacitación a organizaciones | 1 |
| Vigilancia epidemiológica | 1 |

b) Qué tipo de intervenciones en Nutrición han sido ejecutados y/o coordinados en el pasado

| | |
|---|---|
| Educación en nutrición | 8 |
| Recuperación nutricional | 1 |
| Promoción de huertos | 3 |
| Vitamina A | 4 |
| Monitorero del crecimiento | 1 |
| Ayuda alimentaria | 3 |
| Centros asistenciales | 1 |
| Capacitación | 1 |
| Material educativo | 1 |

c) Qué tipo(s) de intervenciones en Nutrición piensan ejecutar y/o coordinar en el futuro?

| | |
|---|---|
| Vitamina A | 3 |
| Huertos | 2 |
| Fortificación de alimentos | 3 |
| Seguridad alimentaria | 2 |
| Distribución de alimentos | 1 |
| Merienda escolar | 1 |
| Educación pre-escolar | 2 |
| Monitoreo del crecimiento | 1 |
| Recuperación nutricional | 1 |
| Educación en salud | 2 |
| Capacitación | 1 |
| Organización comunal | 1 |

4. Si ejecutaron programas o intervenciones en Nutrición, por qué dejaron de hacerlo?

| | |
|---|---|
| Falta de financiamiento | 3 |
| Dificultad sobre los datos | 1 |
| Se promovió en autoconsumo | 1 |
| Iniciación de nuevos proyectos | 1 |

5. Tienen interés en aprender nuevas formas de incorporar Educación en Nutrición en sus proyectos/programas de salud?

SI 17 NO

6. Actualmente, cómo evalúan las intervenciones en Nutrición?

| | |
|---|---|
| Estado nutricional del niño | 1 |
| Mejoramiento nutricional | 1 |
| Disminución de desnutridos | 1 |
| Aparecimiento de casos nuevos | 1 |
| KPC/CAPS/Evaluación de conocimientos/encuestas | 7 |
| Cantidad de Vitamina A distribuida | 1 |
| Visitas domiciliarias | 1 |
| Participantes y eventos | 1 |
| Servicio materno infantil | 1 |
| Capacitación de salud | 1 |

7. Cuáles han sido los éxitos de las intervenciones en Nutrición y por qué?

| | |
|---|---|
| Niños con P/t normal durante la escuela | 2 |
| Vitamina A | 2 |
| Desnutrición aguda a moderada | 1 |
| Suplementos alimenticios | 2 |
| Mejora nutricional | 2 |
| Educación en salud y nutrición | 4 |
| Educación en huertos/huertos | 3 |
| Material didáctico | 1 |
| Línea basal | 1 |
| Mejorar los indicadores nacionales | 1 |

8. Cuáles han sido los problemas más impactantes en la experiencia de la organización con intervenciones en Nutrición y por qué?

| | |
|---|---|
| PC en el adulto por pobreza extrema | 1 |
| Kwashiokor | 1 |
| Desnutrición | 2 |
| Avitaminosis | 1 |
| Falta de coordinación entre instituciones que suplementan Vitamina A | 3 |
| Obtención de Vitamina A | 1 |
| Dificultad en medir el impacto | 3 |
| Patrones culturales | 1 |
| Unificación de criterios | 1 |

| | |
|---|---|
| Falta de educación | 2 |
| Falta de sistemas de producción de alimentos | 3 |
| Educar a adultos es difícil | 1 |

VITAMINA "A"

9. Maneja la organización proyectos/intervenciones en Vitamina A?

SI 10 NO 7

a) Qué tipo (s) de intervenciones en Vitamina A han sido ejecutados y/o coordinados en el pasado?

| | |
|---|---|
| Integrada a salud y nutrición | 1 |
| Suplementando Vitamina A | 6 |
| Vitamina A en azúcar | 1 |
| Huertos | 4 |
| Dar información | 1 |
| Diseño de materiales | 1 |
| Educación en salud | 2 |
| Lactancia materna | 1 |
| Biodisponibilidad Pro-vita | |
| Evaluaciones en Vitamina A | 1 |

b) Qué tipos de intervenciones en Vitamina A están siendo ejecutados y/o coordinados actualmente?

| | |
|---|---|
| Distribución de Vitamina A | 7 |
| Huertos | 2 |
| Resaltar el calostro como fuente de Vitamina A | 1 |
| En la azúcar | 1 |
| Educación en salud | 1 |
| Poliparasitismo intestinal de suplementación de Vitamina A | 1 |

c) Qué tipo(s) de intervenciones en Vitamina A piensan ejecutar y/o coordinar en el futuro?

| | |
|---|---|
| Suplementar con Vitamina A | 7 |
| Educar a las madres acerca de Vitamina A | 1 |
| Promover el consumo de alimentos ricos en Vitamina A | 3 |
| Huertos | 2 |
| En azúcar | 1 |

10. Si ejecutaron programas o intervenciones en Vitamina A, por qué dejaron de hacerlo?

| | |
|---|---|
| Carecer de Vitamina A | 1 |
| No se sistematizó | 1 |
| Cierre de proyecto | 1 |
| Evaluación globar de las acciones | 2 |
| Está más unida a la educación escolar | 1 |
| Complementación de objetivos | 1 |

11. Actualmente, cómo evalúan las intervenciones en Vitamina A?

| | |
|---|---|
| Evaluación del estado nutricional | 1 |
| CAPS/evaluación final/encuestas | 5 |
| Aceptación/distribución de Vitamina A | 3 |
| Por impacto | 1 |
| No hay sistemas | 1 |
| No se ha hecho | 1 |

12. Cuáles han sido los éxitos de las intervenciones en Vitamina A y por qué?

| | |
|---|---|
| Las madres reportan disminución de IRAS | 1 |
| Agrado de recibir Vitamina A | 1 |
| Coordinación con centros de salud | 1 |
| Suplementación/alimentos con Vitamina A | 1 |
| No se puede precisar éxito | 1 |
| Aislados no se ha medido | 1 |

13. Cuáles han sido los problemas más impactantes en la experiencia de la organización con intervenciones en Vitamina A y por qué?

| | |
|---|---|
| Falta de coordinación | 1 |
| Obtención de Vitamina A | 1 |
| Falta de seguimiento en Vitamina A | 1 |
| Poder evaluar el impacto | 1 |
| Dificultad de precisar la presencia del problema y longitud | 1 |
| Se está iniciando | 1 |

14. Para qué nivel de beneficiario son sus programas/intervenciones?

**En salud:**

| | |
|---|---|
| Materno-infantil | 12 |
| Niños escolares | 1 |
| Infanto-juvenil | 1 |
| Trabajadores | 1 |
| Toda la población | 4 |

**En Nutrición:**

| | |
|---|---|
| Materno-infantil | 13 |
| Escolares | 1 |
| Infanto-juvenil | 1 |
| Comunitario | 1 |

**En Vitamina A:**

| | |
|---|---|
| Materno-infantil | 9 |
| Escolares | 3 |
| Comunitario | 1 |

15. Qué información de referencia usan ustedes en cuanto a Nutrición y/o Vitamina A?

| | |
|---|---|
| 3 | Tabla latinoamericana de Alimentos INCAP |
| 7 | Recomendaciones dietéticas para Centroamérica y Panamá INCAP |
| 2 | Manual educativo -Cuerpo de Paz |
| 4 | Manuales de UNICEF |
| 5 | Material educativo - MSPAS |
| 3 | Manuales de IVACG (Grupo consultativo Internacional de Vitamina A) |
| 4 | Publicaciones de la HKI (Instituto Helen Keller) |
| 1 | Metodologías dietéticas de CeSSIAM |
| 1 | Libros de pediatría y nutrición |
| 1 | Foro mundial de Salud y UPVA |
| 1 | Documentos varios y textos de otros países |
| 1 | Manuales de MSF |

16. Hay fácil acceso a la información de referencia relacionada a Nutrición/Vitamina A?

SI 10 NO 6

(SI) Localmente 6 De afuera 4

(NO) por qué?

| | |
|---|---|
| La información es disgregada por institución | 2 |
| Centralización | 1 |
| No hay suficiente información | 2 |
| Falta de coordinación | 1 |

17. Cree que sería útil consolidar en un sólo documento/manual las referencias y los materiales disponibles?

SI 13 NO 1

18. Les interesaría información sobre:

| | |
|---|---|
| 10 | Información general sobre Vitamina A |
| 10 | Mensajes claves en Vitamina A |
| 7 | Cómo suministrar Vitamina A (niños/madres post partum |
| 7 | Cómo incorporar Vi. A en el componente educativo de Nutrición/Vit A |
| 3 | Apoyo técnico sobre huertos familiares |
| 10 | Contenido de Vit. A de las hortalizas y la disponibilidad biológica de lo mismo |
| 10 | Cómo incorporar garantía de calidad en el componente educativo de nutrición/vit A |
| 10 | Cómo hacer una evaluación de costo/beneficio de los programas de nutrición/Vit. A |
| 13 | Cómo hacer una evaluación de impacto de las intervenciones en Nutrición/vit A |
| 10 | Cómo hacer una evaluación cualitativa |
| 1 | Nutrición en general |
| 1 | MECA |

19. Prefieren materiales orientados a:

| | |
|---|---|
| 14 | Miembros de la comunidad |
| 12 | Trabajadores de campo |
| 13 | Personal Técnico de proyectos |
| 9 | Gerentes de proyectos |
| 6 | Profesionales (sede local y/o sede central) |
| 1 | Capacitación local a todo nivel |

Nota: En idiomas mayas amigables y simples.

TALLER:

20. Tiene interés en asistir al Taller mencionado en la carta?

SI 17 NO

(SI) Cuáles de los siguientes temas serían más interesantes incluir en el Taller?

| | | | | | | |
|---|---|---|---|---|---|---|
| 11 | 1 día | 5 | 2 días | 0 | 3 días | Lo que sea necesario |

COMENTARIOS

Sobre las Organizaciones e instituciones:

- Es importante tener acceso a las experiencias de información, materiales de instituciones dedicados a Nutrición y Vitamina A.
- Es bueno incorporar las intervencioes de micronutrientes para programas de salud.
- Para implementar los programas nutricionales.
- Organizar y coordinar instituciones para lograr objetivos y acuerdos comunes.
- Pop Council trabaja principalmente en Salud Preventiva y Planificación Familiar tienen en común con IEF nutrición de la embarazada, MECA y niños menores de 2 años.

Sobre el Taller:
- Invitar a CEPREN ya que administra el centro de promoción y recuperación nutricional.
- Por los compromisos de trabajo es mejor un día aunque debido a la importancia podría extenderse.

**Stakeholders Meeting Attendance**

| Institution | Invited | Confirmed | Attended |
|---|---|---|---|
| 1. Christian Children's Fund (CCF)<br>Tel: 334-7375 Fax: 332-1801 | Dr. Francísco Batres<br>Director of Programs | ✓ | |
| 2. Share of Guatemala<br>Tel: 366-2184 Fax: 333-5250 | Dr. Izabel Cristina Yancos<br>Interim Health & Nutrition Coordinator | | |
| 3. Caritas de Guatemala<br>Tel/Fax: 476-3805 | Ing. Ricardo Monterroso<br>Program and Project Department Coordinator | | |
| 4. Agrosalud<br>Tel/Fax: 471-9852 | Dr. Angel Portillo<br>General Coordinator | ✓ | ✓ |
| 5. Catholic Relief Services (CRS)<br>Tel: 331-0285 Fax: 332-0107 | Dr. Luis Alonzo<br>Health Project Manager | ✓ | ✓ |
| 6. CARE - Guatemala<br>Tel: 339-1139 Fax: 339-1166 | Dr. Boris Chinchilla<br>Child Survival Project Manager<br>Ing. Carlos Piedrasanta<br>Food Security Program Manager<br>Lic. Héctor Gamero<br>Consultant | ✓<br><br>✓<br><br>✓ | ✓<br><br>✓<br><br>✓ |
| 7. Asociación nacional del Café<br>Tel/Fax: 337-0086 | Dr. Mario Efraín Mazariegos<br>Medical Director | ✓ | |
| 8. Food for the Hungry<br>Tel/Fax: 952-1415 | Dr. Byron Aquino Tobías<br>Coordinator of Programs | | |
| 9. Comisión nacional de Promoción de Lactancia Materna (CONAPLAM)<br>Tel/Fax: 335-3711 | Dra. Ruth Elena Arango<br>Coordinator<br>Licda. Marivel Jordán | <br><br>✓ | |
| 10. Fundazúcar<br>Tel/Fax: 331-9344 | Dr. Mynor Mejía Andrade<br>Medical Director | ✓ | |
| 11. Médicos sin Fronteras Francia<br>Tel/Fax: 230-1601 | Arletter Communier-García<br>Coordinator | | |
| 12. Médicos sin Fronteras Suiza<br>Tel/Fax: 230-1601 | Jean Schmitze<br>Chief of Mission<br>Irma Yolanda Pérez<br>Project Director | <br><br>✓ | <br><br>✓ |
| 13. HOPE<br>Tel: 761-4559 Fax: 761-2386 | Dr. Victor Calderón<br>Director | ✓ | ✓ |

| | | | |
|---|---|---|---|
| 14. Cuerpo de Paz<br>Tel: 334-8263/4 Fax: 334-4121 | Dr. Sergio Mack<br>Associate Director of Health | ✓ | ✓ |
| 15. CeSSIAM<br>Tel: 473-0953/4 | Dr. Jesús Bulux<br>Chief of Vitamin A and Micronutrients | ✓ | ✓ |
| 16. Consejo de Población<br>Tel: 332-2880 Fax: 334-5586 | Dr. Marcelo Castrillo<br>Technical Director<br>Dr. Angélica Bixcul<br>Technical Assessor<br>Rebeca Arrivillaga<br>Technical Assessor | ✓<br><br>✓<br><br>✓ | ✓<br><br>✓<br><br>✓ |
| 17. UNICEF<br>Tel: 333-6373 Fax: 363-4016 | Licda. Nicté Ramírez<br>Official in Charge of the Health and Nutrition Project<br>Sandra Recinos<br>Health & Nutrition Consultant | ✓<br><br>✓ | <br><br>✓ |
| 18. AID<br>Tel: 332-0202 Fax: 331-1151 | Dr. Baudilio López<br>Health & Nutrition Director<br>Anabella Sánchez<br>Administrator of Projects | ✓ | <br><br>✓ |
| 19. INCAP<br>Tel: 472-3762 Fax: 473-6529 | Dr. Erick Boy<br>Micronutrient Program Researcher | ✓ | |
| 20. Ministry of Public Health<br>Tel: 253-2053 Fax 253-0029 | Dr. Mario Gudiel<br>Child Survival<br>Dra. Celeste Guerra | ✓ | |
| 21. AMPROS - IEF<br>Tel/Fax: 951-3923 | Sr. Enrique Fernández<br>Technical Coordinator | ✓ | ✓ |
| 22. IEF<br>Tel: 471-5826 | Jorge Matute<br>Consultant | ✓ | ✓ |

# Annex VI: EDI Manual

Septiembre de 1997

Respetable Colega:

Este manual/guía es uno de los resultados del taller realizado por la Fundación Internacional del Ojo (IEF), "Cooperación en el Fortalecimiento Integrado en Nutrición y Vitamina A", el cual fue realizado el día 20 de mayo de 1997 en la que asisitieron ONGs y OGs que están relacionadas directa o indirectamente con nutrición y vitamina "A".

El objetvo del taller fue el de presentar los resultados del trabajo realizado por IEF y el Proyecto HOPE, así como la presentación de las metodologías utilizadas para evaluar las actividades que ambos proyectos implementaron. Estas metodologñias son: Garantía de Calidad, Grupos Focales, Análisis de Costo-Efectividad y Evalucación de Impacto.

Como producto, una serie de recomendaciones surgieron en el transcurso del taller, incluyendo:

- que IEF elabore un manual de consulta con el contenido de vitamina "A" y las metodologías utilizadas por IEF en el transcurso de su trabajo que incluya información dirigida a nivel de técnicos como a nivel de promotores.

- que IEF comparta su experiencia de campo sobre vitamina "A" en forma de apoyo técnico a las ONGs solicitantes.

- que IEF se encarge de estandarizar los mensajes claves en cuanto a la vitamina "A".

- que IEF coordine la iniciativa de estandarizar los indicadores de evaluación en cuanto a nutrición y vitamina "A" para tener una mejor interacción y para comparar resultados entre ONGs y OGs, elaborando un inventario de ellos en colaboración con las organizaciones que utilizan indicadores.

- que IEF vuelva a distribuir sus materiales educativos (como rotafolios y tarjetas educativas sobre vitamina "A" y folletos de micronutrientes) para el conocimiento y uso de las organizaciones presentes en el taller.

IEF adquirió como compromisos las sugerencias expresadas en el taller, por lo que se realilzaron varias actividades como la elaboración del presente Manual, el compartamiento de apoyo técnico con 10 ONGs y OGs, la estandarización de los mensajes claves (incluidos en el Manual) y la consolidación del listado de indicadores de impacto a través de una segunda reunión con ONGs y OGs, y finalmente la distribución de sus materiales educativos en vitamina "A" y otros micronutrientes junto con el presente manual.

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the International Eye Foundation

7801 Norfolk Avenue, Suite 200 ▪ Bethesda, Maryland 20814 USA
Tel: (301) 986-1830 ▪ Fax: (301) 986-1876 ▪ e-mail: info@ief.permanet.org
*Dedicated to... "the promotion of peace through the prevention of blindness." Founded 1961*

El "Manual Para la Cooperación en el Fortalecimiento Integrado en Nutrición y Vitamina A" diseñado por IEF, contiene la información más importante para el personal de campo, en una forma útil para la implementación de programas de vitamina A. Hemos incluido materiales elaborados por IEF y evaluados por las comunidades de Guatemala (como se ha mencionado anteriormente), y además información científica para consulta.

Con respecto a las metodologías utilizadas en el transcurso del trabajo, estamos incluyendo una breve explicación de cada una de ellas para orientar al personal que no está familiarizado con algunas de las técnicas, pero el enfoque es más en nuestra experiencia con cada metodología como ilustración de los logros que se puede obetener con utilizando dichas metodologías.

Nosotros esperamos que este manual sea de mucha utilidad para ustedes en el fortalecimiento de sus actividades integrados en nutrición y vitamina A. Si alguien necesita información más técnica sobre cualquiera de las metodologías, se incluyen listados de personas que ofrecen aspoyo técnico y una amplia bibliografía relevante a cada una de ellas. El objetivo de nuestro compromiso en elaborar este manual es compartir con ustedes nuestra experiencia en como lograr mejorar la calidad de las actividades que realizamos en nutrición y vitamina "A" para garantizar un positivo impacto y ofrecerles información para su análisis y reflección que podría en un futuro beneficiar a nuestra comunidad Guatemalteca.

Le agradecemos de antemano su tiempo en llenar el cuestionario incluido en el manual. La información recolectada nos servirá para evaluar la utilidad del manual así como para conocer cuales fueron los aspectos más útiles y menos útiles para usted y su programa. Para el futuro, IEF quiere enfocar su atención en mejorar el manual para adecuarlo aún más a las necesidades de las ONGs y OGs trabajando en reducir la deficiencia de vitamina A.

Atentamente,

Martha L. Burdick de Piedrasanta

Martha L. Burdick de Piedrasanta
International Eye Foundation

Después de haber leido el manual, nos gustaría recibir sus comentarios sobre el mismo, a través del presente cuestionario.

Organización: _____

Nombre: _____

Cargo en la Organización: _____

1.) Cómo le pareció la presentación del manual?

MUY BUENO___ BUENO___ REGULAR___ NECESITA MEJORAR___

2.) Cómo le pareció el contenido técnico?

MUY BUENO___ BUENO___ REGULAR___ NECESITA MEJORAR___

3.) a.) Cúal sección le pareció más útil? _____
Por qué? _____
_____

b.) Cúal sección le pareció menos útil? _____
Por qué? _____
_____

4.) Con qué facilidad utilizó el manual? _____
_____
_____

5.) Que sugiere para mejorar la calidad del manual en cuanto a:

la Presentación _____
_____
_____

el Contenido _____
_____
_____

6.) Otros comentarios: _____
_____
_____
_____

GRACIAS por su tiempo y atención a este cuestionario
Le agradecemos retornarlo a la siguiente dirección:

Fundación Internacional del Ojo
2a calle 23-89 A, Zona 15 Apto. "C"
Vista Hermosa I Guatemala Ciudad
Tel.: (502) 369-6103 / Fax: (502) 369-5675 / e-mail: iefguatemala@guate.net

El presente manual fue elaborado con el aporte financiero de USAID por medio de la Oficina de Salud, Población y Nutrición (Acuerdo Cooperativo No.: HRN-5116-A-00-5010-00) a través del proyecto "Evaluando y Ampliando la Capacidad de las Organizaciones Intermediarias (Organizaciones Privadas Voluntarias -OPVs- y Organizaciones No-Gubernamentales -ONGs-) que Proveen Programas Integrados de Vitamina A con Base en la Comunidad" - EDI).

Todo el contenido del manual puede ser traducido, adaptado o copiado con fines no lucrativos sin permiso de la Fundación Internacional del Ojo (IEF), siempre y cuando se haga referencia a la publicación original. Por favor, avisar a IEF si se hacen reproducciones, traducciones o adaptaciones mayores.

La carátula fue diseñada por:

*Thelma Ramírez Friely*

Estudiante en Licenciatura de Diseño
Universidad de San Carlos
Guatemala, C.A.

Septiembre 1997

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# AGRADECIMIENTO

Este manual se basa en la experiencia de trabajo de la Fundación Internacional del Ojo (IEF), adquirido a través de las actividades que ha venido implementando en Guatemala desde el año 1990 hasta la fecha, con el esfuerzo de trabajo de todos los que han laborado desde su inicio hasta hoy, quienes son tantos que sería difícil mencionar a todos.

Agradecemos a las ONGs que sugirieron la elaboración del presente manual/guía como recomendación dad por los participantes en el taller "Cooperación en el Fortalecimiento Integra en Nutrición y Vitamina A", ellos son: AgroSalud, Catholic Relief Services (CRS), CARE/Guatemala, Médicos sin Fronteras - Suiza, Proyecto HOPE, Cuerpo de Paz, CeSSIAM, Consejo de Población, USAID, Ministerio de Salud Pública y el Proyecto AMPROS (Ayuda Mutua Pro-Salud) de IEF.

Manifestamos nuestro agradecimiento a las personas que ayudaron en la elaboración del presente manual aportando su experiencia técnica y sus conocimientos, fueron ellos: Dra. Marylena Arita - Experta en Garantía de Calidad, Gerente de Proyectos, Fundación Internacional del Ojo, Honduras; Licda Martha Burdick de Piedrasanta, Nutricionista de la Fundación Internacional del Ojo, Guatemala; Jim Clement, consultor en Análisis de Costo-Efectividad, John Hopkins University, Baltimore; Nora Coj de Salazar, Experta en Grupos Focales, Fundación Internacional del Ojo, Guatemala; Personal del Proyecto AMPROS, IEF Cobán - Enrique Fernández Acté, Coordinador Técnico; Julio Antonio Gálvez, Supervisor; Alvaro Sierra Chavarría, Asesor Técnico Agropecuario; Luis Sierra Chavarría, Supervisor y Encargado de Vitamina A y Garantía de Calidad; y los 16 Extensionistas y más de 200 Voluntarios Comunitarios.

También agradecemos el apoyo que recibimos de parte de las siguientes personas que contribuyeron a mejorar el contenido del presente manual a través de sus comentarios y sugerencias: Licda. Liliana Clement, Coordinadora de Programas de Supervivencia Infantil y Vitamina A, Fundación Internacional de Ojos, Bethesda; Licda. Erika Gonzáles, Departamento de Educación, CRS; Dr. Sergio Mack, Director Asociado del Sector Salud, Cuerpo de Paz; Licda. Margarita Monroy, Departamento de Nutrición, Ministerio de Salud Pública.

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*SECCION 2:* GRUPOS FOCALES 29-53

*SECCION 3:* GARANTIA DE CALIDAD 54-70

*SECCION 4:* ANALISIS DE COSTO-EFECTIVIDAD 71-80

Omni-Dex™

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| 5 | 20-0050 |
| 8 | 20-0080 |
| 10 | 20-0100 |
| 12 | 24120 |
| 15 | 24150 |

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Hecho en Canada

ESSELTE

# INTRODUCCION

La deficiencia de vitamina "A" ha sido considerada como un problema de salud pública desde la década de los sesenta. Tanto el sector público como las organizaciones privadas, están trabajando para resolver este problema. En Guatemala, la deficiencia de vitamina A se redujo en gran parte con la implementación del Programa de Fortificación de Azúcar con vitamina "A", sin embargo, a pesar de ello, el problema continúa en algunas áreas rurales. En el área de Alta Verapaz, en 1991, más del 20% de los niños menores de 6 años de edad fueron encontrados con deficiencia de vitamina "A" a nivel sanguíneo y además 66% de los niños estaban consumiendo menos vitamina "A" de lo recomendado por la Organización Mundial de la Salud ("Informe de la Evaluación Inicial. Linea Basal del Proyecto: Vitamina A, Depto. de Alta Verapaz, Guatemala". 1992. Dr. Ivan Mendoza). Más recientemente, la Encuesta Nacional de Micronutrientes (Ministerio de Salud Pública, 1995), ha reflejado que la población guatemalteca ha mejorado en los últimos años en cuanto a la situación nutricional de vitamina "A". La deficiencia a nivel nacional es considerada como moderada (15.8%), seindo la región más afectada el Nororiente del País (16.2%) donde se localiza el Departamento de Alta Verapaz[1] .

Según la Encuesta Nacional de Micronutrientes (MSP, 1995), la prevalencia de niveles de retinol en el plasma sanguíneo inferiores a 20mcg/dl en los niños y niñas que consumen una combinación de panela y azúcar es 22.4%, mientras que dicha prevalencia en la población de niños y niñas no consumidores de panela es de 15.7%. En la zona Nororiente se reporta un alto consumo de panela mientras el consumo de azúcar refinada (fortificada) es mínimo. Aún cuando el azúcar refinada que es consumida esta fortificada, los niveles reportados son inferiores a lo que la ley establece (10 a 20mcg/g nivel de producción). En el estudio de Evaluación de Medio Término de IEF en 1995[2], se encontró que el 71% de las muestras de azúcar recolectadas a nivel de hogar estan fortificadas con un nivel mínimo de vitamina A ($\geq$ 5.0 mcg/g de retinol), de las cuales el 87% tenía niveles por debajo de la norma nacional de producción. En el mismo marco de análisis, la Encuesta Nacional reportó que el 59% de las muestras estudiadas estaban fortificadas ($\geq$5.0 mcg/g de retinol) de los cuales el 86% reportaron niveles por debajo de la norma nacional.

Tomando en cuenta la situación actual de la salud de los niños guatemaltecos, muchas organizaciones nacionales e internacionales han tenido interés en realizar intervenciones para mejorar esta situación. Una de estas organizaciones es la Fundación Internacional del Ojo, que a través de su proyecto de vitamina "A" para la Supervivencia Infantil - Ayuda Mutua Pro-Salud (AMPROS), desde 1990 ha estado desarrollando actividades con el objetivo de reducir la deficiencia de vitamina "A" y mejorar el estado nutricional de los infantes y niños menores de 6 años de edad, en 50 comunidades indígenas del departamento de Alta Verapaz.

---

[1] Porcentaje de niños menores de cinco años con < 20mcg/dl de retinol en plasma sanguíneo.

[2] 66 muestras de azúcar del lmismo número de hogares en 27 comunidades del Departamento de Alta Verapaz seleccionadas al azar de las 50 comunidades del Proyecto de Supervivencia Infantil de IEF.

El proyecto AMPROS, ha tomado en cuenta la participación de líderes comunitarios, maestros, representantes de instituciones gubernamentales y de otras entidades no gubernamentales que trabajan en la comunidad, los catequistas de la Iglesia y los líderes de las Iglesias Evangélicas para implementar sus acciones.

A través de la activa participación de las comunidades en las intervenciones promovidas por el proyecto, se han notado cambios positivos en los conocimientos y las conductas en cuanto a la vitamina "A", nutrición, y la salud, tanto a nivel de los niños como de las madres en general.

Los resultados de la Evaluación de Impacto (EDI - 1996) de IEF utilizando encuestas dietéticas mostraron un aumento en el porcentage de niños menores de 6 años que consumen $\geq$100% del requerimiento de retinol en su dieta, incluyendo azúcar fortificada, del 34.2% en la línea basal (1991) al 77.8% en EDI. Por aparte las encuestas de Conocimientos Actitudes y Prácticas (CAPs) mostraron un aumento del 63% al 85% de madres que pueden identificar por lo menos dos alimentos ricos en vitamina "A".

Estos resultados nos permiten afirmar que hemos establecido un buen comienzo y es ésta la razón por la cual nos permitimos, por medio del presente manual, compartir con ustedes nuestras experiencias y las metodologías que utilizamos para realizar de una mejor manera nuestro trabajo, esperando que sea de utilidad para las organizaciones y de beneficio para las comunidades.

La primera sección de este manual, trata sobre aspectos básicos que deben ser conocidos por el/la trabajador/a de campo, técnico en salud, voluntarios y/o personal que trabaja directamente con las personas en las comunidades sobre aspectos relacionados a la *Vitamina "A"*. Esta sección se basa en las experiencias que el personal de campo del Proyecto AMPROS ha tenido con respecto a la educación sobre vitamina "A" en el transcurso de los últimos cinco años. Incluímos información un poco más científica además de hojas para fotocopiar (con marcos dobles en negrilla), con el fin de proporcionar información que esperamos sea de gran ayuda y apoyo a las actividades que se realicen.

La segunda sección trata sobre la técnica de *Grupos Focales*. Esta técnica fue utilizada en varias oportunidades durante el último año del proyecto con el propósito de conocer más detalladamente los aspectos importantes y necesarios en la evaluación y planificación de actividades, los cuales sirvieron para mejorar la realización de nuestro trabajo. El contenido que se presenta se basa en el resumen de nuestra "Guía de Entrenamiento" elaborada por la Licda. Nora Coj de Salazar y en el manual "Para Excelencia en la Investigación Mediante Grupos Focales", Elaborado por la Academia para el Desarrollo Educativo (USAID). Además de la información metodológica, incluimos resultados de nuestra experiencia con Grupos Focales y varias hojas para fotocopiar (con marcos dobles en negrilla) que podrían servir tanto en un entrenamiento como durante la ejecución de los grupos focales con su población meta.

La tercera sección trata sobre aspectos básicos de la metodología de *Garantía de Calidad* (QA) que fue implementada durante los últimos diez meses del Proyecto AMPROS. Esta sección incluye parte de la teoría del QAP (Proyecto de Garantía de Calidad de Bethesda, MD) y las experiencias de IEF tanto en Honduras como en Guatemala. La mejora que se ha visto a raíz de la implementación de la metodología de Garantía de Calidad es impresionante en ambos países y motivante para otras organizaciones en cuanto a la incorporación de la metodología en sus actividades de campo. El conocimiento y la aplicación de las herramientas básicas da como resultado el empoderamiento de ésta metodología por parte del equipo, lo que constituye un reto común para la búsqueda de la excelencia en la dotación de servicios a través de la identificación de nuevas oportunidades para mejorar.

La última sección trata sobre los conceptos básicos de como hacer un *Análisis de Costo/Efectividad.* La sección no esta diseñada para dar la receta mágica de "pasos a seguir", sino mas bien presenta ejemplos de la experiencia de IEF en Guatemala durante su análisis de Costo-Efectividad. Es cierto que el análisis de Costo-Efectividad no esta siendo utilizado a lo máximo en el campo internacional de la Salud Pública a pesar de que la información que provee este tipo de análsis es exactamente lo que necesita saber un Gerente de Proyecto o un Director Nacional para poder asegurar los mejores resultados con la inversión más eficiente de los fondos limitados que tiene disponible para su organización.

Esperamos que a través de este manual respondamos a sus necesidades y despertemos su interés en la importancia y el poder tanto de la educación en Vitamina "A" como también de las metodologías aquí presentadas. El presente manual ha sido diseñado para consulta, pero si alguien desea información más técnica sobre cualquiera de las metodologías, se incluyen listados de personas e instituciones que ofrecen apoyo técnico y una amplia bibliografía relevante a cada una de ellas. El objetivo de nuestro compromiso en elaborar este manual es compartir con ustedes nuestra experiencia en como lograr mejorar la calidad de las actividades que realizamos en nutrición y vitamina "A" para garantizar un positivo impacto y ofrecerles información para su análisis y reflección que podría en un futuro beneficiar a nuestra comunidad Guatemalteca.

CONTENIDO

VITAMINA "A"

*SECCION 1*


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## I.) QUE ES LA VITAMINA "A"?

- LA VITAMINA "A" ES UN NUTRIENTE ESENCIAL

Es esencial por dos razones:

1.) es un nutriente muy importante para el cuerpo humano
2.) viene de una fuente externa, el cuerpo no puede hacerlo por si mismo

La vitamina A es un nutriente muy importante para el cuerpo humano porque juega un rol en el buen crecimiento y desarrollo de los niños; ayuda a que las enfermedades respiratorias y diarreicas sean menos severas; mantiene los ojos sanos y una buena visión.

- COMO VIENE LA VITAMINA "A" AL CUERPO?

La vitamina A viene en tres formas al cuerpo:

1.) Retinol - fuentes de origen animal. Una forma más útil para el cuerpo humano.

2.) Caroteno - fuentes de origen vegetal. Una forma menos útil para el cuerpo humano que implica una mayor ingesta para llegar a un buen aprovechamiento.

3.) La Cápsula - 200,000 Unidades Internacionales (una dosis muy alta). Las hay también en unidades inferiores.

- HAY DOS CLASES DE VITAMINAS: HIDROSOLUBLES Y LIPOSULUBLES

HIDROSOLUBLES: Son las vitaminas que están relacionadas con el agua, como por ejemplo la vitamina C y las vitaminas del complejo B. Son vitaminas que salen a través de la orina cuando el cuerpo ya no las necesita o cuando han sido ingeridos en cantidades muy altas (normalmente a través de pastillas o cápsulas). También es muy importante comer alimentos ricos en estas vitaminas todos los días porque el cuerpo no puede almacenarlas.

LIPOSULUBLES: Son las vitaminas que están relacionadas con el aceite o la grasa, por ejemplo las vitaminas "A", "D", "E" y "K". Son vitaminas que tienen lugares de "almacenamiento" en el cuerpo (órganos, músculos, piel, etc.). Cuando no hay suficiente ingesta de alimentos ricos en estas vitaminas, las reservas en las "bodegas" van bajando hasta llegar a un punto de deficiencia. También, por ser vitaminas que se quedan en el cuerpo (no salen a través de la orina), la ingesta en megadosis (normalmente a través de pastillas o cápsulas) con frecuencia puede causar toxicidad.

NOTA: Entonces, dónde se almacena la vitamina A en el cuerpo? La "bodega" de la vitamina A es el hígado. (por eso es una buena fuente alimentaria!)

## II.) LAS FUNCIONES DE LA VITAMINA "A"

- LAS FUNCIONES DE LA VITAMINA "A" PUEDEN AGRUPARSE COMO FUNCIONES RELACIONADAS CON EL OJO Y FUNCIONES SISTEMICAS

FUNCIONES RELACIONADAS CON EL OJO

a.) La vitamina A (en forma de retinaldehído) forma parte de los pigmentos visuales que absorben la luz y además esta involucrada en varios cambios a nivel de la retina que dan lugar a la emisión de impulsos nerviosos que en el cerebro son interpretados como estímulos visuales.

b.) La vitamina A es esencial para mantener la integridad de la córnea a través de su rol en el mantenimiento de la capa mucosa que se encuentra cubriendo el epitèlio corneal (película lagrimal), manteniendo la humedad y viscosidad del ojo (por ser liposoluble, la vitamina A siempre va relacionada con el aceite o la grasa).

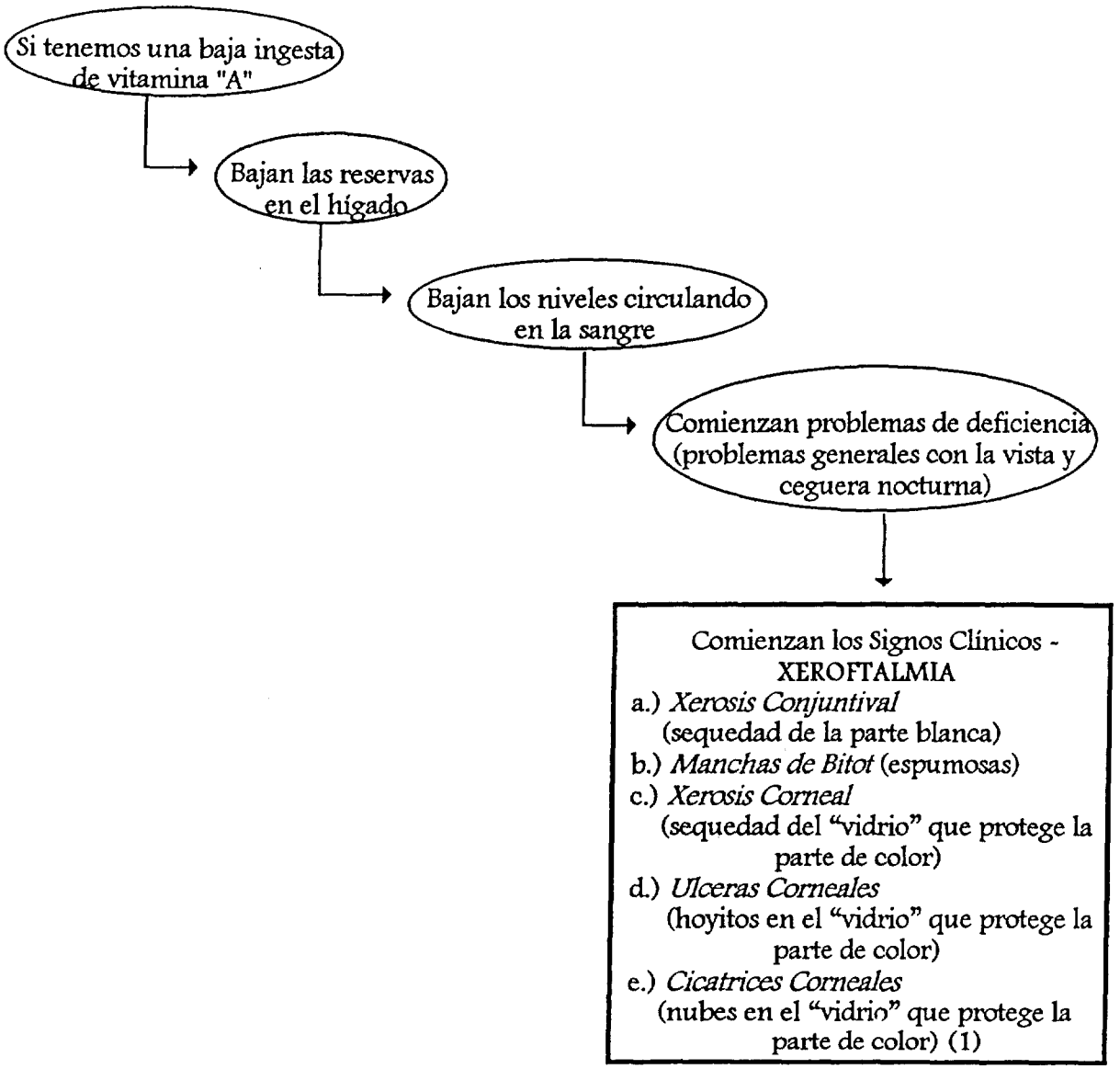
FUNCIONES SISTEMATICAS

a.) *Crecimiento y Desarrollo* - La vitamina A es muy importante en cuanto al mantenimiento de la salud y entonces el buen crecimiento y desarrollo. No se sabe exactamente cuál es su rol en el crecimiento, pero estudios científicos han probado que la deficiencia de la vitamina A causa retrasos en el crecimiento.

b.) *Integridad de Epitelios* - La vitamina A es muy importante en el mantenimiento de la capa mucosa que protege el sistema respiratorio y el sistema digestivo. Cuando hay suficiente ingesta y suficientes reservas de vitamina A, esa capa mucosa se mantiene muy sana, como la piel adentro de la boca. Esa capa forma una barrera previniendo la entrada de las bacterias en los pulmones y en las paredes del estómago. Cuando hay una deficiencia de vitamina A, se abren hoyitos en esa capa mucosa y fácilmente se entran las bacterias que causan infecciones respiratorias agudas (IRAs) y enfermedades diarreicas.

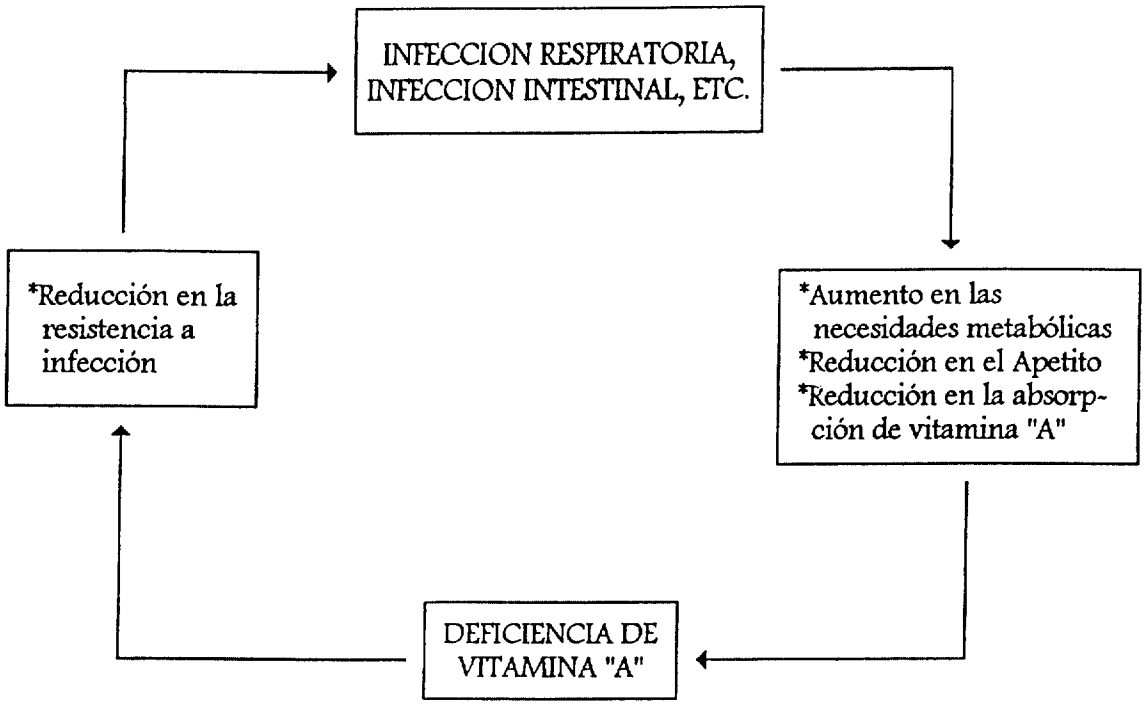
c.) *Estado Inmunológico* - La vitamina A forma parte del sistema de defensas del cuerpo - el sistema inmunológico. Entonces, con una deficiencia de vitamina A, el cuerpo no va a tener las defensas que necesita para prevenir las IRAs, las enfermedades diarreicas y otras enfermedades.

## III.) COMO LLEGAMOS A TENER UNA DEFICIENCIA DE VITAMINA "A"?



## IV.) RELACION ENTRE DEFICIENCIA DE VITAMINA "A" y MORBILIDAD/ MORTALIDAD DE NIÑOS

### Ciclo de Enfermedad y Deficiencia




- QUE ESTA PASANDO?

Se considera que los niños de menor edad son los que tienen mayor riesgo de convertirse en deficientes de vitamina A, debido a que su crecimiento es muy rápido por lo tanto, sus necesidades nutricionales son más altas. Además, las infecciones gastrointestinales y del aparato respiratorio, que incrementan las pérdidas de vitamina A, son más frecuentes a esta edad.

Existen factores de tipo ambiental como la pobreza, la falta de higiene y la falta de educación, que no permiten que las familias tengan una adecuada alimentación y por lo tanto, tengan mayor probabilidad de enfermarse; estas poblaciones también deben de considerarse como grupos de alto riesgo de padecer deficiencia de vitamina A.

Debido a la importancia que ésta vitamina tiene, para preservar la salud y que su deficiencia afecta a niños de muchos paises en vias de desarrollo, en la actualidad se están implementando programas orientados a tratar de corregir y erradicar ésta deficiencia, los cuales persiguen aumentar el consumo de vitamina A, ya sea a través de alimentos fortificados, alimentos naturalmente ricos en vitamina A y/o Beta caroteno o consumiendo periódicamente cápsulas conteniendo vitamina A preformada. Estos programas son promovidos por instituciones privadas y por el gobierno, por lo que debe recibir el mayor apoyo, porque contribuyen al beneficio de la salud y nutrición de la población en general; sin embargo, para la sostenibilidad de dichos programos debemos hacer énfasis en el consumo de una dieta adecuada y rica en alimentos ricos en vitamina A en su forma natural. (2)

## V.) COMO PODEMOS PREVENIR LA FALTA DE VITAMINA "A"?

- CONSUMIENDO ALIMENTOS RICOS EN VITAMINA "A"

*ORIGEN VEGETAL:* *(CAROTENOS)*

| | |
|---|---|
| 1.) Hierbas Verde Obscuro: | quilete, chipilín, cilantro, macuy, bledo, berro, acelga, espinaca, roctix y hojas de:rábano, remolacha y ayote |
| 2.) Frutas y Verduras Amarillo Intenso y Anaranjado: | mango maduro, melón amarillo, melocotón, papaya, plátano maduro, zanahoria, camote y guicoy sazón |

NOTA: Con respeto a los granos/cereales - son pobres en carotenos, a excepción del MAIZ AMARILLO.

*ORIGEN ANIMAL:* *(RETINOL)*

1.) Productos Lácteos: leche, crema y queso fresco
2.) Productos Animales: huevo, hígado y corazón
3.) Leche Materna!

*PRODUCTOS FORTIFICADOS*

También existen en Guatemala algunos productos fortificados con vitamina A como:

1.) el azúcar
2.) la margarina
3.) la Incaparina (1)



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## VI.) HIPERVITAMINOSIS "A"

- LA SOBREDOSIS CRONICA

La sobredosis crónica de la vitamina A ocurre cuando las personas se auto-administran grandes cantidades de preparados vitamínicos que contienen retinol. Los efectos tóxicos incluyen aumento de la presión dentro del cráneo, daño al hígado, acumulación de líquidos en el abdomen, junto con perdida del cabello y diversas lesiones de la piel. Si no se discontinúa el uso de tal preparado, los efectos pueden llevar a la muerte del paciente. Las cantidades diarias que exceden los 6 mg de retinol, cuando son tomadas durante meses o años han sido asociadas con manifestaciones de intoxicación crónica con vitamina A. Es importante señalar que no solamente los preparados farmacéuticos o químicos pueden causar tal intoxicación. Aunque no se informa de esto muy frecuentemente, es posible desarrollar signos y síntomas de intoxicación crónica con el consumo excesivamente frecuente y abundante del hígado de res, cerdo, aves ó en pastas tales como el paté, o en los casos de administración excesivamente entusiasta de aceite de hígado de bacalao o de cualquier otro pez a niños.

- DURANTE EL EMBARAZO

En el caso de señoras durante fase temprana del embarazo, las grandes dosis de vitamina A pueden producir malformaciones congénitas en el niño. El daño es mucho más grave durante el tiempo antes de que la madre pueda sospechar que se encuentra embarazada, o que está en riesgo de quedar embarazada, entonce evita el uso de cantidades grandes de vitamina A. Y aquí hay que señalar que no solamente las dosis grandes de vitamina A natural o sintética puede causar estos problemas, sino que algunos medicamentos de uso dermatológico que son químicamente similares a la vitamina A pueden producir anormalidades en el niño por nacer.

- EL CONTROL DE LA INGESTA

Se debe siempre tener en mente que cualquier medicina y muchos nutrientes pueden ser dañinos cuando se usan en exceso. El hecho de que una sobredosis intencional o accidental ocurra ocasionalmente no debe motivarnos a condenar una medicación o alarmar al público consumidor; sin embargo, deben tomarse las precauciones que manda la prudencia para reducir las posibilidades de un problema tóxico causado por preparaciones concentradas de vitamina A al mercado farmacéutico libre, estas preparaciones deben ser controladas por agencias debidamente registradas. Otra precaución es evitar la duplicidad de servicios y para lograrlo, se recomienda establecer un control a nivel nacional o un registro distrital sobre las distintas organizaciones que distribuyen cápsulas o sprays de vitamina A en las distintas regiones y tener un registro a nivel distrital sobre las poblaciones cubiertas por estos servicios. (2)



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## LO QUE EL/LA TRABAJADOR/A DE CAMPO DEBE SABER

*LA VITAMINA "A" ES:*

Un nutriente esencial para la buena salud y la supervivencia de los niños menores de seis años.

*LOS ALIMENTOS QUE CONTIENEN VITAMINA "A" SON:*

HIERBAS VERDE OBSCURO como el quilete, el chipilin, la acelga, el bledo, el berro y la espinaca

HOJAS de rábano, remolacha y ayote

VERDURAS AMARILLAS Y ANARANJADAS como el guicoy sazón y la zanahoria

ALIMENTOS como el camote anaranjado y el plátano maduro

FRUTAS AMARILLAS Y ANARANJADAS como el mango madura, el melón amarillo y la papaya

PRODUCTOS LACTEOS como la leche materna, leche de vaca y cabra, la crema y el queso

PRODUCTOS ANIMALES como el huevo, el hígado de res y de pollo

PRODUCTOS FORTIFICADOS con vitamina A como el azúcar, la margarina y la Incaparina

*LA VITAMINA "A" SIRVE PARA:*

Ayudar al desarrollo y crecimiento de los niños

Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños

Favorecer una buena visión

Ayudar que la mujer lactante tenga buena leche para su bebe

*LAS CAUSAS DE DEFICIENCIA SON:*

Falta de consumo de alimentos ricos en vitamina A en la dieta diaria

Padecer de enfermedades frecuentes (infecciones respiratorias, sarampión, diarrea, parásitos intestinales)

*PARA COMBATIR LA DEFICIENCIA DE VITAMINA "A" PODEMOS:*

Proporcionar cápsulas de vitamina A

En lugar del consumo de productos no fortificados, promover el consumo de productos fortificados como el azúcar, la Incaparina y la margarina

Proporcionar educación para que las personas aprenden a comer más alimentos que contengan vitamina A

Prevenir las infecciones por medio de la promoción de mejores hábitos higiénicos, vacunación y desparasitación

*SUPLEMENTACION CON CAPSULAS:*

Los niños de 1 a menor de 6 años pueden tomar una cápsula ó "perla" de 200, 000 UI de vitamina A cada 6 meses, como medida de prevención de la deficiencia.

Los niños de 6 a 11 meses pueden tomar la mitad de la dosis, o sea 100, 000 UI de vitamina A cada 6 meses, como medida preventiva.

La mujer lactante puede toma una cápsula de vitamina A de 200, 000 UI dentro de los 30 primeros días después del parto. Luego, no debe de tomar cápsulas de vitamina A pues es difícil saber si está nuevamente embarazada.

La mujer embarazada no debe de tomar cápsulas de vitamina A de alta dosis, pues puede ocasionar que el niño nazca con anormalidades. Sin embargo, las multivitaminas prenatales son adecuadas cuando las receta un médico.

*CUIDADOS DE LA CAPSULA:*

La cápsula debe de estar protegida de la luz, el calor y la humedad.

Puede estar a temperatura ambiental siempre y cuando las temperaturas no sean excesivas.

Para protegerla de la luz puede estar en recipiente obscuro o que no sea transparente.

*RECUERDE*
*LA MEJOR FUENTE DE VITAMINA A PARA TODAS LAS PERSONAS SON LOS ALIMENTOS RECOMENDADOS*

# *MENSAJES CLAVES EN VITAMINA A*
## *FUNDACION INTERNACIONAL DEL OJO*
## *PROYECTO AMPROS/GUATEMALA*

- *FUNCION*

1. La Vitamina A es un nutriente muy importante que ayuda al buen crecimiento y desarrollo de los niños, también ayuda a tener una buena visión.

2. La Vitamina A ayuda a que las enfermedades respiratorias, las diarreicas y el sarampión sean menos severas.

- *SUMINISTRO*

1. Durante los primeros 30 días después del parto, la madre debe recibir una cápsula de Vitamina A, para enriquecer la leche que le da a su bebe.

2. La dosis de Vitamina A recomendada para niños de 6 a 11 meses es de 100, 000 Unidades Internacionales y para niños de 12 a 71 meses 200,000 U..I. cada 6 meses.

3. A los niños menores de 6 meses no debe suministrarseles cápsulas de Vitamina A, ya que la está recibiendo a través de la leche materna.

4. A las mujeres de edad fértil o embarazadas no debe suministrarseles Vitamina A, porque puede causar malformaciones al niño, excepto si fuera recetado por un médico, por ejemplo, vitaminas prenatales.

- *FUENTES*

1. Los alimentos que contienen Vitamina A son: Hierbas de color verde obscuro, las verduras y frutas amarillas y anaranjadas.

2. Contienen Vitamina A los siguientes productos lácteos: la leche (materna, de vaca y cabra), la crema y el queso.

3. Contienen Vitamina A los siguientes productos de origen animal: el huevo, hígado, riñon y corazon.

4. Contienen Vitamina A los siguientes productos fortificados: el azúcar, la margarina y la Incaparina.

5. El huerto es fuente de alimentos ricos en Vitamina A a bajo costo, cuya siembra no requiere mucho espacio.

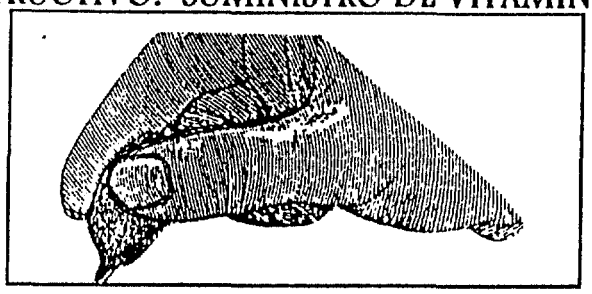
- *PELIGROS*

1. Primer síntoma de deficiencia: no ver bien de noche (ceguera nocturna).

2. Pueden aparecer daños si el niño recibe varias cápsulas en un período menos de 6 meses.

3. Varias ONGs o entidades de servicios suministren Vitamina A al mismo niño.

# INSTRUCTIVO: SUMINISTRO DE VITAMINA "A"



- *REGISTRO:*

1.) Orientar a las familias sobre la importancia de la vitamina A y que se puede recibir una cápsula solo cada 6 meses.

2.) Verificar que el niño sea mayor de 6 meses o menor de 6 años para recibir la vitamina.

3.) Revisar el carnet de vacunación para establecer que el niño no ha tomado vitamina A dentro de 6 meses.

4.) Dar la siguiente dosis de vitamina A:

| | |
|---|---|
| Si el niño tiene 6 a 11 meses → | 1/2 cápsula (100, 000 U.I.) |
| Si el niño tiene 1 a 3 años → | 1 cápsula (200, 000 U.I.) (solo el contenido de la cápsula) |
| Si el niño tiene 3 a 5 años → | 1 cápsula (200, 000 U.I.) (traga la cápsula entera) |

5.) Llenar el carnet de vacunación en la parte "otros" anotando "vitamina A" y la fecha

6.) Marcar o agregar el nombre en el Registro Familiar del proyecto.

- *ADMINISTRACION:*

1.) Para los niños que pueden tragar déles una cápsula entera, para el resto de los niños corte la cápsula en la parte superior sin apretarla para evitar que se derrame su contenido.

2.) Indique a la madre o encargado que le incline la cabeza al niño hacia atrás y que le abra la boca.

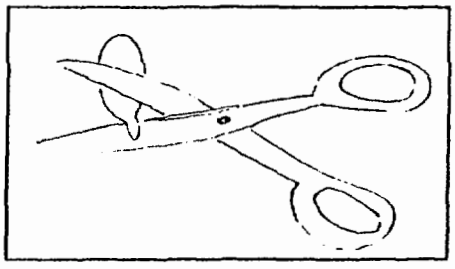
3.) Deje caer las gotitas de la cápsula o la cápsula entera en la parte posterior de la lengua del niño.

4.) Asegúrese que el niño trague las gotas o la cápsula entera.

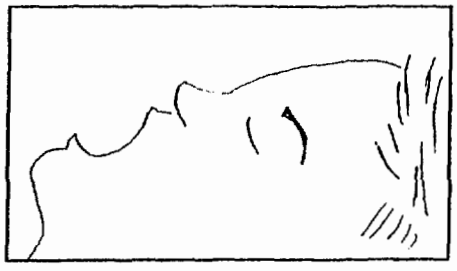
5.) Si solo dió las gotas, tire la cápsula vacía al bote de basura.

# COMO DAR LA VITAMINA "A"

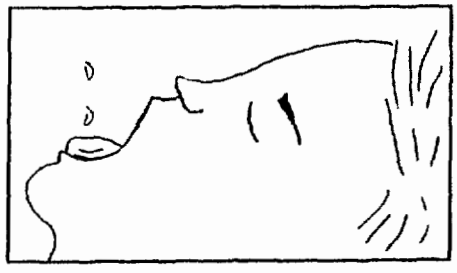
1. Si el niño no puede tragar la cápsula, corte la cápsula en la parte superior sin apretarla para evitar que se derrame su contenido.



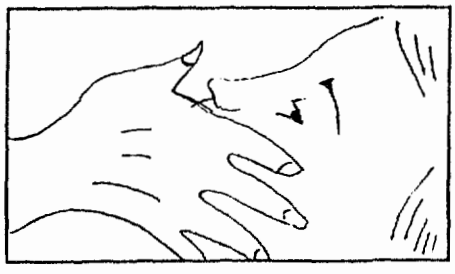
2. Indique a la madre o encargado que le incline la cabeza al niño hacia atrás y que le abra la boca.



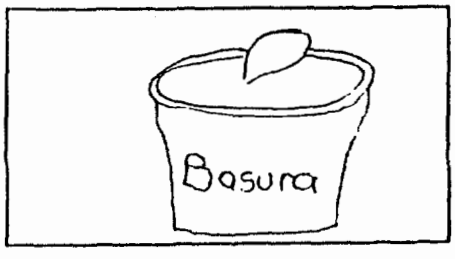
3. Deje caer las gotitas de la cápsula a la cápsula entera en la parte posterior de la lengua del niño.



4. Asegúrese que el niño trague las gotas o la cápsula entera.



5. Si sólo dio las gotas tire la cápsula vacia al bote de basura .



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## REGISTRO DE SUMINISTRO DE VITAMINA "A"

NOMBRE DE LA INSTITUCION: _____ ACTIVIDAD: _____

DEPTO.: _____ MUNICIPIO: _____ COMUNIDAD: _____

| No. de Orden | Nombre del Niño | Fecha Nac. | Edad en Meses | Nombre de la Madre | Fecha Admin. Vit. A | Observaciones |
|---|---|---|---|---|---|---|
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# GUIA PARA LA PREVENCION DE LA CEGUERA NUTRICIONAL "XEROFTALMIA"

- DEFINICION DE XEROFTALMIA:

  Secamiento de la conjuntiva y la córnea resultando en destrucción de la córnea y últimamente en ceguera. Estas son consecuencias de la falta de vitamina A en la dieta.

- IMPORTANCIA:

  En locales donde no se puede encontrar alimentos ricos en vitamina A, la prevención y el tratamiento de xeroftalmia es una prioridad mayor para prevenir la ceguera. Eso es muy importante porque:

  -La edad pre-escolar, niños menores de 6 años, están en el más alto riesgo de ceguera, debido a xeroftalmia.

  -Xeroftalmia puede destruir la córnea que, sin tratamiento, podría padecer de ceguera irreversible dentro de 48 horas.

- RECONOCIMIENTO DE LOS SIGNOS Y LOS SINTOMAS DE LA XEROFTALMIA:

  1. *Ceguera Nocturna* - El primer síntoma de xeroftalmia. El niño no ve bien en la noche para andar en la casa en cuartos donde la luz no está prendida o para andar afuera.

  2. *Xerosis Conjuntival* - es la primera manifestación ocular de xeroftalmia, se presenta como resequedad de una o varias porciones de la conjuntiva (parte blanca del ojo).

  3. *Manchas de Bitot* - aunque las manchas de Bitot son de tamaño, localización y forma variable, tienen una apariencia similar, son depósitos acumulados de material espumoso en la conjuntiva. Con frecuencia están asociados con otros signos de xeroftalmia, como la ceguera nocturna.

  4. *Xerosis Corneal/Ulceración* - secamiento de la córnea (lente que protege la parte de color del ojo). Si no se trata la enfermedad, el xerosis puede progresar a una úlcera corneal dentro de una hora.

  5. *Queratomalacia* - si no se trata la enfermedad, una úlcera corneal puede conducir a un "ablandamiento" o "desgaste" de la córnea.

  6. *Cicatriz Corneal* - queratomalacia puede resultar en una perforación de la córnea. Cuando llega a este nivel, la córnea queda con una cicatriz en el globo ocular. Lo más pronto que se trate la enfermedad, más pequeña resulta la úlcera y más pequeña será la cicatriz que quede. Con pronto tratamiento se puede prevenir las cicatrices corneales y la ceguera. Sino la ceguera es irreversible.



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- TRATAMIENTO DE LOS SIGNOS Y LOS SINTOMAS DE XEROFTALMIA:

A todos los niños con signos y síntomas de la xeroftalmia, debe darles:

1.) Inmediatamente - una cápsula de 200,000 U.I. de vitamina A

2.) Día siguiente - una cápsula de 200,000 U.I. de vitamina A

3.) 1-4 semanas después - una cápsula de 200,000 U.I. de vitamina A

(NOTA: Para niños menores de un año de edad, la dosis es la mitad - 100, 000 U.I.)

- PREVENCION:

Para personas sin signos ni síntomas de xeroftalmia que viven en comunidades con pocos alimentos ricos en vitamina A, se les debe dar lo siguiente:

| | | |
|---|---|---|
| Si un niño tiene 6 a 11 messes | → | 1/2 cápsula (100, 000 U.I.) |
| Si un niño tiene 1 a 3 años | → | 1 cápsula (200, 000 U.I.) (todo el contenido de la cápsula) |
| Si un niño tiene 3 a 5 años | → | 1 cápsula (200, 000 U.I.) (traga la cápsula entera) |
| Si una madre es lactante | → | 1 capsula (200, 000 U.I.) durante los primeros 30 días después del parto. (3) |

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Documentos del *IVACG* - *El Grupo Internacional Consultivo Sobre Vitamina A* fué fundado en 1,975 con el fin de guiar las actividades internacionales para reducir la deficiencia de vitamina A a nivel mundial. Las principales funciones del IVACG son: estimular y diseminar nuevos conocimientos; apoyar en la transferencia de los nuevos conocimientos a la práctica; proveer, como autoridades en vitamina A, recomendaciones y declaraciones políticos para el desarrollo de programas apropiados para la prevención y el control de la deficiencia de vitamina A.

### Documentos del IVACG en Español:


"Normas para la Erradicación de la Carencia de Vitamina A y la Xeroftalmia", 1979.

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Todos los documentos han sido publicado a través de un acuerdo cooperativo entre "the Office of Nutrition, Bureau of Science and Technology, U.S. Agency for International Development of the United States of America, and the Nutrition Foundation, Inc., Washington, D.C.

Copias de los documentos estan disponible de parte del:

IVACG Secretariat
International Life Sciences Institute -
Nutrition Foundation
1126 16th Street, N.W.
Washington, D.C. 20036 USA

(los documentos son gratis para países en vías de desarrollo)



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Documentos de la *IEF* - *La Fundación Internacional del Ojo*, comenzó a desarrollar actividades educativas en Guatemala a través de su proyecto de "Vitamina A Para la Supervivencia Infantil" en 1,990 con el objetivo de reducir la deficiencia de vitamina A y mejorar el estado nutricional de los infantes y niños menores de 6 años de edad y de las mujeres embarazadas y lactantes, en comunidades indígenas del departamento de Alta Verapaz. Algunos de sus documentos en Español que acompañan al manual son:

*Folleto Sobre Vitamina "A"*

Mendoza, Iván, MD, Silvia de Ponce, et al. "Vitamina A", folleto, Fundación Internacional del Ojo/Unidad Pro-Vit.A, Octubre, 1,993.

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Mendoza, Iván, MD, Silvia de Ponce, et al. "Yodo", folleto, Fundación Internacional del Ojo/Unidad Pro-Vit.A, Octubre, 1,993.

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Todo el material didáctico fue producido bajo un Acuerdo de Cooperación con la Oficina de Nutrición, Dependencia de Investigaciones y Desarrollo, Agencia Internacional para el Desarrollo, Washington, D.C.

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## IX.) HOJAS PARA SESIONES EDUCATIVAS

Hojas Educativas para:

- Extensionistas
- Promotores de Salud
- Auxiliares de Enfermería
- Voluntarios de Salud
- Mujeres Embarazadas
- Madres de Niños Menores de Cinco Años
- Mujeres Lactantes

## EL EXTENSIONISTA DEBE SABER QUE

- La vitamina A es:
  - Un nutriente esencial para la buena salud y la supervivencia de los niños menores de cinco años
- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina
- La vitamina A sirve para:
  - Ayudar al desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión
  - Que la mujer lactante tenga buena leche materna
- Las causas de su deficiencia son:
  - Falta de consumo de alimentos ricos en vitamina A en la dieta diaria

## EL PROMOTOR DE SALUD DEBE SABER QUE

- La vitamina A es:
  - Un nutriente esencial para la buena salud y la supervivencia de los niños menores de cinco años

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina

- La vitamina A sirve para:
  - Ayudar al desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión
  - Que la mujer lactante tenga buena leche materna

- Las causas de su deficiencia son:
  - Falta de consumo de alimentos ricos en vitamina A en la dieta diaria

## EL AUXILIAR DE ENFERMERIA DEBE SABER QUE

- La vitamina A es:
  - Un nutriente esencial para la buena salud y la supervivencia de los niños menores de cinco años

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina
- La vitamina A sirve para:
  - Ayudar al desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión
  - Que la mujer lactante tenga buena leche materna
- Las causas de su deficiencia son:
  - Falta de consumo de alimentos ricos en vitamina A en la dieta diaria

EL VOLUNTARIO DE SALUD DEBE SABER QUE

- La vitamina A es:
  - Un nutriente esencial para la buena salud y la supervivencia de los niños menores de cinco años

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina

- La vitamina A sirve para:
  - Ayudar al desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión
  - Que la mujer lactante tenga buena leche materna

- Las causas de su deficiencia son:
  - Falta de consumo de alimentos ricos en vitamina A en la dieta diaria

## LA MUJER EMBARAZADA DEBE SABER QUE

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina

- La vitamina A sirve para:
  - Ayudar al desarrollo del niño durante el embarazo
  - Tener buena leche materna
  - Favorecer una buena visión

- La mujer embarazada no debe tomar cápsulas de vitamina A de alta dosis, pues puede ocasionar que el niño nazca con anormalidades. Sin embargo, las multivitaminas (prenatales) son adecuadas cuando las receta el médico.

RECUERDE

LA MEJOR FUENTE DE VITAMINA A PARA LA MUJER EMBARAZADA SON LOS ALIMENTOS RECOMENDADOS

## LA MADRE DE UN NIÑO MENOR DE CINCO AÑOS DEBE SABER QUE

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina

- La vitamina A sirve para:
  - Ayudar al desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión

- Los niños de 1 a 5 años pueden tomar una cápsula o "perla" de 200,000 unidades de vitamina A como medida de prevención de la deficiencia. Los niños de 6 a 12 meses pueden tomar la mitad de la dosis, o sea 100,000 unidades de vitamina A, como medida preventiva. En cualquiera de los casos, la dosis debe ser única por un período de 6 meses.

RECUERDE

LA MEJOR FUENTE DE VITAMINA A PARA LOS NIÑOS MENORES DE CINCO AÑOS SON LOS ALIMENTOS RECOMENDADOS

LA MUJER LACTANTE DEBE SABER QUE

- Los alimentos que contienen vitamina A son:
  - Hierbas verde obscuro como el quilete, el chipilín, la acelga, el bledo, el berro y la espinaca
  - Hojas de rábano, remolacha y ayote
  - Verduras amarillas y anaranjadas como el güicoy sazón y la zanahoria
  - Alimentos como el camote anaranjado y el plátano maduro
  - Frutas amarillas y anaranjadas como el mango maduro, el melón amarillo y la papaya
  - Productos lácteos como la leche, la crema y el queso duro
  - Productos animales como el huevo, el hígado de res y de pollo
  - Productos fortificados con vitamina A como el azúcar, la margarina y la Incaparina

- La vitamina A sirve para:
  - Ayudar en el desarrollo y crecimiento de los niños
  - Ayudar a que las enfermedades respiratorias, la diarrea y el sarampión sean menos severos en los niños
  - Favorecer una buena visión
  - Tener buena leche materna

- La mujer lactante puede tomar cápsulas de vitamina A de 200,000 unidades dentro de los 30 primeros días después del parto. Luego, no debe tomar cápsulas de vitamina A ya que es difícil saber si está nuevamente embarazada inmediatamente después de un parto anterior. Durante el embarazo, la vitamina A es peligrosa pues puede producir anormalidades en el niño.

RECUERDE

LA MEJOR FUENTE DE VITAMINA A PARA LA MUJER LACTANTE SON LOS ALIMENTOS RECOMENDADOS

UPVA _____ IEF

CONTENIDO

GRUPOS FOCALES

*SECCION 2*


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## I.) INTRODUCCION

Los grupos focales son una herramienta de investigación de mercadeo ampliamente utilizados en el mundo occidental. En estos últimos años, a medida que el mercadeo social se ha hecho más popular, la investigación mediante grupos focales se ha popularizado también en los países en desarrollo. Esto es lógico ya que no hay duda de que los grupos focales constituyen la "tecnología más simple" de las técnicas de investigación de mercadeo existentes en la actualidad. Grupos Focales es una técnica de investigación cualitativa que permite obtener, en una forma rápida, fácil y práctica, respuestas a fondo a cerca de lo que las personas piensan y sienten sobre un determinado aspecto o situación. Ayuda a comprender mejor las actitudes, creencias, motivos y comportamiento de la población participante. Los grupos focales también sirven para ponerse en contacto con la población que se desea servir a través de su proyecto, para poder reorientar las actividades o intervenciones del mismo.

Afortunadamente, existen muchos documentos (varios en Español) sobre la técnica de Grupos Focales. HEALTHCOM y AED (Academia para el Desarrollo Educativo), juntos con el apoyo de la USAID, han publicado un paquete sobre el tema que incluye los siguientes documentos y materiales:

ENFOQUE: Herramientas para Aprender la Investigación Mediante Grupos Focales.

VIDEO: "Un Video de Capacitación para Moderar Grupos Focales" (duración de 34 minutos).

MANUAL: "El Manual para Excelencia en la Investigación Mediante Grupos Focales".

GUIA: "Guía de Habilidades para la Eficaz Realización de Grupos Focales".

Willard D. Shaw, Ed.D., Director Proyecto HEALTHCOM, Academia para el Desarrollo Educativo (AED), Octubre de 1994.

El paquete esta disponible a través de:

| HEALTHCOM | AED |
|---|---|
| División de Programas para el Desarrollo Social: | Oficina Central: |
| Academia para el Desarrollo Educativo | Academia para el Desarrollo Educativo |
| 1255 23rd Street, NW | 1875 Connecticut Ave., NW |
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Considerando la cantidad de materiales y referencias que existen sobre la técnica de Grupos Focales, el presente documento tiene por finalidad proporcionar lineamentos prácticos sobre el entrenamiento en dicha técnica y compartir algunos materiales desarrollados sobre el tema por parte de la Fundación Internacional del Ojo en Guatemala.

## GUIA PARA LA REALIZACION DE UN TALLER DE ENTRENAMIENTO DE GRUPOS FOCALES

## II.) REVISION GENERAL DE LA INVESTIGACION CUALITATIVA

- QUE ES LA INVESTIGACION CUALITATIVA?

La investigación cualitativa es un tipo de investigación formativa que ofrece técnicas especializadas para obtener respuestas a fondo acerca de lo que las personas piensan y cuales son sus sentimientos. Esto permite a los responsables de un programa COMPRENDER MEJOR las actitudes, creencias, motivos y comportamientos de la población meta. Las técnicas cualitativas, cuando se aplican juiciosamente, se utilizan junto con técnicas cuantitativas de una forma vinculada y complementaría.

La investigación cualitativa se realiza para contestar a la pregunta "por qué", mientras que la investigación cuantitativa borda preguntas tales como "cuántos?, o con qué frecuencia?".

Las dos técnicas principales de investigación cualitativa son:

1.) Entrevista Individual a Fondo
2.) El Debate en Grupo Focal

- POR QUE UTILIZAR LA INVESTIGACION CUALITATIVA?

Hay razones tanto conceptuales como prácticas para utilizar la investigación cualitativa. La razón conceptual principal es que proporciona una mayor profundidad de respuesta y, por lo tanto mayor comprensión. Además las entrevistas directas, permiten al investigador combinar grupos de comportamiento que guardan relación con una determinada decisión o acción del consumidor.

*Las razones pragmáticas para utilizar los métodos de investigación cualitativa son las* siguientes: Costo; Rapidez; Flexibilidad; Vínculo directo con la audiencia meta; No requiere de equipo computarizado.

- *PROBLEMAS RELACIONADOS CON LA INVESTIGACION CUALITATIVA*

Existe un problema principal con la investigación cualitativa: a menudo se aplica de forma inadecuada. En otras palabras, a veces se utiliza la investigación cualitativa cuando es más apropiado utilizar una técnica cuantitativa, o cuando se analiza como si fuera un estudio cuantitativo, llegando a conclusiones sólidas y rápidas o proyectando resultados cuantitativas de datos cualitativos.

Otro problema es el relacionado con su subjetividad. Puesto que depende mucho de la perspicacia y la interpretación, también es muy susceptible a un sesgo subjetivo por parte del investigador. Por lo que la investigación cualitativa es controversial.

- TRES CONSEJOS PARA REALIZAR UNA BUENA INVESTIGACION CUALITATIVA

1.) *Practicar el arte de preguntar por qué?*

-Las preguntas de Por qué? deben formularse muy específicamente a fin de poder desenmarañar estos elementos.

-Las preguntas deben formularse cuidadosamente tomando en cuenta la experiencia de las personas interrogadas.

-Los prejuicios y suposiciones del investigador han de conocerse a fin de preguntar en realidad lo que deseamos conocer.

2.) *Practicar el arte de escuchar*

-Escuchar de forma activa está estrechamente vinculado con la empatía.

-La forma en que se dicen las cosas puede ayudar a esclarecer más lo que la persona quería decir verdaderamente.

-Saber escuchar bien requiere escuchar lo que se quiere decir, no lo que se dice. Esto significa captar las indicaciones no verbales: señales de ansiedad y de incertidumbre, de confianza y de seguridad. También son importantes las dudas, silencios y las variaciones de voz.

Nota: Para adquirir el arte de escuchar se necesita tiempo y práctica. Los investigadores cualitativos deben de estar plenamente conscientes del hecho que es sumamente difícil escuchar con precisión y que la persona que escucha comete errores frecuentes de los cuales no se da cuenta.

3.) *Enfocar la investigación como un proceso creativo de indagación*

-Ha de aplicarse un alto nivel de creatividad e invención a cada nueva situación para que el proceso de investigación cualitativa produzca resultados verdaderamente buenos.

## III.) QUE ES UN GRUPO FOCAL?

- UN GRUPO FOCAL ES:

Una técnica de la investigación cualitativa, que es conocida como una entrevista colectiva a un grupo de personas (entre 8 - 10), en la que se comparten puntos de vista y experiencias sobre un tema previamente determinado.

## IV.) QUIENES INTERVIENEN EN UN GRUPO FOCAL?

*LOS/LAS PARTICIPANTES*

Ellos/Ellas proporcionan la información. Es necesario que los grupos se integren con personas homogéneas, es decir: madres, miembros de un comité, maestros, etc. No se recomienda una mezcla de ellos. La definición de quienes participan depende de los objetivos que se proponga la investigación.

*UN/A MODERADOR/A*

Encargado/a de dirigir la conversacón por medio de una guía que le sirve para orientar las preguntas durante la reunión. Es importante que el/la moderador/a tenga los siguientes rasgos:

-La capacidad de hacer que otros se sientan cómodos
-La capacidad de proyectar respeto y aceptación en otros
-La capacidad de transmitir calor y empatía
-Buenas aptitudes verbales e interpersonales
-Buenas aptitudes para escuchar
-La capacidad de proyectar entusiasmo
-Conciencia de sus reacciones no verbales

*UN/A OBSERVADOR/A*

Encargado/a de manejar la grabador y de tomar notas de las respuestas, los gestos, las expresiones faciales y de la relación que se da entre los participantes. Debe cuidar que la sesión se desarrolle sin incidentes, evitando ruidos, interrupciones, etc. También, debe vigilar que la guía de temas sea agotada, (no queden preguntas sin hacer) y de alguna manera discreta hacer saber al moderador de algún aspecto que quedó pendiente, podría ser al final de la sesión en la que él/ella pueda intervenir haciendo alguna pregunta.

NOTA: Es importante que el/la moderador/a y el/la observador/a revisan cuidadosamente la guìa y se pongan de acuerdo previo a la realizaciòn del grupo, para que durante el mismo no se den contradiciones entre ellos/as. Así mismo es importante que los dos personajes hablen el mismo idioma de los/las participantes para facilitar la conversaciòn, ya que el grupo debe realizarse en el idioma materno de los/las participantes.

## V.) CUANDO UTILIZAR LOS GRUPOS FOCALES

- LOS GRUPOS FOCALES SE UTILIZAN MUY AMPLIAMENTE POR QUE PERMITEN LO SIGUIENTE:

*Obtener Información*- Porporciona información muy valiosa sobre los que las personas sienten, piensan y hacen sobre determinada cosa o situación.

*Interacción en grupo* - La interacción entre las personas generalmente fomentará respuestas más ricas y permitirá el aporte de ideas nuevas y originales.

*Observación* - Se puede observar el debate y obtener un conocimiento directo de los comportamientos, actitudes, lenguaje y percepciones del grupo, aportando mayores elementos para el análisis.

*Tiempo y Costo* - Los grupos focales requieren menos tiempo y, por lo general, son menos costoso que una serie de entrevistas a fondo.

## VI.) COMO SE HACEN LOS GRUPOS FOCALES?

- PREPARACION PARA REALIZAR EL GRUPO FOCAL

1.) Participar en un taller de entrenamiento para realizar grupos focales.

2.) Ubicarse en la comunidad en donde se realizará la investigación y solicitar permiso a las autoridades locales para realizar la investigación.

3.) Ubicar un local neutro, accesible y cómodo para trabajar. Neutro significa que si el tema es salud, el grupo no debe hacerse en el Centro de Salud o si habla del lugar de las reuniones en la comunidad, no debe hacerse en la casa donde normalmente realizan las reuniones, ya que el ambiente podría inducir algunas respuestas.

4.) Hacer visitas y/o entregar invitaciones formales a los/las posibles participantes, con suficiente anticipación para que participen en el grupo, explicándoles que no se trata de una charla, si no de una conversación en la que ellos/ellas podrán dar sus opiniones. Es importante unificar esa explicación para no afectar la participación y las respuestas en el grupo focal.

5.) Organizar una refacción para compartir con los/las participantes al final de la sessión.

6.) Observador/a y moderador/a deben dominar las guías de trabajo.

7.) Preparar con tiempo los materiales y recursos necesarios (guías, grabadora, casetes, baterías, etc.)

NOTAS: DETALLES DEL GRUPO FOCAL

## *DETERMINACION DEL LUGAR PARA EL GRUPO*

- El lugar de reunión debería permitir a los participantes sentirse en un ambiente privado.
- Seleccionar un lugar en el que sea fácil escuchar a los participantes.
- Seleccionar un lugar cómodo - los extremos de temperatura y otros factores pueden incidir adversamente en la calidad de los grupos focales.
- Seleccionar ambientes neutros (Ser sensibles en cuanto al nivel socioeconómico de los participantes y el tema a tratar. No es recomendable realizar un grupo en una instalación que inhibiría sus respuestas o les anime a responder de forma "deseable para la sociedad" como los ejemplos mencionados anteriormente.
- Seleccionar un lugar al que tengan fácil acceso todos los participantes.
- Si es posible, seleccionar un ambiente en el que pueda contar con la presencia de un observador, sin perturbar al grupo.

## *DETERMINACION DEL TAMAÑO DEL GRUPO FOCAL*

La dimensión para un grupo focal ha sido tradicionalmente de ocho a diez participantes, pero existe la tendencia hacia grupos más pequeños o lo que se conoce con el nombre de "mini grupos", (5 - 7 participantes) esto por problemas o limitaciones encontrados en grupos mayores:

- Tiempo asignado a cada participante para expresarse no alcanza y como resultado, las respuestas no son muy profundas.
- El moderador del grupo se ve obligado a adoptar una función más directiva.
- Entre los miembros del grupo se genera cierta frustración o descontento debido a que no les llega el turno de hablar.
- Aumenta la tendencia entre los participantes a discutir entre ellos.

## *DETERMINACION DE LA DURACION DEL GRUPO FOCAL*

Como regla general, el grupo focal no debería durar más de una hora y media o dos horas. Con frecuencia, cuando se requiere información muy específica, el grupo no deberá durar más de 40 minutos.

- EL DIA DE LA SESION

1. Llegar al salón media hora antes que el resto de los participantes.

2. Asegurar que el local esté llimpio y "amueblado".

3. Tener preparada la grabadora, asegurando que hay baterías y casetes en limpio. Identificar el casete, grabando al principio en texto como el siguiente:
"Grupo focal ..... realizado en ..... el día ....., hora....., Moderador/a ..... y Observador/a ....."

4. Recibir a los/las participantes con amabilidad, haciéndoles sentir como en su casa.

NOTA:

DETERMINACION DE LA ASIGNACION DE LOS ASIENTOS PARA LOS PARTICIPANTES

En general, los grupos focales se llevan a cabo en un círculo (alrededor de una mesa, si es posible), en una atmósfera de salón u otra disposición que sea natural para los participantes. Cualquiera que sea el ambiente, los participantes deberán sentarse de tal forma que promueva su participación e interacción.

*ALGUNAS PAUTAS:*

-Evitar atribuir a los asientos una idea de prestigio.

-Permitir que el moderador establezca buen contacto visual con todos los participantes.

-Los participantes deberían sentarse a distancias aproximadamente iguales del moderador y estar claramente dentro del campo visual de todos los demás participantes. Lo más aconsejable es hacerlo en un círculo, para que permita las características mencionadas y todos deberán estar sentados a una misma altura para crear un ambiente de igualdad y facilitar la discusión.

- DURANTE EL GRUPO FOCAL

1. Los/las participantes se sienten formando un círculo.

2. El/la Moderador/a se sienta formando parte del círculo y el/la Observador/a un poco afuera. (Ambos deberían controlar sus gestos).

3. El/la Moderador/a da la bienvenida a los/las participantes, se presenta a si misma, presenta a el/la observador/a (y a la grabadora) y agradece a las personas el tiempo invertido para participar en el grupo.

4. Ejercicio de presentación o rompehielo entre participantes. Si las personas se conocen puede hacerse un ejercicio que ayude a romper el hielo, en lugar de uno de presentación.

- DURANTE EL GRUPO FOCAL (cont.)

5. Presentación de los objetivos de la reunión que aparecen en la guía de discusión.

6. Presentación del procedimiento durante la reunión. Por ejemplo, el/la Moderador/a explica que:

"Vamos a tener una plática entre todos y necesitamos que ustedes nos den sus opiniones sobre lo que es el trabajo que ha realizado el Proyecto de Vitamina "A" aquí en la comunidad. Deseamos que se sientan en total libertad para hablar y contarnos lo que piensan, no hay respuestas correctas ni incorrectas, todas las opiniones son importantes. Nos gustaría que no hablara sólo una o dos personas sino todas en su turno."

7. Tenemos una lista con los temas que quisiéramos platicar con ustedes. El primero es .....(se desarrolla la guía específica).

8. Cuando ya se ha iniciado la discusión:

   - Permita que todos participen.
   - Si una persona está hablando algo relacionado con otra pregunta que aparece en la guía más adelante, no la interrumpa, aproveche la información.
   - Si la conversación se ha desviado de la guía de temas, ayúdeles a regresar, con frases como:

   "decían que....." "para resumir podemos decir ....." "volviendo al tema", etc.

9. Es importante conocer las razones de las opiniones que dan los participantes, de ahí que se recomienda es re-preguntar con un "por qué". Use un tono de voz amable y de curiosidad, no de interrogatorio, pero en todos los temas pregunte por qué.

Recuerde: Nos interesa conocer las razones por las cúales que las personas piensan, sienten o hacen determinadas cosas.

10. Al terminar la guía de temas pregunte si hay algo más que les gustaría agregar o preguntar.

11. Agradece su tiempo e invite a las personas a la refacción.

12. Quédese hasta que se haya ido la última persona.



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- AL FINALIZAR EL GRUPO FOCAL

1. Idealmente, el/la moderador/a y el/la observador/a deberían reunirse inmediatamente después de cada sesión para hablar de sus impresiones. Este proceso recapitulativo proporciona la oportunidad de esclarecer y cristalizar el significado de lo que se ha dicho, permite reorganizar la guía de temas para poder abordar los temas de una manera diferente a fin de obtener respuestas más ricas y significativas, etc.

2. El/la moderador/a y el/la observador/a hacen una transcripción del casete que se grabó lo más pronto posible para no perder la informaciòn y hacen una agrupación de los resultados de acuerdo con las áreas clave de interés, apoyandose con una guìa del observador en blanco como formato para el informe o la síntesis del grupo focal.

3. A veces es dificil indentificar las diferentes posturas o dimensiones que sugieron con respecto a las ideas centrales, haga un esfuerzo por ubicarlas.

4. Hay oportunidades cuando es apropiado extraer frases al pie de la letra que representan óptimamente cada postura.

NOTA:

Las próximas tres páginas incluyen información que puede ser fotocopiada para la distribución durante un taller de entrenamiento de Grupos Focales. Los temas son los siguientes:

1. "Indagación a Profundidad"
2. "Reglas de Oro Para Trabajar en Grupos Focales"
3. "En Los Grupos Foclaes el/la Moderador/a NO..."

# INDAGACION A PROFUNDIDAD

?

INDAGAR A PROFUNDIDAD SIGNIFICA ACLARAR LAS RESPUESTAS QUE HAN DADO LOS/LAS PARTICIPANTES, A TRAVES DEL USO DE ALGUNAS TECNICAS O PALABRAS CLAVES.

? Permanezca en silencio, de un tiempo a las personas para que piensen su respuesta, permite que el participante amplíe lo que ha dicho.

? Utilice la técnica de repetición, repita lo que acaba de decir la persona, por ejemplo: Le parece bueno... Cree que sería saludable... Le gustaría..., etc.

? Repita las palabras del participante en forma de pregunta: ¿Le parece bueno...? ¿Cree que sería bueno...? ¿Le gustaría...?, etc.

? Pida al participante que aclare una postura. "Estoy algo confuso. Anteriormente usted dijo que "X" y ahora está diciendo que "Y".

? Utiliza la técnica de terceras personas: ¿Creen ustedes que las personas en esta aldea estarían de acuerdo con...? ¿Que creen que piensan los demás?

? Utiliza palabras generadoras: ¿Por qué...? ¿Podría explicarme un poco más sobre...? ¿Siempre es igual...? ¿Todos creen lo mismo de...? Cuando oyen la palabra... en qué piensan? ¿Qué más, alguien piensa algo diferente?

? Mire a las personas con amabilidad e interés.

? Muestre un gesto de verdadero interés.

# REGLAS DE ORO PARA TRABAJAR EN GRUPOS FOCALES

## ACTITUDES POSTIVAS

1. PARTICIPATIVA
2. RELAJADA
3. RESPETUOSA
4. DEMOCRATICA
5. IMPARCIAL
6. SENSIBLE
7. FLEXIBLE
8. AMABLE
9. SABE ESCUCHAR
10. PROYECTA ENTUSIASMO
11. DOMINA SUS REACCIONES NO VERBALES

EN LOS GRUPOS FOCALES EL/LA MODERADOR/A

NO...

1. ES MAESTRO
2. ES JUEZ
3. ESTA DE ACUERDO NI EN DESACUERDO, ES IMPARCIAL
4. RESPONDE POR LOS PARTICIPANTES
5. HABLE MAS QUE LOS PARTICIPANTES
6. HACE PREGUNTAS QUE SUGIEREN LA RESPUESTA
7. HACE DOS PREGUNTAS AL MISMO TIEMPO
8. INTERRUMPE A LOS PARTICIPANTES INNECESARIAMENTE
9. SUPONE LO QUE VAN A DECIR LOS PARTICIPANTES
10. ACONSEJA A LOS PARTICIPANTES PARA QUE RESPONDAN LO QUE "SE ESPERA"
11. IMPIDE A LOS PARTICIPANTES TERMINAR SU COMENTARIO



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## VIII.) ELABORACION DE LA GUIA DE TEMAS

- QUE ES LA GUIA DE TEMAS?

-Es una lista de temas o de puntos que se han de tratar en el grupo focal. Es un aspecto sumamente importante en la investigación en grupos focales. Si la guía de temas se ha concebido y elaborado bien, la investigación podrá ser sustancialmente más productiva.

-La guía de temas sirve de resumen de los puntos de discusión y de los objetivos que tratará el grupo focal. La preparación de la guía de temas es un ejercicio que obliga al moderador y al director del programa a organizar sus pensamientos y analizar cuidadosamente los objetivos de la investigación.

-También sirve de medio de orientación y como ayuda de la memoria para el moderador.

- COMO PREPARAR LA GUIA DE TEMAS

Puede redactarse en forma de preguntas específicas, pero generalmente es mejor esbozar las áreas de preguntas o temas de discusión y, luego incluir preguntas indagatorias bajo cada uno de los puntos claves.

- QUE DEBERIA INCLUIRSE EN LA GUIA DE TEMAS

La guía de temas no debería abarcar demasiados asuntos ya que, de lo contrario, los participantes se aburrirán y fatigarán y el grupo puede saltar de un tema a otro de una manera no normal.

- SECUENCIA DE LA GUIA DE TEMAS

La secuencia de los temas en la guía va generalmente de lo general a lo específico. Hay varias razones por qué:

-El orden de los temas es más natural.
-El analista dispone de un marco al que podrá referirse frente a los comentarios hechos por el grupo.
-Este orden permite que los elementos esenciales aparezcan naturalmente.

- OTRAS CONSIDERACIONES PARA LA GUIA DE TEMAS

A menudo, es necesario preparar guías de temas diferentes para los grupos focales celebrados sobre la misma materia que tiene una composición diferente de participantes. Por ejemplo, la guía de temas preparada para un proyecto de Vitamina A, Nutrición y Huertos puede variar entre las mujeres participantes y las no participantes en las actividadaes educativas o entre las que tienen huertos y las que no tienen.

• EJEMPLO 1 - GUIA DE TEMAS
FUNDACION INTERNACIONAL DEL OJO-GUATEMALA

GUIA DE DISCUSION DE GRUPOS FOCALES
DEL PROYECTO DE VITAMINA "A" PARA LA SUPERVIVENCIA INFANTIL
*PARTICIPANTES EN LA FASE EDUCATIVA*

1. IDENTIFICACION

Grupo Focal: No.:_____ Comunidad:_____
Departamento:_____
Moderador/a:_____
Observador/a:_____
Lugar donde se realizó el grupo focal:_____
Fecha:____/____/____ Hora:_____ Duración:_____
Total de participantes:_____

2. OBJETIVOS

2.1 Identificar la razón por la cual las señoras asisten a las sesiones educativas que realiza el proyecto en la comunidad.

2.2 Identificar la conveniencia del horario de las pláticas y las demostraciones de cocina.

2.3 Identificar el apoyo que recibe de la familia para asistir a las pláticas y demostraciones de cocina.

2.4 Identificar si las señoras recuerdan fácilmente los ingredientes y las recetas de cocina.

3. INTRODUCCION A LA SESION (10 minutos)

3.1 Saludo y bienvenida a participantes

3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de Grupos Focales: DURANTE EL GRUPO FOCAL, inciso 6, p.8.)

3.3 Ejercicio de presentación y rompehielo.

3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACION

1. Ustedes han participado en las pláticas o en las demostraciones de cocina que ha dado el Proyecto Vitamina "A" aquí en la comunidad? SI; NO



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5. DISCUSION

*PLATICAS EDUCATIVAS*

2. Por qué participan especificamente en las pláticas que da el Proyecto?

3. A cada cuanto tiempo asisten a las pláticas que da el Proyecto? por qué?

4. Cuanto tiempo hace para llegar al lugar donde dan las pláticas?

5. Cuanto tiempo tardan fuera de su casa para ir a participar en las pláticas?

6. Qué le parece el horario en que dan las pláticas? por qué?

7. Qué es lo que les gusta de las pláticas? por qué?

8. Qué es lo que no les gusta de las pláticas? por qué?

9. Cómo creen que podrían mejorar las pláticas?

10. Está de acuerdo su esposo a que reciba las pláticas? SI; NO; por qué?

11. (SI;NO) Cómo sabe si está o no está de acuerdo?

12. Su esposo la acompaña alguna vez a las pláticas? SI; NO; por qué?

***** Bueno, ya hablamos sobre las pláticas que da el Proyecto, ahora me gustaría mostrarles éste material (MOSTRAR EL MATERIAL EDUCATIVO A LAS MADRES).*****

13. Cuales de estos materiales han visto en las pláticas del Proyecto?

14. De éstos, (ya que los hayan mencionao que los han visto), cuales les gusta más? por qué?

*DEMOSTRACIONES DE COCINA*

15. Por qué participan en las demostraciones de cocina?

16. A cada cuanto tiempo asisten a las demostraciones de cocina que da el Proyecto Vitamina "A"? por qué?

17. Las demostraciones de cocina, regularmente son en el mismo lugar donde dan las pláticas? SI -- saltar a 20 ; NO -- donde?

18. (NO) Cuanto tiempo hace para llegar al lugar donde dan las demostraciones de cocina?

19. (NO) Cuanto tiempo tardan fuera de su casa para ir a participar en las demostraciones de cocina?

20. Qué les parece el horario en que les dan las demostraciones de cocina? por qué?

21. Les gustan las recetas de cocina que les enseñan? SI; NO -- por qué?

22. Son fáciles las recetas que les enseñan? SI; NO; por qué?

23. Podrían mencionar el nombre y los ingredientes de alguna receta de cocina? (tienen que MENCIONARLOS)

24. Los ingredientes que utilizan para las recetas de cocina son fáciles de encontrar? SI; NO; por qué?

25. Preparan las recetas en su casa? SI; NO; por qué?

26. Las recetas que le enseñan y que preparan en su casa, le gustan la familia? SI -- por qué?; NO -- por qué?; ALGUNOS SI, OTROS NO -- por qué? (Asegúrese de profundizar lo suficiente para saber a quienes les gusta y a quienes no les gusta y por qué?)

27. Está de acuerdo su esposo en que reciba las demostraciones de cocina? SI; NO; por qué?

28. (SI;NO) Como sabe si está o no esatá de acuerdo?

29. Su esposo la acompaña alguna vez a las demostraciones de cocina? SI; NO; por qué?

30. Les gustaría en una próxima oportunidad compartir sus ideas o recetas con las demás señoras como un intercambio? SI; NO; por qué?

6. CIERRE DE LA SESION

Indique que ha sido muy enriquecedor compartir y conocer la opinión de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.

6.1 Pregunte si alguien quiere agregar algo más.
6.2 Agradezca la participación y el tiempo prestado.
6.3 Qúedese hasta que se haya ido la última persona.



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## • EJEMPLO 2 - GUIA DE TEMAS
## FUNDACION INTERNACIONAL DEL OJO-GUATEMALA

GUIA DE DISCUSION DE GRUPOS FOCALES
DEL PROYECTO DE VITAMINA "A" PARA LA SUPERVIVENCIA INFANTIL
*NO PARTICIPANTES SIN HUERTOS*

1. IDENTIFICACION

Grupo Focal: No.:_____ Comunidad:_____
Departamento:_____
Moderador/a:_____
Observador/a:_____
Lugar donde se realizó el grupo focal:_____
Fecha:____/____/____ Hora:_____ Duración:_____
Total de participantes:_____

2. OBJETIVOS

2.1 Identificar si las personas de la comunidad conocen las actividades que realiza el proyecto en la misma.

2.2 Identificar si reconocen algún beneficio sobre las sesiones educativas que da el proyecto y del trabajo con huertos.

2.3 Identificar su percepción sobre el impacto del trabajo que el proyecto ha realizado en la comunidad.

2.4 Identificar los posibles cambios para que las señoras asistan a las actividades del proyecto.

3. INTRODUCCION A LA SESION (10 minutos)

3.1 Saludo y bienvenida a participantes
3.2 Presentación de los objetivos generales de la sesión (ver instructivo para la realización de Grupos Focales: DURANTE EL GRUPO FOCAL, inciso 6, p.36)
3.3 Ejercicio de presentación y rompehielo.
3.4 Presentación del procedimiento a emplear durante la sesión.

4. UBICACION

1. Me gustaría saber si ustedes saben algo sobre el Proyecto Vitamina "A".
SI; NO



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5. DISCUSION

2. Saben que actividades realilza el proyecto aquí en la comunidad? NO; SI (cuáles?) (si no saben qué actividades , mencionarlas)

01 Jornadas de Vitamina "A"/Vacunación
02 Charlas/Sessiones Educativas en Salud/Nutrición
03 Demostraciones de Cocina
04 Demostraciones/Trabajo con Huertos/Aboneras
05 Demostraciones/Trabajo Pecuario (gallinas/pollos)
06 Jornadas Oftalmológicas
07 Jornadas de Desparacitación
08 Otros (especifíque)

3. (SI) Han participado en alguna de esas actividades? NO- por qué NO?

4. (SI) Qué actividades?

5. (SI) Hace cuánto tiempo?

6. Por qué ya no participa en esas actividades?

*HUERTOS FAMILIARES*

7. Han escuchado ustedes algo sobre huertos familiares, de parte de agluien del proyecto? NO; SI - que han escuchado?

8. Ustedes por qué no tienen un huerto familiar? (Profundizar si dicen por falta de tiempo, por ejemplo: falta de tiempo para ir a aprender sobre huertos familiares, falta de tiempo para preparar el terreno, falta de tiempo para cuidar el huerto familiar, etc.)

9. Dentro de su familia quien fueque tomó la decisión de no sembrar un huerto familiar?

10. Cree que podría tener algún beneficio tener un huerto familiar? SI - cuáles; NO - por qué NO?

11. Cómo les parecería a ustedes participar en un huerto comunal? (explicar que es un huerto comunal) SI; NO; por qué?

12. Alguien de su familia le gustaría participar en un huerto comunal? SI - a quienes? por qué? NO - por qué NO?

13. Ustedes saben dónde conseguir/comprar la semilla para un huerto? NO; SI - dónde?, con quién?

14. Es fácil conseguir/comprar la semilla? SI; NO; por qué?



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*PLATICAS EDUCATIVAS*

15. Saben ustedes de que se tratan las pláticas que dan de parte del proyecto? SI; NO

16. (SI) De que temas platican o comparten con las señoras?

17. Por qué no asisten a las pláticas del proyecto?

18. Cree que podría tener algún beneficio para su familia escuchar las pláticas que da el proyecto? SI; NO; por qué?

*DEMOSTRACIONES DE COCINA*

19. Han escuchado de los alimentos que preparan con las señoras? SI; NO

20. (SI) Qué han escuchado que preparan?

21. Por qué no participan ustededs en las demostraciones de cocina?

22. Cree que podría tener algún beneficio para su familia participar las demostraciones de cocina que da el proyecto? SI; NO; por qué?

23. Quién de su familia tomó la decisión de no participar en las actividades del proyecto?

24. Qué tendría que cambiar para que ustedes asistan a las actividades del proyecto? por qué?

25. Le gustaría asistir en una próxima oportunidad a alguna actividad del proyecto? SI; NO; por qué?; cuál?

26. Creen ustedes que la comunidad ha tenido algún beneficio con el trabajo que han realizado con el proyecto? SI; NO; por qué?

6. CIERRE DE LA SESION

Indique que ha sido muy enriquecedor compartir y conocer la opinión de ellas y que la información que han dado servirá para compartir y mejorar el trabajo con otros proyectos.

6.1 Pregunte si alguien quiere agregar algo más.
6.2 Agradezca la participación y el tiempo prestado.
6.3 Qúedese hasta que se haya ido la última persona.



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## XI.) PROBLEMAS ESPECIFICOS QUE OCURREN EN LOS GRUPOS FOCALES

- LA REALIZACION DE UN GRUPO VERDADERAMENTE EFICAZ Y UTIL REQUIERE GRAN CANTIDAD DE APTITUDES PARA HACER FRENET A LOS PROBLEMAS QUE SURGEN EN TODA DIMANICA GRUPAL.

*Problema:* Existe el peligro de que los miembros del grupo expresen respuestas verbales que siguen lo que han dicho los demás participantes y que no expresen sus verdaderos sentimientos individuales. Esto es especialmente problemático ya que es difícil determinar si los participantes están adecuando sus ideas a las de la mayoría o si existe un verdadero consenso.

*Estrategia:* Subrayar la libertad de los participantes para expresar desacuerdos durante la sesión.

*Problema:* Una falta general de entusiasmo y participación a nivel de grupo. La apatía general entre los miembros del grupo puede deberse a factores externos. Por ejemplo, los participantes pueden haber sido obligados a formar parte del grupo, el tema puede ser intimidante o poco interesante, etc.

*Estrategia:* Organizar al grupo de forma realista y atenta a fin de eliminar todos los factores externos que pueden contribuir a la apatía del grupo.

- ADEMAS DE LOS PROBLEMAS CONCERNIENTES AL GRUPO EN SU CONJUNTO, ENTRE LOS PROBLEMAS ESPECIALES INDIVIDUALES PUEDEN SER:

*Problema:* El participante dominador. Esta persona trata de dominar al grupo, inicia las conversaciones, defiende su postura, busca tener influencia entre otros o ha de tener la última palabra.

*Estrategia:* Evite contacto visual o gire el cuerpo apartándolo del participante dominante.

-A veces es necesario pedir al participante dominante que salga del grupo, haciendo de una manera muy sutil, diciéndole por ejemplo que "ya que usted sabe bastante del tema nos gustaría tener con usted una entrevista individual..."

*Problema:* El participante tímido. Esta persona duda en hablar, puede mostrar timidez en general, estar preocupado por la situación del grupo, o pensar que sus respuestas no son valederas.

*Estrategia:* Establezca contacto visual para incluir al miembro tímido en el debate y demostrarle que está interesado en lo que pueda aportar. Si es necesario, hágale una pregunta fácil, no amenazante. Si es demasiado tímido prosiga el debate con el resto del grupo y vuelva a él más adelante.

- PROBLEMAS ESPECIALES INDIVIDUALES (cont.)

*Problema:* El participante experto. Esta es una forma especial de participante dominante. Aún cuando no esté tratando de dirigir al grupo, otros se remitirán a él y suprimirán sus opiniones.

*Estrategia:* Determinar si es un verdadero experto o un pseudo experto. Si es un experto verdadero, recuérdele que todos los comentarios son importantes y que se debe permitir a los demás hacer un aporte al debate.

- Si es un pseudo experto, pida a otros miembros del grupo que comenten sobre sus respuestas.

*Problema:* Participante hablador. Esta persona habla sin descanso, aparentemente sin objetivo ni finalidad.

*Estrategia:* Ser más directivo. Utilizar preguntas profundas que requieran respuestas específicas y concretas.

*Problema:* Participante que se aparta del tema. Esta persona hace comentarios que no están relacionados con el tema y puede apartar al grupo del tema.

*Estrategia:* Trate de presentar el tema nuevamente o exponerlo con palabras diferentes.

*Problema:* El participante incompleto. Esta persona proporciona respuestas parciales o incluso no da respuestas.

*Estrategia:* Trate de presentar la cuestión en otros términos para una mayor precisión.

*Problema:* El participante confuso. Esta persona parece confundida o abrumada en el grupo.

*Estrategia:* Trate de reformular la pregunta o quizás pueda dar un ejemplo.

*Problema:* El participante demasiado positivo. Esta persona se muestra demasiado positiva en todas las respuestas. Quiere agradarle, decirle lo que cree que usted desea escuchar.

*Estrategia:* Recuérdele que quiere escuchar ambos lados, lo positivo y lo negativo.

*Problema:* El participante negativo. Se muestra negativo en todas sus respuestas.

*Estrategia:* Tenga cuidado, evite reaccionar defensivamente. Trate de apaciguar al participante.

*Problema:* El participante hostil. Esta persona ataca al moderador personalmente.

*Estrategia:* Nuevamente tenga cuidado y trate de apaciguarlo reconociendo la situación.

- PROBLEMAS ESPECIALES INDIVIDUALES (cont.)

*Problema:* El participante perturbador. Esta persona perturba el equilibrio de la conversación, puede declarar que las ideas de otros miembros del grupo son incorrectas o que las preguntas del moderador son estúpidas.

*Estrategia:* Tratar de establecer el equilibrio en el debate rápidamente. Pida a los otros participantes que comenten sobre la declaración del participante perturbador.

*Problema:* El participante interrogador. Esta persona sigue pidiendo al moderador que dé su opinión y sentimientos.

*Estrategia:* Declare que tiene poco conocimiento sobre la materia. Si es necesario ofrezca dar su opinión al finalizar el debate.

## XII.) RESULTADOS

- PARA QUE SIRVE LA INFORMACION DE LOS GRUPOS FOCALES?

1.) Para conocer a fondo a cerca de lo que las personas piensan y sientan sobre determinados aspectos o situaciones.

2.) Ayuda a comprender mejor las actitudes, creencias, motivos, y comportamiento de la población participante.

3.) Sirve para ponerse en contacto con la población que se desea servir a través de su proyecto.

4.) Sirve para reorientar los cambios gerenciales y el futuro trabajo para que sea realmente basado en las necesidades y preocupaciones de los participantes/las comunidades.

NOTA: Después de haber hecho la síntesis de cada grupo focal, es necesario hacer una síntesis global de todos los grupos focales en base a las áreas clave de interés y separados por diferentes características de los participantes en los distintos grupos focales - ej. participantes en actividades educativas del proyecto vs. no-participantes en las mismas. Quizas hasta este momento uno puede entender lo que ha aprendido de los participantes en los grupos focales y podría tomar decisiones para futuras acciones o enfoques del proyecto.

- LO QUE IEF APRENDIO DE LOS PARTICIPANTES EN LOS GRUPOS FOCALES

*DE LOS GRUPOS DE MADRES PARTICIPANTES EN EL PROYECTO QUE TIENEN HUERTOS*

Aunque los padres de familia no estan excluidos, no es bueno asumir que van a participar en las actividades del proyecto si tienen interés (sesiones educativas sobre Salud y Nutrición y sesiones sobre Huertos). Tanto los papás como las mamás necesitan ser personalmente invitados a las actividades.

Si la meta del proyecto es el consumo a nivel familiar de la produción de verduras, huertos familiares deberían seguir siendo promovidos, considerando que son más aceptables y más exitosos en comparasión a los huertos comunales.

- La mayoría de las madres dijeron que a sus esposos les gustaría participar en las sesiones educativas sobre Salud, Nutrición y Huertos, pero no lo hacen porque no han recibido invitaciones personales y además ellos creen que las actividades del proyecto son solamente para mujeres.

- La mayoría comentaron que es mucho más facil cuidar un huerto familiar que un huerto comunal. Dijieron que con los huertos comunales es muy difícil juntar a la gente para trabajarlo y al final de cuentas solo algunos terminan con la cosecha del huerto. Muchas veces no todos reciben los beneficios de su labor.

*DE LOS GRUPOS DE MADRES NO - PARTICIPANTES EN EL PROYECTO*

Hay que promover la idea que las madres participantes inviten y acompañen personalmente a nuevas madres a las actividades del proyecto para poder ayudarlas a incorporarse al grupo y, como resultado, mejorar la cobertura de la población meta del componente educativo del proyecto

La mayoría dijeron que no participan porque:

- Otros miembros de la comunidad las desaniman
- No es fácil incorporarse al grupo ya establecido
- No han recibido invitaciones personales para participar en las actividades
- Necesitan cuidar a sus hijos y a sus hogares

- CAMBIOS GERENCIALES BASADOS EN LAS NECESIDADES Y LAS OPINIONES DE LAS MADRES

Los trabajadores de campo y los Supervisores siguen haciendo contacto con los líderes comunitarios, pero también han incorporado visitas domiciliarias, durante las cuales pueden dar una pequeña explicación sobre el proyecto e invitar en forma personal a ambos padres de familia.

Los trabajadores de campo estan tratando de desarrollar un plan mensual para cada grupo a su cargo. Este plan identifica un día de cada mes como el día para llevar nuevas madres al grupo. Si es posible, pueden incluir algún tipo de estímulo para motivar a la madre participante que invita y acompaña a más madres nuevas durante determinado tiempo.

El uso del huerto comunal debe ser solo en el caso del huerto escolar o en casos (comunidades) muy especiales. Para fines educativos es preferible coordinar con el "Vendedor de Semillas/Voluntario de Huertos" para utilizar su huerto durante las sesiones generales sobre huertos y dar seguimiento a nivel individual (de casa en casa).



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## XI.) APOYO TECNICO

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## I.) INTRODUCCION

La Declaración Mundial para Nutrición reconoce que cada gobierno tiene como primera responsabilidad promoveer y proteger la seguridad alimentaria y nutricional, especialmente de los grupos mas vulnerables.

El lento crecimiento económico de la mayoría de los países latinoamericanos, la deuda externa, las medidas de ajuste extructural, constituyen uno de los mayores obstáculos para aliviar la pobreza y la desnutrición. Aún cuando exísten esfuerzos globales como los programas de micronutrientes, fortificación de alimentos, agricultura, suplementación y compromisos políticos entre países, la tasa de desnutrición a nivel mundial continua siendo elevada.

En este entorno, de pobreza económica, hablar de un proceso de mejoramiento de calidad de los servicios de nutrición y de salud en general, podría considerarse un lujo mas allá de los límites presupuestarios de nuestros países; sin embargo, la buena noticia es que la incorporación de un proceso de garantía de calidad al sistema de salud de nuestros países no cuesta casi nada, mas bien vale oro si consideramos los resultados desde el punto de vista de costo-eficacia.

## II.) COMO SURGE LA METODOLOGIA DE GARANTIA DE CALIDAD (QA)?

Tratar de entender este conocepto sin entender primero la historia de los círculos de calidad en Japón sería como tratar de entender el comportamiento de cualquier país sin estudiar las raíces que lo determinan.

Originalmente los círculos de calidad tuvieron su origen en los Estados Unidos de Norteamérica, pero éste concepto fue legado al Japón y reintroducido posteriormente a USA y esta siendo ahora aprendido en todo el mundo cada vez mas, sobre todo en la industria, tanto por las compañias estaunidenses como japonesas. Es muy probable que seguirá extendiendose como una filosofía en la cual se le brinda la oportunidad a cada individuo de realizarse como persona a través del perfeccionamiento y satisfacción del trabajo bien realizado.

La Calidad es un concepto integral y polifacético. Los expertos generalmente reconocen varias dimensiones tales como la competencia profesional, acceso a los servicios, eficacia, satisfacción del cliente, acepetabilidad de los servicios, eficiencia, continuidad, seguridad o comodidad. Un problema de calidad puede tener mas de una dimensión, y cada una puede proporcionar parte de un marco útil que le sirva al equipo de salud para analizar , definir sus problemas y calcular la medida en la que se cumplen las propias normas de un programa.

Podríamos enumerar una gran cantidad de definiciones sobre lo que "CALIDAD" significa, sin embargo, la más integral y quizás la mas simple, fué la formulada por Edward Demming, el padre del movimiento de Gestión de Calidad Total, el cual la resumió de la siguiente manera:

*"Hacer lo correcto, en la forma correcta y de inmediato"*



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- COMO SURGE LA METODOLOGIA DE GARANTIA DE CALIDAD (QA)? (cont.)

Hasta hace poco, la garantía de calidad se usó principalmente en los hospitales de los países desarrollados, dependiendo en gran medida de normas de atención formuladas por los organismos acreditados. En la decada de 1980, la garantía de calidad se extendió a la atención primaria en salud en USA y en Europa. Simultaneamente los algorítmos desarrollados por la OMS para el control de los casos de diarrea e infección respiratoria aguda (IRA) introdujeron las normas de atención. Después de 1985, la OMS y varios proyectos como PRICOR y CCD comenzaron a utilizar los análisis de sistemas y las evaluaciones de los establecimientos para evaluar la calidad de atención.

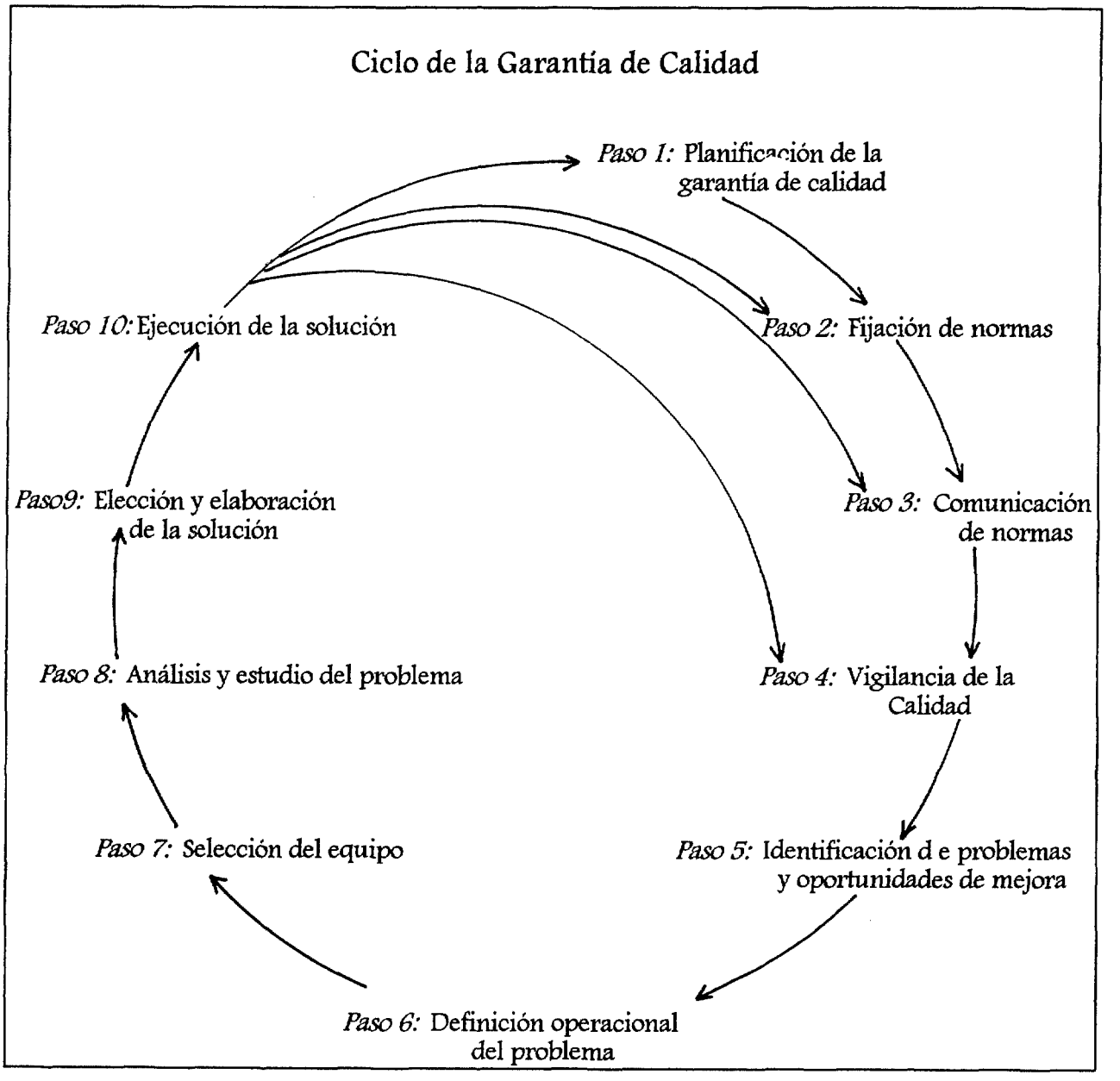
Fundamentalmente la Garantía de Calidad se refiere a un proceso de evolución sistemática que se orienta hacia el mejoramiento del desempeño y la utilización de información en el proceso, ya sea en form implícita o explícita. Es un conjunto de actividades que se llevan a cabo para fijar normas, vigilar y mejorar el desempeño de tal manera que la atención prestada sea lo más eficáz y segura posible. Las ideas esenciales de garantía de calidad estan resumidos en cuatro principios básicos.

## III.) PRINCIPIOS BASICOS DE LA GARANTIA DE CALIDAD

- La garantía de calidad se orienta hacia la satisfacción de las necesidades y expectativas del paciente y de la comunidad.
- La garantía de calidad esta enfocada en el sistema y los procesos que pueden llevarse a mejores resultados.
- La garantía de calidad utiliza información (datos) para analizar los procesos de prestación de servicios.
- La garantía de calidad alienta un enfoque de trabajo en equipo para la solución de problemas y la mejora de la calidad.

## IV.) EL CICLO DE LA GARANTIA DE CALIDAD

En la práctica, la garantía de calidad es un proceso cíclico y repetitivo que debe aplicarse en forma flexible para satisfacer las necesidades de un programa específico. El proceso puede comenzar con un esfuerzo integral de organizar un programa de garantía de la calidad (tal como se describe en los pasos 1-3) o puede comenzar con actividades de mejora de calidad en pequeña escala (pasos 5-11). De otro modo, el proceso puede comenzar con la vigilancia (paso 4). También es posible que algunos equipos pueden decidir comenzar en dos pasos diferentes al mismo tiempo. Por ejemplo, la vigilancia integral y la solución de un problema específco pueden comenzar en forma simultánea, en un esfuerzo paralelo coordinado para mejorar la calidad.



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## V.) ACTIVIDADES CLAVES PARA LA GARANTIA DE CALIDAD

- *Definir el Propósito y la Visión del esfuerzo de garantía de calidad*
- *Recolectar Datos/Información para Identificar Debilidades y Fortalezas del desempeño*
  - -revisión de documentos del proyecto
  - -entrevistas con todo nivel de personal y clientes
  - -observaciones del disempeño de todo nivel de personal
- *Compartir Resumen de Datos/Información a todo el personal del proyecto*
- *Identificar Problemas y Oportunidades Para Mejorar para todo el personal del proyecto*
- *Describir Operativamente la Problemática Identificada*
- *Analizar los Problemas/las Situaciones Para Mejorar más prioritarios*
  - -diagramas para Análisis de Proceso
  - -diagramas de Causa y Efecto
  - -Flujogramas
  - -Definición de Causas Raíces
- *Desarrollar Soluciones utilizando criterios como: importancia, factibilidad de tiempo, costo y impacto de cada solución*
- *Elaborar un Plan de Acción y Monitoreo que incluye Objetivos, Pasos a Seguir (actividades) y Medidas*
- *Formar un Círculo de Calidad*
- *Ejecutar la Solución*
- *Monitorear o Vigilar el Avance de las actividades de garantía de calidad (coordinado por el Círculo de Calidad)*
- *Analizar el Proceso de Garantía de Calidad por todo el personal del proyecto*
- *Adecuar el Plan de Acción y Monitoreo si es necesario*



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## VI.) PERSPECTIVAS DEL SIGNIFICADO DE CALIDAD PARA NUESTRA POBLACION BENEFICIARIA ( CLIENTES ) Y PARA LOS PROVEEDORES DE SERVICIOS

### PARA NUESTROS "CLIENTES"

Implica la satisfacción de sus necesidades en forma eficáz y en el momento en que se necesite. Esta perspectiva es muy importante considerarla, ya que es probable que los beneficiarios satisfechos utilizen las medidas de prevención de enfermedades y los servicios de salud con más confianza y no por necesidad.

### PARA LOS PROVEEDORES DE SERVICIOS

Implica la libertad de hacer todo lo que sea apropiado para mejorar las condiciones de salud de la comunidad, de acuerdo a las normas establecidas, las técnicas actuales y la optimización de los recursos con que se cuenta.

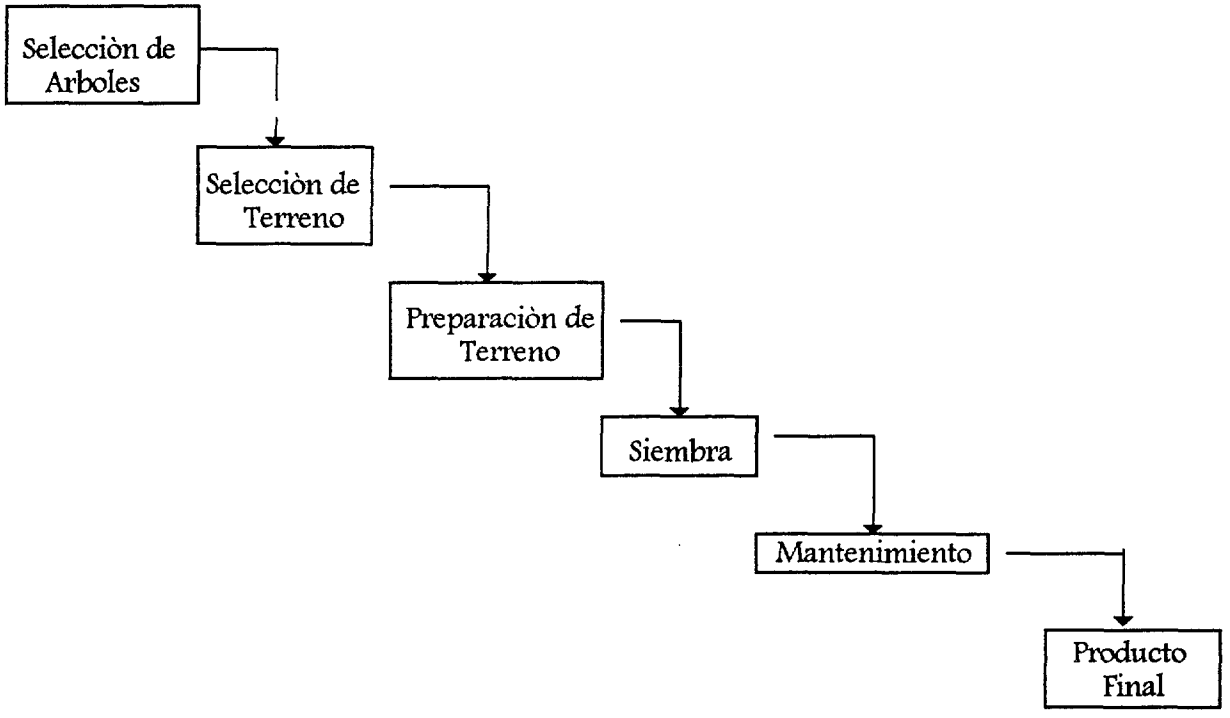
NOTA: La palabra control tiene dos significados, uno es el verdadero control o fiscalización y otro es "dirección". El control verdadero, no considera la prevención de la recurrencia de errores y su solo objetivo es volver la condición presente, considerada errónea, a la original considerada correcta. Mientras que la "dirección" establece medidas o procedimientos para la prevención de la recurrencia de errores.

A través de este manual deseamos transmitir parte de los conocimientos y experiencias de la Fundacion Internacional de Ojos puestas en práctica en algunos países como Honduras y Guatemala a fín de despertar en el lector la inquietud de profundizar en esta metodología. Los pasos a seguir en cuanto a la metodología completa de Garantía de Calidad no estan incluidos aquí, pero los puede conocer a través de la documentación del Proyecto de Garantía de Calidad (QAP) en Bethesda, MD (USA) (ver sección de "APOYO TECNICO").

## VII.) EJEMPLO 1 - IEF/Honduras

En Honduras, el Proyecto de Supervivencia Infantil y Vitamina "A" que trabaja en áreas peri-urbanas postergadas de la ciudad de Tegucigalpa, incorporó el concepto de garantía de calidad, en un sentido amplio, como una actividad sistemática englobante y generalizada, basado en un sistema cooperativo integrado para la preservación de un proyecto de árboles frutales que estaba practicamente a punto de perecer. Para esto, incorporó personal comunitario, maestros, alumnos y grupos organizados para analizar, a través de la metodología de QA, los errores cometidos que estaban llevando al fracazo dicha intervención.

Es así como auxiliándose de un diagrama de proceso efectuaron un análisis de la situación para poder *identificar problemas u oportunidades para mejorar*:




*El problema inicial* fue que los árboles, fuentes ricas en vitamina A inicialmente sembrados, estaban muriendo y ademas no había demanda.

Después de éste análisis se procedió a *la definición operacional del problema*:

Existe una oportunidad de sembrar y arborizar las escuelas de las comunidades de las colonias San Francisco y Crucitas.

El proceso se inicia con la siembra del árbol y termina con su conservación. Actualmente no hay demanda de siembra por la comunidad y existe una gran cantidad de árboles pendientes de ser sembrados, los cuales se estan dañando.

Un mejoramiento de esta situación deberá resultar en lograr una siembra en escuelas de las dos colonias y lograr su perdurabilidad una vez sembrados.



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Posteriormente, a través de la utilización de un diagrama de causa - efecto determinaron como *causas raíces* las siguientes:

- No selección adecuada del terreno.
- Falta de un listado de personas interesadas en la actividad.
- No establecer compromisos con la comunidad, grupos organizados como los de jóvenes, escuelas y colegios.
- Falta de promoción de la actividad.
- Falta de compromiso por parte de la persona asignada a la actividad.

Una vez, teniendo la definición operacional del problema y las causas raíces, procedió a la *elaboración de una solución y por consiguiente un plan de acción*, lo cual incluyó los pasos a seguir, las medidas para el monitoreo y evaluación, y la meta del proyecto.

A.) SOLUCION:

En coordinación con las escuelas, y con el compromiso de los maestros y alumnos encargados directamente de la actividad, establecer un plan para la siembra y conservación de los arboles durante el período escolar y vacacional.

B.) PASOS A SEGUIR:

1. Elaborar un inventario de la cantidad de árboles existentes en el vivero pendientes de ser sembrados.

2. Planificar una reunión con maestros y alumnos para explicar la importancia de la actividad y el porque.

3. Capacitar maestros y alumnos en: el proceso de siembra; el mantenimiento; y los aspectos generales de nutrición y vitamina "A".

4. Calendarizar las sesiones educativas.

5. Calendarizar los días de siembra por escuela.

6. Sembrar los árboles.

7. Lograr que los maestros incluyan dentro de la clase de actividades del hogar, visitas de supervisión a los "viveros frutales".

8. Lograr sesiones con padres de familia para apoyar a la actividad y motivar la siembra de árboles en los hogares.

9. Elaborar un plan de mantenimiento durante el período de vacaciones de los alumnos.

NOTA: Se incluyeron mecanismos de control a través de la supervisión en lo referente a la selección, siembra, mantenimiento de los frutales y orientaciones sobre los beneficios nutricionales que proporcionan estos frutales.

Se incluyó como estratègia el involucramiento de grupos juveniles, que incluyeron jóvenes de escuelas y colegios, padres de familia y maestros.

Se definieron los criterios sobre el mantenimiento y conservación de cada especie de frutal, delegando la supervision del proyecto a los maestros de las escuelas y los mismos alumnos.

C.) MEDIDAS:

- Número de árboles sembrados por escuela por mes (varía para cada escuela, según la meta que fué posible para cada institución).
- Número de capacitaciones efectuadas por escuela por mes (individual para cada escuela).
- Número de actividades efectuadas de acuerdo a la calendarzación por mes (depende de cada escuela).
- Número de sesiones con padres de familia efecutadas por escuela donde se concientizó sobre la importancia de la arborización (estandard: 1 por escuela).
- Número de planes de mantenimiento elaborados por grado (estandard: 1 por escuela).

D.) META DEL PROYECTO:

- Lograr la siembra de 4,000 árboles.

NOTA: Un próximo proyecto podría dar seguimiento partiendo de si lo planteado por cada escuela en el mantenimiento posterior (para el año 1997 - 1998) lo estan logrando para sostenibilidad.



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- **RESULTADOS**

(por la medida de "número de árboles sembrados por mes" - incluyendo todas las escuelas)

| Siembras por mes | Arboles sembrados | Total acumulado | Porcentaje de la meta |
|---|---|---|---|
| marzo | 712 | 712 | 17.0% (inicial) |
| abril | 1,385 | 2,098 | 52.0% |
| mayo | 410 | 2,508 | 62.7% |
| junio | 837 | 3,345 | 83.6% |
| julio | 210 | 3,555 | 88.8% |
| agosto | 205 | 3,750 | 93.7% |

Este constituye un buen ejemplo de control de calidad, que no es mas que la repetición del proceso de planear, hacer, comprobar y corregir, a fin de conseguir los objetivos deseados a través de la determinación de lo que debe hacer, delegando y definiendo los puntos que deben ser objeto de comprobación.

## VIII.) EJEMPLO 2 - IEF/Guatemala

Otro ejemplo se basa en la experiencia vivída por el Proyecto de Supervivencia Infantil y Vitamina "A" (AMPROS) de Cobán, Alta Verapaz, Guatemala. A finales del mes de Julio de 1996 el equipo comenzó el processo de incorporar técnicas de QA para mejorar los servicios educativos en vitamina A que el proyecto estaba brindando a su población beneficiaria.

Auxiliándose de la técnica de Lluvia de Ideas el equipo *identificó el siguiente problema:*

"Hay una baja asistencia de parte de la pobalciòn meta (mujeres de 15-49 anos de edad) a charlas y demostraciones de cocina organizados en las comunidades por los trabajadores de campo."

Después de ésta actividad se procedió a *la definición operacional del problema:*

Existe una oportunidad para mejorar la asistencia de las madres a las actividades educativas en vitamina A (charlas y demostraciones de cocina). Actualmente el personal del proyecto no esta obteniendo los resultados deseados de la promoción que realiza respecto a motivar a las madres para asistir a las actividades educativas.

El proceso se inicía con la planificación y termina con la asistencia de las madres a las actividades educativas. El proceso actual resulta en una baja asistencia a las actividades educativas. Un mejoramiento de este proceso dará como resultado una asistencia al menos de un 30% a las actividades. El proceso es importante trabajarlo no solo para mejorar la asistencia sino también para drear conciencia en la madre de la importancia de adquirir más conocimientos para mejorar la salud de sus hijos.

Una vez identificado el problema, se ayudaron con un flujograma para entender mejor el proceso educativo y determinar las áreas débiles del proceso. Posteriormente el equipo elaboró un diagrama de causa - efecto para determinar los errores o las raíces del problema. En esta fase el equipo empleó algunos instrumentos de recolección de datos y observaciones para verificar las causas raíces.

- Causa Raíz Detectada:

"Poca promoción de las actividades del proyecto en las comunidades de parte de los trabajadores de campo basado en un conformismo con la cantidad de madres que estaban participando por no manejar el nùmero especìfico de poblaciòn meta en cada una de las comunidades bajo su responsabilidad. "

Una vez, teniendo la definición operacional del problema y las causas raíces, el equipo procedió a la *elaboración de una solución y por consiguiente un plan de acción*, lo cual incluyó los pasos a seguir, las medidas para el monitoreo y evaluación, y la meta del proyecto.



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A.) **SOLUCIONES PLANTEADAS:**

Mejorar la promoción para la asistencia de las madres a las charlas a través de la participación y realización de actividades socioculturales, efectuar visitas domiciliarias para brindar educación y promocionar al mismo tiempo la asistencia a las charlas y demostraciones y finalmente incluir por lo menos una técnica participativa en cada sesión educativa.

B.) **PASOS A SEGUIR:**

1. Promocionar la asistencia a las actividades educativas por medio de visitas a Iglesias, Comités, etc.

2. Aumentar el contacto con los líderes comunitarias y dirigentes, informandoles sobre el avance de las actividades realizadas.

3. Incorporar la promoción del Proyecto en actividades socioculturales en las comunidades.

4. Hacer visitas domiciliarias educativas y de promoción.

5. Incluir técnicas participativas en cada activiadad educativa.

6. Incluir en el monitoreo mensual, el cálculo de porcentaje de participación de la población meta.

C.) **MEDIDAS:**

- Número de visitas realizadas en iglesias, con comités, etc. por mes.

- Número de reuniones con líderes por mes.

- Número de actividades socioculturales organizadas en donde se promociona el proyecto.

- Número de madres que recibieron educación a través de visitas domiciliarias.

- Número de madres que recibieron educación a través de sesiones educativas.

- Número de Extensionistas que usen como mínimo una técnica participativa durante cada actividad educativa.

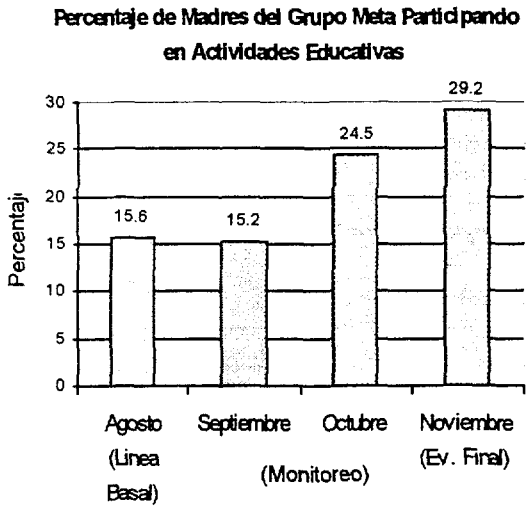
D.) **METAS DEL PROYECTO:**

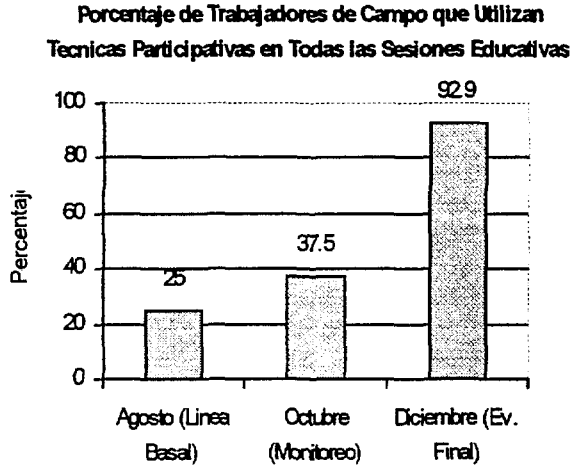
- El 30% de la población blanco (madres de 15 - 49 años de edad) recibe educación sobre vitamina A mensualmente a través de visitas domiciliarias o sesiones educativas.

- El 100% de los Extensionistas usan como mínimo una técnica participativa en todas sus actividades educativas (tanto charlas como demostraciones de cocina).

Para fines del monitoreo y la retroalimentación al equipo, se formó un *Círculo de Calidad* de todo nivel de personal. El Círculo de Calidad no es más que un grupo de personas, voluntarias de la institución que tienen el conocimiento y el deseo de identificar y resolver problemas que afectan la calidad de su trabajo. También estan dispuestos a recibir, analizar y presentar los resultados del monitoreo en forma visual para que todo el equipo puede observar los cambios y tomar decisiones para el seguimiento de las actividades en el Plan de Acciòn.

- RESULTADOS




En el ejemplo anterior los resultados fueron impresionantes a corto plazo, en gran medida se debió a la utilización del círculo de calidad, que con mucha dedicación presentó los resultados del monitoreo mensualmente en forma visual para que todo el equipo pudiera observar los cambios y tomar decisiones para el seguimiento de las actividades en el Plan de Acción.

El desarrollo de esta solución no representó un aumento de costos para el proyecto, por el contrario, una solución sencilla, de reenfocar las actividades y utilizar mejor el tiempo en el campo, aseguró que hay más madres que estan recibiendo educación que puede ayudar a disminuir la morbi-mortalidad infantil.



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## IX.) EJEMPLO 3 - IEF/Guatemala

En base a la experiencia adquirida en utilizar la metodología de Garantía de Calidad para mejorar los servicios educativos en vitamina A, el Círculo de Calidad de AMPROS decidió poner en práctica la metodología con las Jornada de Vitamina "A"/Vacunación dirigidas por el Ministerio de Salud Pública (MSP) y apoyada por el personal del Proyecto.

Antes de comenzar con las Jornadas en los tres Distritos de cobertura del Proyecto, el experto de Vitamina "A" de AMPROS impartió un curso de refrescamiento al personal (salariado y voluntariado) del MSP. Al terminar con cada sessión de refrescamiento, los siguientes materiales fueron entregados a los participantes:

1. un listado de chequeo para la distribución de cápsulas de vitamina "A"
2. todos los formularios necesarios para documentar la distribución de la vitamina "A"
3. materiales educativos en vitamina "A"
4. varios suministros necesarios para llevar a cabo las Jornadas.

El Círculo de Calidad de AMPROS diseñó las siguientes guías para monitorear la calidad del suministro de vitamina "A" durante las Jornadas:



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## GUIA DE OBSERVACIONES AL TRABAJADOR DEL MSP
## JORNADA DE SUMINISTRO DE VITAMINA "A"

### MSP/AMPROS

Nombre del Representante del MSP
que suministró la cápsula:_____ Cargo:_____

Nombre del Observador/AMPROS:_____ Cargo:_____

Fecha:___/___/___ Comunidad:_____ Distrito:_____

| OBSERVACIONES | SI | NO | COMENTARIOS |
|---|---|---|---|
| Se presentó a la hora establecida a la comunidad | | | |
| Estableció buenas relaciones con los padres de familia, voluntarios del Proyecto y/o líderes | | | |
| Contó con el equipo necesario para la ejecución de la jornada (tijeras, algodon, alcohol, papel higienico, etc.) | | | |
| Contó con suficientes cápsulas de vitamina A | | | |
| Expuso a la luz, calor y humedad las cápsulas | | | |
| Se impartió charla educativa previa | | | |
| Verificó la edad de los niños en la boleta de nacimiento/carnet de vacunación/registro familiar de AMPROS/ formulario de registro de vitaminados (AMPROS)/contraseñas y si a este no se le habia suministrado la vitamina A en los últimos 6 meses | | | |
| Hizo las anotaciones correspondientes en el registro y/o formularios | | | |
| Hizo las anotaciones en el carnet o contraseña | | | |
| Suministró la cápsula con una buena higiene | | | |



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## GUIA PARA LA VERIFICACION CON 5 MADRES
## JORNADA DE SUMINISTRO DE VITAMINA "A"

## MSP/AMPROS

Nombre del Representante del MSP
que suministró la cápsula:_____ Cargo:_____

Nombre del Observador/AMPROS:_____ Cargo:_____

Fecha:___/___/___ Comunidad:_____ Distrito:_____

| OBSERVACION | 1 | | 2 | | 3 | | 4 | | 5 | | COMENTARIOS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SI | NO | SI | NO | SI | NO | SI | NO | SI | NO | |
| Suministró la dosis adecuada | | | | | | | | | | | |
| Anotó la fecha del suministro en el carnet o contraseña | | | | | | | | | | | |
| Informó a la madre que dentro de los pròximos 6 meses el niño deberá recibir otra cápsula de vitamina A | | | | | | | | | | | |



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GUIA PARA EL CALCULO DE COBERTURA
JORNADA DE SUMINISTRO DE VITAMINA "A"

MSP/AMPROS

Nombre del Representante del MSP
que suministró la cápsula:_____ Cargo:_____

Fecha:___/___/___ Comunidad:_____ Distrito:_____

Niños Vitaminados en el Puesto de Suministro: _____

Niños Recuperados: _____

Total: _____

Total de Niños Vitaminados: _____ X 100 = _____ ÷ Población Blanco: _____
= _____%

El día de cada Jornada en las comunidades de cobertura del proyecto, un Extensionista o un Supervisor del Proyecto estuvo presente para apoyar el personal del MSP si fuera necesario y para ejecutar el Diagnóstico de QA.

## • CONCLUSIONES

- El Ministerio de Salud Pública no esta aprovechando la oportunidad para mejorar el nivel de conocimiento de las madres en vitamina A durante las Jornadas. El MSP debería promover entre su propio personal la importancia de la educación en vitamina "A" y en salud en general.

- El Ministerio de Salud Publica necesita considerar el tiempo involucrado en suministrar vitamina "A" y vacunar, planificando por lo menos dos personas para futuras Jornadas.



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Cooperación Técnica por el Gobierno de Japón.


## XII.) APOYO TECNICO

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# I.) INTRODUCCION

En el campo internacional de la Salud Pública el análisis de costo-efectividad no esta siendo utilizado a lo máximo. Indistintamente de que tan apropiado o inapropiado sea la cantidad de fondos asignados a cualquier programa o proyecto, los recursos económicos siempre van a tener su límite y como resultado, hay que tomar decisiones relacionadas a los fondos y como van a ser distribuidos dentro de todas las actividades incluidas dentro de determinado programa o proyecto. Siendo este el caso, nunca es suficiente decir que "gastamos los fondos y obtuvimos buenos resultados." Es necesario calcular el costo por unidad de estos "buenos resultados" para luego compararlo con otros posibles usos de los mismos recursos económicos que podrían llevar al proyecto a obtener los mismos resultados.

Un buen ejemplo de este concepto se encuentra en el análisis de cost-efectividad de la IEF, especificamente en la actividad de distribución de cápsulas de vitamina A a madres post-parto. Tomando tanto los resultados como los costos, sin contexto alguno, uno observa lo siguiente:

En un año 719 madres recibieron una dosis de vitamina "A" post-parto a un costo de aproximadamente $ 8,500.00.

Uno podría decir que es un buen número de madres a un costo que relativamente no es muy alto.

Con un análisis de costo-efectividad podemos analizar el costo por unidad de varias actividades específicas que estan incluidas en la distribución de cápsulas de vitamina "A" a madres post-parto. Por ejemplo, el análisis de costo-efectividad nos demostra que la distribución de cáspsulas a través del personal en el hospital Distrital cuesta $ 0.36 por madre, meintras la distribución de cápsulas estilo casa en casa a través de los trabajadores de campo de IEF cuesta $ 11.68 por madre. Esta información es exactamente lo que necesita un gerente de proyecto o un Director Nacional para poder asegurar los mejores resultados con la inversión más eficiente de los fondos limitados.

A través de este manual deseamos transmitir parte de los conocimientos y las experiencias de la Fundación Internacional del Ojo en Guatemala adqueridos como parte del análisis de costo-efectividad del Proyecto de Vitamina "A" Para la Superviviencia Infantil. La información incluida en este manual no es suficientemente completa para servir como una guía de "pasos a seguir", pero esperamos que sea de útilidad para el lector y que despierta interés en la importancia y el poder del análisis de costo-efectividad.

## II.) COMO ESTABLECER COSTOS

En cuanto a costos de un proyecto, normalmente existen varios niveles o tipos de costos, entre estos los *costos directos* y varios tipos de *costos indirectos* incluyendo gastos capitales y gastos generales o fijos. Es posible que un consultor decide incluir algunos de estos gastos mientras que otro puede decidir incluir otro tipo de gastos, pero para fines de análisis lo que es más importante es definir con claridad cuáles gastos han sido incluidos y cuáles no.

Ejemplo de IEF:

| Descripción de Costos | Total | Distrib. de Vit. "A" 16% | Huertos 19% | Educación Nutricional 25% | Factor de Costos Indirectos* |
|---|---|---|---|---|---|
| Costos Directos del Proyecto | $ 103,672 | $16,588 | $19,698 | $25,918 | --------- |
| Costos Capitales Cobán (campo) | 4,105 | 657 | 780 | 1,026 | 1,039 (3.9%) |
| Costos Fijos - Oficina de Guatemala | 14,180 | 2,269 | 2,694 | 3,545 | 1.182 (18.2%) |
| Costos de Apoyo Técnico - Sede (USA) | 10,460 | 1,674 | 1,987 | 2,615 | 1.283 (28.3%) |
| Costos Fijos - Oficina de la Sede 17.82% | 23,597 | 3,775 | 4,483 | 5,899 | 1.505 (50.5%) |
| Totales: | $ 156,014 | $ 24,962 | $ 29,643 | $ 39,003 | --------- |

* acumulativo

Los cálculos del estudio de costo-efectividad para IEF fueron hechos en base a los costos directos, sin embargo uno puede observar que si los Costos Capitales de Cobán, por ejemplo, hubieran sido incluidos dentro del estudio, el Costo por Unidad de cualquiera intervención hubiera subido un 3.9%. De igual manera, si los Costos Fijos de la oficina de Guatemala hubieron sido incluidos además de los Costos Capitales de Cobán, el Costo por Unidad de cualquiera intervención hubiera subido un 18.2%. Con este ejemplo podemos observar que al incluir los datos en una manera tan flexible o transparente sirve para maximizar su utilidad.

Si queremos utilizar los datos de otra manera, al calcular los Costos por Unidad según un nivel de costo específico, simplemente hay que multiplicar el costo cálculado en términos de costos directos por el "factor" (de Costos Indirectos) correspondiente. Por ejemplo, si uno quiere calcular el costo por unidad para distribuir cápsulas de vitamina "A" a madres post-parto incluyendo los Costos Capitales de Cobán y los Costos Fijos de IEF Guatemala, hay que multiplicar el Costo (general) Por Unidad ($ 2.85) por el Factor de Costos Indirectos apropiado (1.182). El resultado da un costo de $ 3.37, lo cual significa que el Costo Por Unidad para distribuir cápsulas de vitamina "A" a madres post-parto, incluyendo los Costos Capitales del proyecto en Cobán y los Costos Fijos de IEF Guatemala, es igual a $ 3.37.

## III.) COMO DETERMINAR EL PERIODO DE TIEMPO PARA LA BUSQUEDA DE DATOS FINANCIEROS

Después de tomar la decisión de cuales de los costos (directos e indirectos) van a ser incluidos en los cálculos, es necesario seleccionar un período de tiempo para la busqueda de los datos financieros. El período que sale escogido debería ser representativo del proyecto en su totalidad en términos de actividades y de costos. En el caso de IEF, el consenso fue de incluir los costos del año calendario de 1,996 porque fue el año más estable y continuo en cuanto a las actividades de campo y también la disponibilidad de los datos financieros computarizados.

## IV.) COMO ASIGNAR COSTOS A LAS INICIATIVAS A EVALUAR

Despúes de calcular los Costos, es necesario asignarlos a las iniciativas a evaluar. Ese paso es más fácil en proyectos que tienen relativamente pocas iniciativas o intervenciones y también en proyectos donde hay un solo costo (en el caso de IEF - mano de obra) que representa el costo dominante o más fuerte del presupuesto. En general es necesario diseñar un modelo rasonable para asignar los costos. Con IEF fue relativamente sencillo construir una tabla de asignación de costos relacionados a vitamina A basado en la distribución de la inversión de tiempo, utilizando las hojas de control de tiempo y los informes técnicos mensuales.

| INTERVENCION | PORCENTAJE DE TIEMPO |
|---|---|
| Distribución de Cápsulas de Vitamina "A" | 16% |
| a.) Niños de 6 meses a menos de 6 años de edad:<br>b.) Madres post-parto: | (7%)<br>(9%) |
| Huertos | 19% |
| Educación Nutricional | 25% |
| Total para Actividades Relacionadas con Vitamina "A" | 60% |

El cálculo para determinar el Costo Total de "X" iniciativa o intervención fue basado en el siguiente fórmula:

(Costo Total) * (% de tiempo invertido en "X" actividad) = Costo Total de "X"

En el análisis de IEF, Costos Totales fueron asignados a las intervenciones mencionadas en la tabla anterior:

- Distribución de Cápsulas a Madres Post-Parto
- Distribución de Cápsulas a Niños
- Huertos Familiares
- Educación Nutricional



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## V.) COMO DETERMINAR COSTOS POR UNIDAD

Para poder determinar el Costo Por Unidad es necesario definir una medida de efectividad por intervención además de calcular el Costo Total para cada una. La pregunta clave es: "En qué utilizó los fondos?" Pueden ser aspectos como número de personas entrenadas, número de cuerdas sembradas, u otros medidas objetivos de productividad. En el análisis de IEF se utilizó como medidas las actividades del proyecto, por ejemplo el número de charlas dadas y el número de personas beneficiadas por dichas actividades, por ejemplo el número de mujeres asistiendo las charlas.

En cuanto a resultados operacionales en el análisis de IEF, las siguientes medidas fueron analizadas:

*DISTRIBUCION DE CAPSULAS DE VITAMINA "A"*
*1,996*

| POBLACION | UNIDADES | COSTO | COSTO POR UNIDAD |
|---|---|---|---|
| Niños - Total | 20,663 | $ 7,257 | $ 0.36 |
| Niños de la Población Meta | 14,977 | $ 7,257 | $ 0.49 |
| Madres Post-parto - Total | 3,291 | $ 9,330 | $ 2.85 |
| Madres Post-parto (Hospital) | 2,572 | $ 933 | $ 0.36 |
| Madres Post-parto (Comunidades) | 719 | $ 8,397 | $ 11.68 |
| Población Meta - Total | 18,268 | $ 16,587 | $ 0.91 |
| Cápsulas Distribuidas - Total | 23,954 | $ 16,587 | $ 0.69 |

*HUERTOS FAMILIARES*
*1,996*

| CATEGORIA | UNIDADES | COSTO | COSTO POR UNIDAD |
|---|---|---|---|
| Huertos Nuevos | 1,043 | $ 19,698 | $ 18.89 |
| Número de Individuos de Población Meta Apoyados con Huertos | 2,712 | $ 19,698 | $ 7.26 |
| Número de Individuos Apoyados con Huertos | 6,049 | $ 19,698 | $ 3.26 |

*EDUCACION NUTRICIONAL*
*1,996*

| CATEGORIA | UNIDADES | COSTO | COSTO POR UNIDAD |
|---|---|---|---|
| Total de Actividades en Educación Nutricional* | ------- | $ 25,918 | -------- |
| Charlas y Demostraciones de Cocina | 2,576 | $ 23,326 | $ 9.06 |
| Participantes Nuevos | 4,457 | $ 23,326 | $ 5.23 |
| Participantes Total | 20,909 | $ 23,326 | $ 1.12 |
| Población Meta Afectada | 11,588 | $ 23,326 | $ 2.01 |
| Población Total Afectada (toda la familia) | 25,851 | $ 23,326 | $ 0.90 |

*10% de los Costos Totales en Educación Nutricional fueron gastados en otras actividade de apoyo (por ejemplo cuñas radiales, distribución de volantes y afiches educativos, etc.) y no en charlas y demostraciones de cocina especificamente.

## VI.) COMO EXTRAPOLAR COSTOS EN RELACION AL PERIODO TOTAL DE UN PROYECTO

Los Costos Por Unidad calculados por actividad de un proyecto tienen que ser extrapolados para el período total del proyecto con el objeto de obtener los costos totales dicho proyecto. En el caso de IEF, los factores que fueron tomados en cuenta para hacer el ejercicio de la extrapolación fueron los siguientes:

- Registros de Costos Totales por los años 1,994 y 1,995
- Registros de los Análisis de "Pipeline" de las oficinas Centrales (Casa Matriz o el Sede en los Estados Unidos) y los ajustes para la población atendida en los años anteriores (1,991 - 1,995)
- La asignación de tiempo por intervención se asumió que fue igual para todos los años

Aunque es preferible hacer cálculos específicos para los gastos totales de cada año, hay casos en que la información financiera no esta disponible en su totalidad ni es confiable, o posiblemente está disponible pero en formas diferentes para cada año y el proceso de estandardizar o computarizar toda la información sería demasiado lento o caro. En esos casos es preferibie hacer la extrapolación, utilizando los costos reportados y confiables de un año específico, para lograr los gastos totales del proyecto. Es muy importante que el período de tiempo (en el caso de IEF, de un año) que ha sido examinado detalladamente sea representativo del período total del proyecto.

Para el análisis de Costo-Efectividad de IEF los cálculos de Costos Totales y Costos Por Actividad o Intervención de extrapolación resultantes fueron:

ASIGNACION DE COSTOS PARA LOS SEIS AÑOS DEL PROYECTO
(1,991 - 1,996)

| AÑO | COSTOS TOTALES | DISTR. de VIT. "A" - NIÑOS | DISTR. de VIT. "A" - MADRES PP | HUERTOS | EDUCACION NUTRICIONAL |
|---|---|---|---|---|---|
| 1,991 | $ 49,939 | $ 3,496 | $ 4,495 | $ 9,488 | $ 12,485 |
| 1,992 | $ 49,939 | $ 3,496 | $ 4,495 | $ 9,488 | $ 12,485 |
| 1,993 | $ 49,939 | $ 3,496 | $ 4,495 | $ 9,488 | $ 12,485 |
| 1,994 | $ 78.777 | $ 5,514 | $ 7,090 | $ 14,968 | $ 19,694 |
| 1,995 | $ 83,930 | $ 5,875 | $ 7,554 | $ 15,947 | $ 20,983 |
| 1,996 | $ 103,672 | $ 7,257 | $ 9,330 | $ 19,698 | $ 25,918 |
| TOTAL: | $ 416,196 | $ 29,134 | $ 37,458 | $ 79,077 | $ 104,049 |

*Los Costos Totales para el año 1,996 son datos actuales. Los Costos Totales para los años 1,994 y 1,995 son datos actuales aumentados 3% anualmente. Los Costos Totales para los años 1,991 - 1,993 son datos extrapolados de los datos de 1,996 y aumentados 3% anualmente. Para hacer las extrapolaciones, la cantidad en dólares por beneficiario fue constante. Las asignaciones entre las intervenciones siguieron el modelo del año 1,996.

## VII.) COMO RELACIONAR COSTOS RELEVANTES CON LAS MEDIDAS DE IMPACTO

Para poder seguir con el análisis de Costo - Efectividad es importante tomar en cuenta y analizar las medidas de impacto de un proyecto o sea los resultados longitudinales que reflejan un cambio absoluto en un indicador específico a través del tiempo. Por ejemplo se puede tomar en cuenta medidas desde una Linea Basal o una Evaluación de Medio Término hasta la terminación del proyecto (una Evaluación Final). Para IEF, las siguientes medidas fueron escogidas como Medidas de Impacto:

- Aumento en Conocimiento Relacionado a Vitamina A
- Aumento en Número de Huertos Familiares
- Aumento en Consumo de Retinol

Teniendo las medidas de impacto y los costos por intervención, se puede determinar la relación entre los costos relevantes y las medidas de impacto, este se constituye en el objetivo de un análisis de Costo - Effectividad. Aunque es interesante calcular los costos de ciertos servicios o determinar los costos operacionales, para poder medir el verdadero éxito de un proyecto es necesario calcular los costos longitudinales de un proyecto relacionados con los impactos fundamentales. En el análisis de IEF, los costos longitudinales como el costo de mejorar o incrementar las tres medidas de impacto fueron calculados utilizando extrapolaciones del costo total del proyecto y siguiendo el modelo del año 1,996 en cuanto a las asignaciones entre las intervenciones. Las medidas o indicadores que fueron escogidos reflejan la disponibilidad de los datos. Esto resalta la importancia de una buena definición y medición de indicadores en la Linea Basal y la necesidad de medir estos indicadores con datos completos y confiables recolectados durante el transcurso del proyecto.

## VIII.) RESULTADOS DE IEF

Los datos resultantes de un análisis de costo-efectividad son muy útiles y deberían ser interpretados con mucho cuidado. La función de dichos datos no es para determinar cuál proyecto o programa es mejor, sino para ayudar en las decisiones gerenciales sobre la distribución de fondos entre todas las actividades incluidas dentro de determinado programa o proyecto. Los datos pueden ser utilizados para asegurar los mejores resultados con una inversión más eficiente de los fondos limitados. Algunos de los resultados longitudinales del análisis de costo-efectividad de IEF, presentados en base a las Medidas de Impacto, fueron:

### EDUCACION NUTRICIONAL

| Indicador | Linea Basal - 1,991 | Evaluación de Impacto - 1,996 | Porcentaje de Aumento |
|---|---|---|---|
| Porcentaje de Madres que Pueden Identificar Por lo Menos Dos Comidas Ricas en Vitamina "A" | 63% | 85% | 22% |

- Costo Total (1,991 - 1,996) ..... $ 104,049
- Costo Por el Porcentaje de Aumento de Madres que Pueden Identificar Por lo Menos 2 Comidas Ricas en VA ..... $ 4,730
- Costo Por Individuo Recibiendo Educación ..... $ 48
- Costo Por Individuo de La Población Blanco
- Recibiendo Educación .....$ 18
- Costo Por Miembro de Familia Afectada Por la Educación ..... $ 8

### HUERTOS FAMILIARES

| Indicador | Linea Basal - 1,991 | Evaluación de Impacto - 1,996 | Porcentaje de Aumento |
|---|---|---|---|
| Porcentaje de Familias con Huertos | 9% | 41% | 32% |

- Costo Total (1,991 - 1,996) ..... $ 79,077
- Costo Por Cada Huerto Nuevo ..... $ 33
- Costo Por Individuo de La Población Blanco Apoyado con un Huerto ..... $ 12
- Costo Por Miembro de Familia Apoyado con un Huerto ..... $ 6

- RESULTADOS DE IEF (cont.)

CONSUMO DE VITAMINA "A"

| Indicador | Linea Basal - 1,991 | Evaluación de Impacto - 1,996 | Porcentaje de Aumento |
|---|---|---|---|
| Porcentaje de Niños que Consumen ≥100% del Requerimiento de Retinol en su Dieta | 34% | 78% | 44% |

- Costo Total (1,991 - 1,996) ..... $ 183,126
- Costo Por el Porcentaje de Aumento de Niños que Consumen ≥ 100% del Requerimiento ..... $ 4,381
- Costo Por Niño de La Población Blanco que Consume ≥ 100% del Requerimiento..... $ 22
- Costo Por Individuo Adicional que Consume ≥ 100% del Requerimiento..... $ 10

## IX.) RECOMENDACIONES PARA IEF

- Considerando el alto costo de la distribución de cápsulas de vitamina "A" a madres post-parto, estilo casa en casa a través de los trabajadores de campo de IEF, ésta actividad necesita ser reevaluada. Los recursos económicos invertidos en ésta actividad podrían servir para una población más amplia si fueran canalizados a través de una actividad más eficiente.

- En cuanto a la actividad de huertos familiares, los resultados del análisis de costo-efectividad estan limitados en su captación de beneficios secundarios, máximo cuando hay una deficiencia de datos de parte del proyecto para poder medir indicadores longitudinales relacionados con dichos beneficios. Para poder determinar el "verdadero" Costo Por Unidad de la actividad de huertos familiares, IEF necesita recolectar información relacionada con el sostenimiento de los huertos a través del tiempo, el número de beneficiarios (dentro y fuera de la familia) por cada huerto y la función del huerto como fuente permanente de vitamina A para la familia y la comunidad.

- Los resultados del análisis de costo-efectividad para el Aumento en Conocimiento Relacionado con Vitamina "A" son muy concretos, pero hay dificultad en llegar a conclusiones sobre el costo del mejoramiento en consumo de retinol en base al costo relacionado con el aumento de conocimientos. Como en el caso de la actividad de huertos, hay una necesidad de recolectar datos más amplios y concretos para poder determinar el rol de la educación sobre vitamina "A", la promoción de huertos familiares, y otras actividades vinculadas con proyectos de supervivencia infantil, en el aumento de consumo de retinol.

## X.) CONCLUSIONES

Hay muchas formas de hacer este tipo de análisis para llegar a la definición y la asignación de costos, pero lo más importante del análisis de Costo-Efectividad es mantener el énfasis en las preguntas (tan sencillas) que forman la base del análsis:

- Cuánto dinero fue gastado?
- En qué fue gastado?
- Cómo podemos medir el impacto de estos gastos/costos?

Estas tres preguntas son el principio del análisis de Costo-Efectividad.

## XI.) BIBLIOGRAFIA


1. Phillips, Margaret, Tina Sanghvi, et al. "The Costs and Effectiveness of Three Vitamin A Interventions in Guatemala." Working Paper No. 2 on Nutrition Cost-Effectiveness Studies, Report for U.S. Agency for International Development, 1994.

2. Tuli, Karunesh. "Cost Effectiveness of CARE-India's Vitamin A Delivery Strategies." Report DRAFT.


## XII.) OTRAS FUENTES DE INFORMACION


OMNI. "Methods for Assessing the Cost-Effectiveness of Micronutrient Programs." DRAFT. OMNI Project/John Snow, Inc. Arlington, VA.

Popkin, B.M., F.S. Solon and T. Fernandez. "Benefit-Cost Analysis in the Nutrition Area: A Project in the Philippines." Soc. Sci. and Med. 14: 207-216, 1980.

WHO/Aga Khan Foundation/UNICEF. "Cost Analysis in Primary Health Care." 1990.

## XIII.) APOYO TECNICO

- SI DESEA OBTENER MAYOR INFORMACION SOBRE COMO HACER UN ANALISIS DE COSTO - EFECTIVIDAD PUEDE DIRIGIRSE A:

1. Jim Clement
   Consultor
   Johns Hopkins University
   Department of Pediatrics
   600 N. Wolfe St.
   Baltimore, MD 21205
   Tel.: (410) 614-6065
   e-mail: jclement@gwgatel.jhmi.jhu.edu

2. Tina Sanghvi
   BASICS
   1600 Wilson Blvd., Suite 300
   Arlington, VA 22209
   Tel.: (703) 312-6800
   Fax: (703) 312-6900
   e-mail: tsanghvi@basics.org

3. Karunesh Tuli
   Child Survival Support Program
   Johns Hopkins University
   School of Hygiene and Public Health
   103 E. Mt. Royal Ave. Room 2C
   Baltimore, MD 21205
   Tel.: (410) 659-4100
   Fax: (410) 659-4107
   e-mail: ktuli@sph.jhu.edu

Existe un programa computarizado, "Vitamin A Cost Effectiveness Analyst", diseñado por OMNI/USAID, que actualmente se encuentra en la fase de prueba de campo. El programa es interactivo y utiliza el análisis de cost-efectividad para planificar y promover programas en vitamina A. Si desea más información relacionada al programa computarizado, puede dirigirse a:

OMNI Project/John Snow Inc.
1616 N. Fort Myer Dr. 11th Floor
Arlington, VA 22209
Tel.: (703) 528-7474
Fax: (703) 528-7480
e-mail: omni_project@jsi.com

Frances R. Davidson
Office of Health and Nutrition
Bureau for Global Programs, Field Support and Research Agency for International Development (USAID)
Washington, DC 20523
Tel.: (202) 712-0982
Fax: (202) 216-3046
e-mail: fdavidson@usaid.gov



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# Annex VII: Quality Assurance Guide for Ministry of Health

GUIA DE OBSERVACION
JORNADA DE SUMINISTRO DE VITAMINA "A"
M.S.P./AMPROS

NOMBRE DEL REPRESENTANTE DEL
M.S.P QUE SUMINISTRO LA CAPSULA_____CARGO_____
NOMBRE DEL OBSERAVADOR/AMPROS: _____CARGO_____
FECHA: _____ COMUNIDAD_____
MUNICIPIO: _____

CUADRO No.1 OBSERVACIONES AL TRABAJADOR DEL M.S.P.

| OBSERVACIONES | SI | NO | COMENTARIOS |
|---|---|---|---|
| SE PRESENTO A LA HORA ESTABLECIDA A LA COMUNIDAD | | | |
| ESTABLECIO BUENAS RELACIONES CON LOS PADRES DE FAMILIA VOLUNTARIOS Y/O LIDERES | | | |
| CONTO CON EL EQUIPO NECESARIO PARA LA EJECUCION DE LA JORNADA (TIJERAS, ALGODON, ALCOHOL, PAPEL HIGIENICO,ETC) | | | |
| CONTO CON SUFICIENTES CAPSULA DE VITAMINA "A" | | | |
| EXPUSO A LA LUZ, CALOR Y HUMEDAD LAS CAPSULAS | | | |
| SE IMPARTIO CHARLA PREVIA | | | |
| SUMINISTRO LA CAPSULA CON UNA BUENA HIGIENE | | | |
| VERIFICO LA EDAD DE LOS NIÑOS EN LA BOLETA DE NACIMIENTO/ CARNET DE VACUNACION/ REGISTRO FAMILIAR/ FORMULARIO DE REGISTRO DE VITAMINDOS/ CONTRASEÑAS Y SI A ESTE NO SE LE HABIA SUMINISTRADO LA VITAMINA A EN LOS ULTIMOS 6 MES | | | |
| HIZO LAS ANOTACIONES CORRESPONDIENTES EN EL REGIST Y/O FORMULARIOS | | | |
| HIZO LAS ANOTACIONES EN EL CARNET O CONTRASEÑA | | | |

CUADRO No.2
(VERIFICAR CINCO MADRES)

| OBSERVACION | 1 | | 2 | | 3 | | 4 | | 5 | | COMENTARIOS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SI | NO | SI | NO | SI | NO | SI | NO | SI | NO | |
| SUMINISTRO LA DOSIS ADECUADA | | | | | | | | | | | |
| ANOTO LA FECHA DEL SUMINISTRO EN EL CARNET O CONTRASEÑA | | | | | | | | | | | |
| INFORMO A LA MADRE QUE DENTRO DE LOS PROXIMOS SEIS MESES DEBERA RECIBIR OTRA CAPSULA DE VITAMINA "A" EL NIÑO | | | | | | | | | | | |

CUADRO No 3 COBERTURA

| | |
|---|---|
| NIÑOS VITAMINADOS EN EL PUESTO DE SUMINISTRO | |
| NIÑOS RECUPERADOS | |
| TOTAL | |

TOTAL DE NIÑOS VITAMINADOS _____ * 100 = _____
_____ ÷ _____ POBLACION BLANCO = _____
% _____

# Annex VIII: List of Indicators

INDICADORES DE NUTRICION Y VITAMINA "A"

NUTRICION:

Niños con Diarrea

AMPROS:

1.- Porcentaje de niños recibiendo igual o más lactancia materna durante un episodio de diarrea.

2.- Porcentaje de niños recibiendo igual o más líquidos durante un episodio de diarrea.

3.- Porcentaje de niños recibiendo igual o más comida durante un episodio de diarrea.

Preguntas de CAPs para indicadores 1, 2 y 3:

P/ Ha tenido (nombre del niño) diarrea en las dos últimas semanas?

P/ Durante la diarrea de (nombre del niño), le dio pecho,... (lea las opciones a la madre)

1. Más de lo acostumbrado
2. Igual a lo acostumbrado
3. Menos de lo acostumbrado
4. Se le quitó completamente
5. Ya no recibía pecho

P/ Durante la diarrea de (nombre del niño), le dio otros líquidos (además de pecho),...(lea las opciones a la madre)

1. Más de lo acostumbrado
2. Igual a lo acostumbrado
3. Menos de lo acostumbrado
4. Se le quitó completamente
5. Solo pecho

P/ Durante la diarrea de (nombre del niño), le dio alimentos,...(lea las opciones a la madre)

1. Más de lo acostumbrado
2. Igual a lo acostumbrado
3. Menos de lo acostumbrado
4. Se le quitó completamente
5. Solo pecho

AID

Incremento de porcentaje de infantes/niños <24 meses que reciben comida y leche materna durante un episodio de diarrea

P/ Forma de medir: Encuesta de CAPs

AID

Incremento de porcentaje de infantes/ niños <24 meses que reciben comida extra (un tiempo de comida extra/día) y lactancia más frecuente después de un episodio de diarrea por lo menos 2 semanas = "recuperación de crecimiento"

P/ Forma de medir: Encuesta de CAPs

Lactancia Materna

AMPROS

4.- Porcentaje de niños de 0 - 3 meses de edad recibiendo lactancia materna exclusiva.

HOPE

Porcentaje de madres de niños de 0 - 6 meses que practican lactancia materna exclusiva.

P/ Que edad tiene el niño?

P/ Que le da de comer o tomar al niño?

CONSEJO DE POBLACIÓN

Lactancia exclusiva

Mantenimiento de la lactancia materna después de los 6 meses (de edad)

AID

Incremento de porcentaje de infantes/ niños (<24 meses) que sean lactados durante las primeras 8 horas después de nacer.

P/ Forma de medirlo: Encuestas de CAPs

Incremento de porcentaje de infantes <6 meses (180 días) que reciben lactancia exclusiva

P/ Forma de medirlo: Encuestas de CAPs

CRS

Porcentaje de madres que alimentan con pecho a su niño desde la primera hora del nacimiento

Porcentaje de madres que saben que deben alimentar con pecho desde la primera hora del nacimiento

p/ Le está dando de mamar a (nombre del niño)

1. si
2. no

P/ (no) Le ha dado alguna vez de mamar a (nombre del niño)

1. si
2. no

P/ Cuánto tiempo después del parto, le dio de mamar por primera vez a (nombre del niño)

1. durante la primera hora después del parto
2. durante las primeras 8 horas después del parto
3. más de 8 horas después del parto
4. no se acuerda

Porcentaje de madres que usan exclusivamente alimentación con pecho a sus recién nacidos hasta los 6 meses

p/ Qué puede hacer la madre después del nacimiento del niño y durante los primeros cuatro meses, para mantener una buena lactancia?

1. no sabe
2. dar de mamar inmediatamente después del parto
3. cuidar los pechos y pezones
4. dar pecho frecuentemente para estimular la producción de leche
5. dar exclusivamente de lactar, durante los primeros 4 meses
6. evitar la pacha
7. re-amamantar (la madre puede reanudar la lactancia exclusiva si la había dejado)
8. otros (especifique)

p/ A los cuántos meses de edad debería la madre empezar a dar otros alimentos al niño además de su pecho?

1. empezar entre los 4 a 6 meses
2. empezar antes de los 4 meses
3. empezar después de los 6 meses
4. no sabe

<u>Alimentación Complementaria</u>

**AID**

Incremento de porcentaje de infantes entre 6 y 10 meses (180 - 299 días) que reciben alimentación complementaria además de leche materna

P/ Forma de medirlo: Encuestas de CAPs

**HOPE**

Porcentaje de niños que consumen alimentos ricos en Vitamina A por lo menos dos veces por semana

P/ Encuesta de consumo de Vitamina A

**AMPROS:**

5.- Porcentaje de niños alimentados regularmente (2 o más veces/semana) con comida rica en Vitamina "A".

AMPROS

6.- Porcentaje de niños de 5 - 8 meses recibiendo alimentos (solidos o semi-solidos).

Preguntas de CAPs para indicadores 4, 5 y 6:

P/ Le está dando agua o café o cacao o te o aguitas a (nombre del niño)?

P/ Le está dando leche de vaca o en polvo a (nombre del niño)?

P/ Le está dando alimentos a (nombre del niño), como la avena, cebada, atoles, aguas de masa, Incaparina o cereales?

P/ Le está dando frutas a (nombre del niño) como bananos, naranja, injerto, etc.?

P/ Le está dando verduras o frutas amarillas como zanahorias, ayote, camote, mangos, papaya, guicoy o plátano maduro a (nombre del niño)?

- Cuántos días a la semana?

P/ Le está dando vegetales verdes como la acelga, macuy, chipilín, bledo u otros a (nombre del niño) ya sean solos o en otro alimento?

- Cuántos días a la semana?

P/ Le está dando hígado, carne de res, chunto, marrano, pollo o pescado a (nombre del niño)?

P/ Le está dando frijoles, piloy o nun a (nombre del niño)?

P/ Le está dando huevos o queso a (nombre del niño)?

- Cuántos días a la semana?

P/ Le echa azúcar a los líquidos o alimentos de (nombre del niño)?

P/ Le está añadiendo aceite o manteca a los alimentos de (nombre del niño)?

P/ A qué edad deberían empezar las madres a dar otros alimentos además de su pecho a sus hijos? (pregunta abierta)

1. Empezar entre los 4 a 6 meses
2. Empezar antes de los 4 meses
3. Empezar después de los 6 meses
4. No sabe

CONSEJO DE POBLACION

Introducción de alimentación complementaria

CRS

Porcentaje de madres que saben cómo introducir alimentos para el destete a los 6 meses de edad del niño

p/ Le está dando aguitas (cebada, manzanilla, arroz,etc) a (nombre del niño)

p/ Le está dando leche de vaca, de bote o de cabra en pacha a (nombre del niño)

p/ Le está dando alimentos semi-solidos como atoles, puré, avena o cereales a (nombre del niño)

P/ Le está dando frutas a (nombre del niño)

P/ Le está dando zanahoria, ayote, guicoy, mangos o papaya a (nombre del niño)

p/ Le está dando vegetales verdes como espinacas, berro, hierba mora, acelga a (nombre del niño)

p/ Le está dando carne, pollo o pescado a (nombre del niño)

p/ Le está dando frijoles, habas, lentejas a (nombre del niño)

p/ Le está dando huevos a (nombre del niño)

p/ Le agrega vegetales verdes, como la espinaca, acelga, berro, hierba mora, nabo, bledo o macuy a los alimentos de (nombre del niño)

p/ Le agrega azúcar, miel o panela a los alimentos de...

p/ Le agrega aceite o manteca a los alimentos que ha preparado para (nombre del niño)

p/ Le echa sal a los alimentos de (nombre del niño)

<u>Estado Nutricional</u>

MSPAS

Estado nutricional de niños < de 5 años

P/ A través de medidas antropométricas
- peso/talla para detectar desnutrición aguda
- peso/edad para monitoriar crecimiento

AGROSALUD

Nutrición de niños < de 5 años

P/ Parámetros de peso/edad

AID

Decremento de porcentaje de niños de baja estatura por edad de 24-60 meses de edad (separados por género) en área de cobertura de los proyectos.

P/ Forma de medir: medidas antropométricas
medidas de estatura por edad
presentando Z score promedio y el porcentaje de niños debajo de -2 DS (desviaciones Standard)

Decremento de porcentaje de niños de bajo peso por edad, por grupo específico según edad (12 - 36 meses; o 2 grupos de ≤ 36 meses y 37 - 60 meses) y separados por género

P/ Forma de medir: medidas antropométricas
medidas de peso por edad

<u>Conocimientos / consumo de fuentes de vitamina A</u>

AMPROS

Porcentaje de madres que conocen 2 o más fuentes de Vitamina "A".

P/ Qué alimentos contienen Vitamina "A"? (pregunta abierta)

-Vegetales Verdes/Hojas Verdes:

1. Macuy
2. Chipilin
3. Bledo
4. Espinaca
5. Acelga
6. Tzoloj
7. Samat
8. Culantro
9. Chomtee
10. Roctish
11. Chile Pimiento

-Verduras/Frutas Amarillas:

1. Zanahoria
2. Camote
3. Guicoy Sazón
4. Mango
5. Plátano Maduro
6. Melón
7. Papaya
8. Injerto
9. Ayote

-Pescado entero/Hígado
-Lactancia Materna
-Queso
-Yema de los Huevos

**HOPE**

Porcentaje de madres que reconocen alimentos ricos en Vitamina "A"

P/ Que alimentos de origen animal sabe usted que tienen Vitamina"A"?
mencione tres

P/ Que vegetales (verduras o legumbres) saben ustedes que tienen Vitamina A?
mencione tres

P/ Mencione tres nombres de hierbas nativas que sean buenas fuentes de Vitamina A

P/ Mencione tres frutas que sean buenas fuentes de Vitamina "A".

**FOOD FOR THE HUNGRY**

Consumo de hierbas verdes. Frecuencia por semana
Cantidad por persona

Consumo de frutas amarillas carnosas. Frecuencia por semana, cantidad

Consumo de productos lácteos. Frecuencia por semana y cantidad cada uno

P/ Qué han escuchado hablar de las vitaminas?
P/ Para qué sirven?
P/ Dónde podemos encontrar las vitaminas
P/ qué le pasa a la gente (los niños) si les falta vitaminas?
P/ Si castigan a los niños, le quitan la comida o qué le dan de comer como castigo?
P/ Si premian a los niños, que les dan de comer?
P/ Qué alimentos les hace daño a los niños? Por qué?
P/ Qué alimentos si son buenos para los niños? Por qué?
P/ Comen hierbas o verduras? Cada cuanto tiempo?
P/ Cómo preparan las verduras, hierbas, frijoles y/o carnes que comen?
P/ Qué es lo que más les gusta comer a los niños? Les gustan las hierbas?
P/ Cual es la comida típica del lugar? Cada cuanto tiempo la comen?

**CRS**

Porcentaje de madres que saben que deben alimentar con pecho a sus niños hasta los 24 meses.

Porcentaje de madres que pueden identificar fuentes adecuadas de Vitamina A

p/ Sabe usted qué alimentos contienen vitamina A

1. no sabe
2. vegetales verdes
3. frutas y verduras de color amarillo intenso
4. carne/pescado
5. lactancia materna]
6. la yema de los huevos

## VITAMINA "A":

**AMPROS**

Porcentaje de niños de 0 - 71 meses de edad que reciben suplemento de Vitamina "A" cada 6 meses.

P/ Ha recibido (nombre del niño) alguna vez una cápsula de Vitamina "A" (como ésta)?

P/ Cuántas veces ha recibido (nombre del niño) una cápsula de Vitamina "A" (como ésta) desde abril del año pasado? (en el último año o durante el período de dos jornadas)

P/ Del carnet de vacunación, anote las fechas en que le dieron cápsulas de Vitamina "A" al niño, en el espacio correspondiente. Si el niño no ha recibido ninguna dosis, ponga ceros.

| | día/mes/año |
|---|---|
| 1ra | ___/___/___ |
| 2da | ___/___/___ |
| 3ra | ___/___/___ |
| 4ta | ___/___/___ |

**HOPE**

Porcentaje de niños de 6 a 72 meses suplementados con Vitamina A

P/ Recibió perla de Vitamina A el año pasado

P/ Recibió perla de Vitamina A este año?

**MSPAS**

Niveles de retinol en plasma por debajo de 20mcg/dl

Examen clínico

**AMPROS**

Porcentaje de mujeres puérperas que reciben suplemento de Vitamina "A" en el transcurso de los 30 días después del parto.

P/ Recibió usted Vitamina "A" después de su último parto?

P/ Registre la fecha del suministro de Vitamina "A" a la madre post-parto de su carnet/contraseña del proyecto (pida que se lo muestre, si no tiene ponga ceros)

| | Día/Mes/Año |
|---|---|
| Vitamina A | ___/___/___ |

HOPE

Número y porcentaje de madres puérperas suplementadas con Vitamina A

P/ Recibió la cápsula de Vitamina A después de su último parto?

P/ Quién le dio la cápsula de Vitamina A?

FOOD FOR THE HUNGRY

Consumo de azúcar vitaminada. Confirmación por inspección en casa y tienda

P/ Saben se si le echa vitamina a algún alimento en Guatemala?

Xeroftalmia. Presencia/ausencia
Lesiones de la piel.

Queratosis. Presencia/ ausencia

P/ Chequeo Médico

CRS

Porcentaje de madres que saben que vitamina previene la ceguera nocturna (Nora)

p/ Sabe usted qué vitamina previene la ceguera nocturna?

1. la vitamina A
2. no sabe u otros

## HUERTOS

AMPROS

Porcentaje de familias con un huerto de vegetales.

P/ Tiene huerto familiar?

Porcentaje de familias con un huerto sembrado con: por lo menos una fuente de Vitamina "A".

P/ Qué tipo de cultivos cultivan? (pregunta abierta)

a. Hojas verdes como acelga, espinaca, macuy, bledo, chipilin, culantro, tzoloj, samat, etc.

b. Verduras o frutas amarillas como zanahoria, camote, ayote, etc.

c. Otras Verduras/Frutas (especificar)

**HOPE**

Porcentaje de madres que poseen huerto familiar

P/ Su huerto es propio o lo trabaja con un grupo?

P/ Hace cuantos años tiene usted un huerto?

P/ Que Instituciones le han apoyado en su huerto?

**FOOD FOR THE HUNGRY**

Existencia o no de cultivos de hierbas verdes. Hortalizas.

p/ Por observación

MENSAJES CLAVES EN VITAMINA "A"
AMPROS/IEF

1. La Vitamina A es un nutriente muy importante que ayuda al buen crecimiento y desarrollo de los niños, también ayuda a tener una buena visión.

2. La Vitamina A ayuda a que las enfermedades respiratorias, las diarreicas y el sarampión sean menos severas.

3. Durante los primeros 30 días después del parto la madre debe recibir una cápsula de Vitamina A, para enriquecer la leche que le da a su bebe.

4. Los alimentos que contienen Vitamina A son: Hierbas de color verde obscuro, las verduras y frutas amarillas y anaranjadas.

5. Contienen Vitamina A los siguientes productos lácteos: la leche (materna y de vaca), la crema y queso fresco.

6. Contiene Vitamina A los siguientes productos de origen animal: el huevo, hígado, riñones.

7. Contienen Vitamina A los siguientes productos fortificados: el azúcar, la margarina y la Incaparina.

8. El huerto familiar, comunal y/o escolar puede ocupar poco espacio y a la vez ser fuente de una gran cantidad de alimentos ricos en Vitamina A a bajo costo.

# Annex IX: Theoretical Analysis: Addition of VA Capsules to Dietary Assessment

RETINOL + CAPSULA
IEF, Guatemala
24 de julio de 1997

# Análisis Estadístico

JORGE MATUTE

JMatute

# RETINOL + CAPSULA

## I *Definition and indicators construction:*

The constant "cápsula" was defined, with a value of 2,500ER / 7days. (Information given by Marta de Piedrasanta).

There are eight indicators measuring the seven day food consumption of the children:

a) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **without sugar or breast milk** included : *GRE*

b) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **without sugar or breast milk + CAPSULE** included : *GREC*

c) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with sugar** included : *GREs*

d) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with sugar + CAPSULE** included : *GREsC*

e) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with breast milk** included : *GREbm*

f) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with breast milk + CAPSULE** included : *GREbmC*

g) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with sugar and breast milk** included : *GREsbm*

h) Percentage of children that have the recommended RE or more in their diet (based in the 7 day consumption). **with sugar and breast milk + CAPSULE** included : *GREsbmC*

The data was analyzed by the following groups of children, according with their age:

Group 1: 11 to < 24 months
Group 2: >= 24 to < 36 months
Group 3: >= 36 to < 48 months
Group 4: >= 48 to < 60 months
Group 5: >= 60 months (to 72)

## II *Results (total n= 566)*

| AGE GROUP | N | % | Confidence interval (95%) Low limit | Upper limit | Design Effect |
|---|---|---|---|---|---|
| **GRE** | | | | | |
| 11 to < 24 months | 89 | 44.2 | 33.4 | 54.9 | 1.1 |
| >= 24 to < 36 months | 114 | 49.9 | 34.4 | 65.3 | 2.8 |
| >= 36 to < 48 months | 121 | 46.3 | 33.3 | 59.3 | 2.1 |
| >= 48 to < 60 months | 121 | 45.2 | 34.0 | 56.5 | 1.6 |
| >= 60 months (to 72) | 121 | 35.6 | 27.3 | 43.9 | 0.9 |
| TOTAL | 566 | 44.0 | 37.7 | 50.2 | 2.3 |
| **GREC** | | | | | |
| 11 to < 24 months | 89 | 81.2 | 73.6 | 88.9 | 0.9 |
| >= 24 to < 36 months | 114 | 92.7 | 85.9 | 99.8 | 2.1 |
| >= 36 to < 48 months | 121 | 95.4 | 94.2 | 96.5 | 0.1 |
| >= 48 to < 60 months | 121 | 89.6 | 81.8 | 97.5 | 2.1 |
| >= 60 months (to 72) | 121 | 87.3 | 81.9 | 92.7 | 0.8 |
| TOTAL | 566 | 89.7 | 87.1 | 92.4 | 1.1 |
| **GRES** | | | | | |
| 11 to < 24 months | 89 | 71.2 | 63.1 | 79.3 | 0.7 |
| >= 24 to < 36 months | 114 | 78.9 | 67.8 | 90.0 | 2.2 |
| >= 36 to < 48 months | 121 | 83.8 | 76.1 | 91.4 | 1.4 |
| >= 48 to < 60 months | 121 | 78.7 | 71.7 | 85.7 | 0.9 |
| >= 60 months (to 72) | 121 | 75.0 | 64.9 | 85.0 | 1.7 |
| TOTAL | 566 | 77.8 | 73.3 | 82.4 | 1.7 |
| **GRESC** | | | | | |
| 11 to < 24 months | 89 | 96.8 | 93.3 | 100.0 | 0.9 |
| >= 24 to < 36 months | 114 | 98.8 | 96.4 | 100.0 | 1.5 |
| >= 36 to < 48 months | 121 | 100.0 | 100 | 100 | -- |
| >= 48 to < 60 months | 121 | 98.9 | 96.8 | 100.0 | 1.4 |
| >= 60 months (to 72) | 121 | 100.0 | 100 | 100 | -- |
| TOTAL | 566 | 99.1 | 98.0 | 100.0 | 1.6 |

Julio de 1997

IEF, Guatemala
RETINOL + CAPSULA

JMatute

| AGE GROUP | N | % | Confidence interval (95%) Low limit | Upper limit | Design Effect |
|---|---|---|---|---|---|
| **GREBM** | | | | | |
| 11 to < 24 months | 89 | 73.3 | 64.6 | 82.0 | 0.9 |
| >= 24 to < 36 months | 114 | 58.8 | 44.3 | 73.3 | 2.6 |
| >= 36 to < 48 months | 121 | 48.6 | 35.1 | 62.2 | 2.8 |
| >= 48 to < 60 months | 121 | 47.6 | 39.0 | 56.2 | 0.9 |
| >= 60 months (to 72) | 121 | 35.6 | 27.3 | 43.9 | 0.9 |
| TOTAL | 566 | 51.0 | 45.7 | 56.3 | 1.7 |
| **GREBMC** | | | | | |
| 11 to < 24 months | 89 | 96.1 | 91.6 | 100.0 | 1.3 |
| >= 24 to < 36 months | 114 | 94.7 | 89.3 | 100.0 | 1.8 |
| >= 36 to < 48 months | 121 | 96.3 | 94.4 | 98.2 | 0.3 |
| >= 48 to < 60 months | 121 | 90.3 | 82.3 | 98.2 | 2.3 |
| >= 60 months (to 72) | 121 | 87.3 | 81.9 | 92.7 | 0.8 |
| TOTAL | 566 | 92.6 | 90.6 | 94.7 | 0.9 |
| **GRESBM** | | | | | |
| 11 to < 24 months | 89 | 90.4 | 84.8 | 96.1 | 0.9 |
| >= 24 to < 36 months | 114 | 87.4 | 80.6 | 94.2 | 1.2 |
| >= 36 to < 48 months | 121 | 83.8 | 76.1 | 91.4 | 1.4 |
| >= 48 to < 60 months | 121 | 79.7 | 73.3 | 86.2 | 0.8 |
| >= 60 months (to 72) | 121 | 75.0 | 64.9 | 85.0 | 1.7 |
| TOTAL | 566 | 82.6 | 78.8 | 86.3 | 1.4 |
| **GRESBMC** | | | | | |
| 11 to < 24 months | 89 | 100 | 100 | 100 | -- |
| >= 24 to < 36 months | 114 | 98.8 | 96.4 | 100 | 1.5 |
| >= 36 to < 48 months | 121 | 100 | 100 | 100 | -- |
| >= 48 to < 60 months | 121 | 98.8 | 96.6 | 100 | 1.4 |
| >= 60 months (to 72) | 121 | 100 | 100 | 100 | -- |
| TOTAL | 566 | 99.5 | 98.6 | 100 | 2.9 |

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## Annex X: Abstract of Presentation by Martha Burdick Piedrasanta at 1997 IVACG Meeting

Revised

# XVIII IVACG MEETING ABSTRACT FORM

ANALYSIS OF FIVE YEARS OF INTEGRATED VITAMIN A/NUTRITION PROGRAMS IN GUATEMALA: DIETARY/KPC ASSESSMENT, FOCUS GROUPS, COST ANALYSIS DATA AND QA ASSESSMENT. M. Burdick de Piedrasanta, V. Calderon, M. Arita, J. Matute, J. Clement, N. Coj de Salazar and L. Riva Clement. International Eye Foundation (IEF), Guatemala/ Bethesda, MD, USA and Project HOPE, Guatemala/Millwood, VA, USA.

The needs of the most vitamin A-deficient populations in Guatemala have been addressed by active grass-roots partnership consisting of PVO/NGO's, the MOH and local community members. In support of these activities, the IEF is carrying out a project entitled "Understanding and Strengthening the Capacity of Intermediate Organizations (PVOs and NGOs) to provide Integrated Community-Based Vitamin A Programs in Guatemala" in collaboration with Project HOPE and others. The various components of the first phase of the project are reported on here.

A dietary assessment was conducted which measured a **45% increase in the number of children meeting their RDA for vitamin A** over the five year period in the IEF project area. The contribution of individual sources of vitamin A including vegetables and fortified sugar and KPC survey information will also be reported. Qualitative research performed in support of the surveys and to better orient the project to client needs will also be presented.

A cost analysis will report the cost of integrated vitamin A interventions including nutrition education (cooking demonstrations and lectures), capsule distribution to children and to post-partum mothers, and gardening. Costs are related to improvements in vitamin A intake and increases in desired behaviors (number of gardens and improvements in knowledge) over the five year period to assess the cost effectiveness of the interventions.

The adaptation of QA assessment techniques to nutrition education will be presented. Dramatic increases in worker performance in a variety of areas tested should encourage other PVO/NGO's to adopt the methodology to improve interventions and to strengthen monitoring and evaluation systems though the use of QA indicators.

Recommendations for future integrated Vitamin A/Nutrition programs and Lessons Learned will be presented as generated in a "Stakeholders" meeting of PVOs/NGOs in Guatemala. This research has been conducted by IEF with funding from USAID, Office of Population, Health and Nutrition, and OMNI Research.

**Please list below the name of the author who will present abstract, if accepted. All future correspondence about this abstract will be sent to this person.**

Name Martha Burdick de Piedrasanta

**Abstracts must be submitted on this form on or before 10 January 1997.** Accepted abstracts will be reproduced for publication directly from this form. The information on this form will also be used for the final program if the abstract is accepted. Prepare your abstract in English. For optimum results, please follow instructions.

INSTRUCTIONS

1. You may photocopy this blank form for multiple use if needed, but please send the original of each typewritten or word-processed abstract.
2. Use a 10- or 12-point type size.
3. Single-space all copy within the box. Leave a margin within the box. Type should NOT touch the outside border, or go beyond the border, of the box.
4. Begin with the title in capital letters, followed by a period. Continue with all name(s), affiliations, and address(es) (city and country) of author(s), followed by a period. Underscore the name of the individual who will give the presentation. (See example on other side.)
5. Begin abstract on a new line, indented 3 spaces. Abstracts must contain sufficient specific data to enable evaluation by the selection committee. (See "Tips for Writing Abstracts.") Proofread your abstract for accuracy.
6. Send your original abstract to the IVACG Secretariat. Please mail the abstract flat; do not fold.

Type your revised abstract in the box above. Carefully follow all instructions given next to the box. Be neat, brief, clear and concise. Original, hard copies of revised abstracts must be received by 30 June 1997 to be included in the abstract booklet. Do not fax your revised abstract. If your abstract does not require revision, confirm this with the IVACG Secretariat by 30 June 1997.

Mail to:

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ILSI Research Foundation
1126 Sixteenth Street, NW
Washington, DC 20036-4810
USA

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# Annex XI: Budget

Strengthening the Evaluative Capacity of Intermediate Organizations "PVO/NGOs"
Cooperative Agreement # HRN-5116-A-00-5010-00

| | Budget: | | Actuals: | |
|---|---|---|---|---|
| Items: | AID | IEF | AID | IEF |
| Equipment/Supplies | 8,350 | 12,200 | 3,220 | 1,965 |
| Services | 22,650 | 500 | 16,144 | 0 |
| Evaluation | 4,500 | 0 | 2,226 | 4,078 |
| Personnel | 98,514 | 6,768 | 105,670 | 33,956 |
| Travel | 18,808 | 775 | 28,199 | 5,062 |
| Other | 19,295 | 9,787 | 19,263 | 4,103 |
| Subtotal | 172,117 | 30,030 | 174,722 | 49,164 |
| G & A | 27,883 | 4,865 | 25,278 | 3,711 |
| Total | 200,000 | 34,895 | 200,000 | 52,875 |

566