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HELEN KELLER INTERNATIONAL

**ASSESSMENT OF
THE VITAMIN A TECHNICAL ASSISTANCE PROGRAM (VITAP)**

ANNEX 7. MALI COUNTRY REPORT

November 28 - December 10, 1992

BEST AVAILABLE DOCUMENT

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HELEN KELLER INTERNATIONAL
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EXECUTIVE SUMMARY

Vitamin A deficiency is one of the leading causes of blindness, morbidity and mortality worldwide, especially among preschool children in developing countries. In 1988, Helen Keller International (HKI) was awarded a five-year grant from the Agency for International Development (AID) to develop a program which would provide technical assistance and resources to other private voluntary organizations (PVOs). This program, called VITAP (Vitamin A Technical Assistance Program), is designed to motivate and engage other organizations in joining HKI and the host government in the fight against vitamin A deficiency.

In 1991, the mid-term evaluation of VITAP was conducted, but no visits were made overseas to the field sites of VITAP's collaborators due to travel restrictions during the war with Iraq. In 1992, Helen Keller International, its PVO collaborators and USAID reviewed its VITAP activities in 22 countries and chose a group of five countries (Burkina Faso, Indonesia, Mali, Niger and the Philippines) and two international workshops which would be the focus of an in-depth assessment. Objectives of this assessment were to identify, describe and quantify the impact which VITAP was having on its collaborators and subsequently on the communities where those collaborators were working.

This impact assessment was conducted over a two-week period in Mali. The three methods used were interviews with the PVO and international donor community, an exhaustive document review, and field visits to Africare and Save the Children project sites.

Helen Keller International has had an intermittent presence in Mali since the mid-1970s, but has not had an in-country office for the duration of the VITAP program. As a result, VITAP's inputs can be separated out from those of HKI, which was difficult and frequently a confounding factor in the other two African assessments. However, in Mali, it was difficult to separate out VITAP's inputs from those of another AID-funded initiative, the Nutrition Communication Project (NCP), which managed several workshops and materials generation after VITAP provided the technical assistance requested from PVOs. NCP's activities have drawn, in large measure, from the storylines and flip charts which were initially developed by VITAP.

In 1990, VITAP held two training workshops for five PVOs and the MOH, drawing personnel from all sections of the country except the extreme north. In addition, three PVOs received assistance to include vitamin A activities in their projects. As a result of collaboration with the Academy of Educational Development (AED) to disseminate the VITAP story-line for educational efforts, there are initiatives on the part of some PVOs to use it in their village-level efforts.

Specific impacts of VITAP's program include, among others:

- o in the course of two years, five PVOs have made solid commitments to provide information on vitamin A through project activities;**
- o a total of 37 project personnel have been trained by VITAP;**
- o a total of 20 MOH staff have been trained;**
- o an estimated 780 village health workers have in turn been trained by project personnel (615 by World Vision alone);**
- o the VITAP storyline about childhood VAD has been adapted for dramatic skits and is being used in village educational sessions; and**
- o the Ministry of Health has included vitamin A in both its Malnutrition Prevention program and in the National Nutrition Plan, as well as including VAC in its essential medicines kit.**

Mali provides an interesting paradigm of the effectiveness of PVO to PVO technical assistance. Despite the relative paucity of VITAP's activities here, and the long gap between past and present activities, PVOs remembered the VITAP assistance, attributed incorporating vitamin A activities into their programs because of this, and managed to continue these activities without any additional technical assistance. Part of the credit for this continuity is clearly due to the ongoing presence of NCP, but part is also due to the collaborative nature of the Child Survival projects. All of the PVOs that received the initial VITAP training are now part of a working group that meets periodically to share information on management concerns and success/failure stories. This type of collaborative work has been fostered by USAID/Bamako through additional funding for the lead agency, not only in child survival, but also in health and small enterprise development. This creates an atmosphere of cooperation and cross-fertilization.

The PVO community has also worked on a number of strategies that may be applicable elsewhere to promote the sustainability of their programs, especially with regards to vitamin A activities. These include integrating education and agriculture into existing health programs (Africare and Save the Children (SCF)), developing health stories in Bambara that build on existing oral traditions (SCF), graduating villages into less intensive technical assistance patterns (CARE), having villages choose projects that are important to the villagers themselves (Plan International), and using very large numbers of volunteer village health educators (World Vision).

The international donor community is also active in vitamin A activities, creating additional opportunities for collaboration, especially given the cost-effectiveness of sharing materials already generated as opposed to new developments. UNICEF has

recently initiated a nutrition education component, and currently distributes vitamin A capsules (VAC) to children 6-60 months old as part of the Expanded Program of Immunization (EPI). FAO has collaborated with AED on a series of short radio plays about nutrition, including vitamin A. In addition, FAO has been analyzing dehydrating techniques to assess vitamin loss and has begun a pilot program in growing baobabs as an additional source of green leafy vegetables. Baobab leaves are currently used, when seasonally available, in most sauces, but this would be the first time growing them as a vegetable rather than simply having them available as a tree crop.

There are several areas in which VITAP can foster this collaborative work, especially with regards to extending the use of non-formal methods and fostering sustainability, as well as improving monitoring and evaluation skills. These include:

- o maintaining a repertoire of non-formal vitamin A activities, including songs, skits and stories, which are made available to interested PVOs;
- o reviewing the village committees organized by CARE and World Vision to determine if improvement and/or replication is possible;
- o developing a modular training program for flip charts by Village Health Educators to improve their effective use, which can be easily adapted to individual PVO's needs, and encourage echo effects;
- o identifying host country personnel, such as the nutritionist attached to the SCF project in Kolondieba, who are capable of conducting vitamin A workshops and ensuring that they receive additional training in how to train, as well as opportunities to use those skills;
- o reviewing the existing training programs for PVO, Ministry and Peace Corps Volunteers to ensure consistency of the vitamin A information; and
- o working with the PVOs to ensure that vitamin A indicators are included on both baseline surveys, surveys of knowledge, attitudes and practice (KAP), and any other data collection efforts, and that these are then properly analyzed;
- o participating or using KAP studies to determine the effects of the various health messages on the non-literate population;
- o extending VITAP's technical assistance to the non-governmental organization (NGO) community, especially targeting the urban population;
- o fostering collaborative approaches on disseminating vitamin A messages with agriculture and education projects, as well as health; and

- o **supporting existing famine mitigation efforts, especially with regards to a distribution system for VAC.**

Assuming that VITAP's work can be extended to include the Ministry of Health more directly in its efforts, it is also recommended that VITAP assist the Ministry in enhancing and regulating its national plan for the supply and distribution of vitamin A capsules.

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ACRONYMS

AED	Academy for Educational Development
AID	Agency for International Development
CFA	Communauté Financière Africaine; currency unit exchanged in November 1992 at 250CFA for U.S.\$1.00
CNIECS	Centre Nationale d'Information, d'Education et de Communication pour la Santé; the National Center for Information, Education and Communication for Health
EPI	Expanded Program for Immunization
FAO	Food and Agriculture Organization
GRAAP	Groupe de Recherches et d'Appui à l'Auto Promocion Paysanne; Research and Farmers' Self-Sufficiency Support Group
HKI	Helen Keller International
JNSP	Joint Nutrition Support Project
KAP	Knowledge, Attitudes and Practices
MOH	Ministry of Health
NGO	Non-Governmental Organization¹
PCV	U.S. Peace Corps Volunteer
PVO	Private Voluntary Organization
SCF	Save the Children Federation
TBA	Traditional Birth Attendant
UNICEF	United Nations International Children's Emergency Fund
USAID	AID mission
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
VHE	Village Health Educator
VHW	Village Health Worker
VITAP	Vitamin A Technical Assistance Project
WHO	World Health Organization

¹NGO is used here as distinct from PVO, and refers to local Malian development agencies. This is an arbitrary distinction, but one used in this assessment to clarify.

I. COUNTRY INTRODUCTION

Situated at the southwestern edge of the Sahara Desert, Mali is the largest country in West Africa. The Sahara covers more than half the country. The southern sections on the other hand experience adequate rainfall for crop production. The intermediate section in the Sahel receives widely fluctuating amounts of rain that can cause havoc with cattle herds and food production. Desertification is a threat even in the more productive south because trees are over-harvested for cooking fuel. It had a population estimated at 10 million in 1991, but its infant mortality rate was almost one for every four children under five years, and it has a very low literacy rate.

In direct contrast to its grim present, Mali was the terminus for most of the medieval trans-Saharan trade in gold and salt. Its cities, Timbuktu, Djenne and Gao, fed the romantic inclinations of generations of Europeans, and provided generations of Islamic scholars with unrivalled centers of learning. Mali continued to be independent and to produce significant states (Segou, for example) until the late seventeenth century. The role Islam played in both Malian history and in the current environment of Mali is particularly important and critical to development efforts, as not only is the majority of the population Moslem, but the religious leaders have been integrated into the social infrastructure of the government.

There are ten major ethnic groups in Mali, of which the Bambara, Dogon and Senufo comprise almost fifty percent of the population. Bambara has become the de facto common spoken language, although French is still the official administrative language.

French colonization left quite a different mark here than on many of the other colonies in French West Africa. While the social and administrative infrastructure parallel those in the rest of this area, the French also made significant physical infrastructural developments. They constructed one of the largest irrigation systems in Africa on the banks of the Niger, and re-introduced major export crops of cotton and rice during their tenure. After independence in 1960, Mali took advantage of Cold War politics and benefitted from additional Soviet infrastructural developments, especially in education: many of the expatriate teachers in other Sahelian countries are Malians.

The droughts of 1973-4 and 1983-4 crippled the agricultural-based economy, which was already damaged by years of Socialist economic interventions. Famine and desertification became the rule, and the general inability to pay for anything resulted in the ongoing degradation of services and quality of life. Food insufficiency, in a country that had been exporting rice, contributed to growing social unrest and subsequent military rule, which as only recently been superseded by an elected government.

In the decade since the last drought, Mali has been steadily rebuilding its agricultural capabilities, extending its irrigated base to the point that Niger (the next country to receive water from the Niger River) has lodged several protests about excessive diversion. Cotton and rice are once again being produced in quantities. The social infrastructure has been steadily reconstructed, but there are still tremendous national

disparities between the irrigated lands of the south and the more Saharan north. This has been a contributing factor to recent armed insurrections by the Tuaregs, which have severely disrupted even relief efforts.

There is no real nutrition surveillance in effect, but three nutritional profiles are distinguishable: 1) north and east, where food supplies are always deficit, 2) center and south, where there is enough food, but it is unevenly divided in terms of access by ethnic groups and family eating patterns, and 3) cities, where child malnutrition is becoming severe. Sanitation and poor vaccination coverage account for most of the maternal and infant deaths, even though there have been substantial improvements in the socio-sanitary infrastructure in the past thirty years. The number of regional hospitals has increased from one in 1960 to five in 1987, while the medical facilities at the district and sub-district level have more than doubled in that time. These improvements have simply not kept pace with the population growth.

II. ORGANIZATION OF NATIONAL HEALTH SYSTEM

Like most Francophone African countries, Mali has inherited from the colonial era a centralized Ministry of Health designed to extend its reach to small localities with health care services. The country is divided into seven regions, subdividing these into districts (cercles) and subdistricts (arrondissements). Numbers of each of these smaller administrative units vary with the individual region's size and population.²

At the regional health level is the Regional Directorate for Public Health and Social Action, one for each of the seven administrative regions and a separate one for Bamako itself. Within this directorate are the various health services, including planning, training, and supervision of staff. At the field level are a number of public health services, including the district center.

At the community level are volunteers who are given an incentive by the government and/or the community. The motivation is usually in cash, or sometimes in terms of help with the volunteers' fields. Within each community, there are development clusters, in which 6 - 10 villages have been grouped together. Each development cluster has a health center that includes a dispensary and a maternity, as well as a midwife and a person trained in first aid. The community level people received a state-based training of 5 - 10 days, and then additional training is provided intermittently by the nurses at the sub-district level, depending on regional initiatives.

²For example, there are seven districts in the third region (Segou). Within the district of Segou (the city) are eight sub-districts. Most PVOs work with the regional or district level health authorities, especially for training workshops.

At the village level itself are village health workers (VHW), who are equipped with the ten essential medicines kit. VHWs are able to replenish their supplies through the sale of these medicines within the village. Vitamin A capsules (VAC) have been on the essential medicines list for two years. However, once they are distributed at the sub-district level, they often appear on the street for sale and do not seem widely available in villages. This situation may change after the International Conference on Nutrition, to be held in Rome in December 1992. At that time, iron, iodine and vitamin A are supposed to become part of the medicine kit at the village level. The VHWs in the villages work closely with the traditional doctors, who recognized by the Ministry of Health (MOH) as an integral part of the national health system.

High levels of malnutrition are well-documented in Mali, particularly in the drought-prone north. PVO surveys there have found that chronic malnutrition affects as much as 83 percent of children aged 12 - 23 months. Nightblindness is as high as nine percent among those most at-risk, i.e., pregnant and lactating women and young children, and constitutes a problem of public health significance. With the finding that the national Bitot's spot prevalence was at 2.4 percent, the MOH drew up a policy and an accompanying strategy in 1990 to combat vitamin A deficiency (VAD) disease. While some activities recommended in its national nutrition plan have been started, the Government expects the December 1992 Rome International Conference on Nutrition to give the national nutrition plan a stamp of approval for full implementation.

There is no separate program for vitamin A; activities largely operate under the National Malnutrition Program. A number of interventions to improve vitamin A status have been recommended in the national nutrition plan, including permanent nutritional surveillance, particularly for children aged 1-3 years, and distribution and/or availability of VAC for preventive purposes where needed. In line with an emphasis on long-term strategies, VAC are emphasized only for acute cases of VAD, and not usually available for routine distribution as a prophylaxis. Also included in the National Plan is a proposal to distribute recipes for nutritious weaning foods and to educate families on healthful weaning practices. The Ministry is working with UNICEF to develop one or more simple and cheap weaning food recipes for home use to avoid adding to mothers' already over-burdensome workloads and chronic cash shortages.

The MOH has already done pilot programs in nutritional surveillance and would like to do this nationally. They have identified six priority areas: pre/post natal care, family planning, child surveillance, including immunizations, prevention and treatment of malnutrition, care for children sick with diarrheal diseases, and research. The national malnutrition levels show that 25 percent of the children 3 - 36 months old are chronically malnourished, while 16 percent of those 12 - 23 months old are severely malnourished.

The national nutrition plan is designed to provide education, conduct surveys on all the regions of prevalence, provide VAC to 100 percent of children diagnosed as malnourished, and provide VAC every six months to children between 6 months and 6

years old and nursing mothers. Interventions planned for 1990-92 to address VAD were to be in Sikasso and Segou, which were chosen because data already existed on the problem in those areas. Available data about the prevalence of nightblindness are as follows: in Sikasso, 4.7 percent in rural children between two-five years old, vs. 1.1 percent in urban children show signs of nightblindness; in Timbuktu and Segou the prevalence rates are 9.5 percent in children >6 years old, and 6.5 percent <6 years old.

VAC distribution was planned for children suffering from measles, respiratory illnesses or diarrhea, and to the target population of children < 6 years old and nursing mothers; it was also planned to build up the stock of VAC for use in the event of a catastrophe, such as another major drought. These have not yet started.

The Nutrition Director of the MOH participated in the 1990 VITAP workshop and subsequently organized regional training workshops for health personnel. Because of frequent personnel transfers, the MOH has difficulty keeping track of where the trainees work and would like to institute a system of permanent in-service training to ensure complete coverage in Mali. Formal training institutions for health personnel also need to introduce nutrition topics into their regular curricula. There are very few nutritionists in Mali, and there is no nutrition training at the secondary or university level. In practice it has been found that PVOs have the most active nutrition programs and that these include VAD prevention and control. While VAC may be found in the health centers, they are largely undistributed for lack of training in most aspects of VAD, from its diagnosis to the proper dosage for treatment. There is little systematic growth monitoring of young children. Moreover, health personnel are described as being so over-loaded already with cases of severe illness, they hardly have time to consider VAD: the preventive aspect of health is overshadowed by the massive curative needs.

III. HELEN KELLER INTERNATIONAL

HKI came to Mali in the mid-70s and worked with blindness prevention programs in a number of regions. HKI does not have a current in-country presence, which means that VITAP activities have been managed by VITAP/NY. These activities have often been coordinated with the help of PVO staff resident in Mali. Based on HKI's reputation, it was one of the first PVOs contacted by the MOH to help put into place a nutritional communication program specific to vitamin A. This led to VITAP's involvement and the training at Segou.

IV. VITAP INTERVENTIONS AND RESULTS

VITAP's mid-term evaluation conducted a thorough review of the types of contacts that VITAP/NY maintains with the PVO community, both in-country and stateside. This type of 'behind the scenes' work of telephoning and networking has contributed in no

small measure to the ongoing favorable environment in which VITAP has operated. These contacts are not as easy to monitor in-country as more visible interventions, such as technical assistance or training. However, the team received much positive feedback about VITAP's communications and networking, although these components were not the focus of this impact assessment.

Given that there is no HKI or VITAP on-site presence in Mali, and that some of the major interventions took place up to two years ago, and also given the staff mobility among the PVO and Ministry personnel, it seemed remarkable to find so many people who knew about VITAP, remembered the training, and could trace specific actions on their part to specific interventions from VITAP. This section describes in more detail some of the overall results that can be attributed to VITAP, and also the interventions that created these results. More information on the PVO programs is available in Annexes 3 - 12.

A. Overall Results

To summarize, some of the specific effects of VITAP's program include:

- o in the course of two years, five PVOs have made solid commitments to provide information on vitamin A through project activities;**
- o a total of 37 project personnel have been trained by VITAP;**
- o a total of 20 MOH staff have been trained;**
- o an estimated 780 village health workers have in turn been trained by project personnel (615 by World Vision alone);**
- o the VITAP storyline about childhood VAD has been adapted for dramatic skits and is being used in village educational sessions; and**
- o the Ministry of Health has included vitamin A in both its Malnutrition Prevention program and in the National Nutrition Plan, as well as including VAC in its essential medicines kit.**

The data from the PVOs were not sufficient to indicate the precise community level impact of any of VITAP's training. In particular, there was no indication from either the site visits or documentation review as to the number of mothers that the various VHEs had reached. However, this should still be recognized as a significant echo effect of that initial training, even if there are no 'real' numbers to back up the statement: all of the PVOs use VHEs, all of whom interact daily with villagers on health issues. The vast majority of those VHEs have incorporated vitamin A messages either directly into their

nutrition education talks, or indirectly in encouraging women to go to maternities for childbirth and then to bring their children in for vaccinations.

B. Private Voluntary Organizations

Three PVOs in Mali received technical assistance in designing their child survival projects with a vitamin A component -- Africare, Plan and World Vision. VITAP's collaboration with these three PVOs drew upon the work in materials development which originally began in Burkina Faso (see the Burkina Faso Country Report for more details.) The storyline about Awa and the flipcharts developed in Burkina Faso were promoted by AED in Mali. As a result, many PVOs and NGOs been able to make wide use of the Awa storyline which is now well known among the health staff in Mali. Training workshops have also had a broad geographical impact by training 57 staff members³ of five PVOs (the three listed above, plus SCF and CARE), the MOH and two Malian non-governmental organizations.

Training

VITAP activities began in October 1990 in collaboration with the MOH in Segou in the north with a training session on vitamin A attended by 28 persons, including Dr. Tetevi Logovi, the chief lecturer and the HKI/VITAP representative. Intended to launch vitamin A activities in the country, workshop participants came from child survival projects of World Vision, Plan International, Africare, CARE, and SCF, as well as regional Ministry of Health personnel.

The three day workshop included practical training on methods of assessing the nutritional status of young children, such as growth monitoring with the use of height and weight and upper arm circumference measurements. A manual and supplementary visual materials were provided which explained how to evaluate and provide counseling on nutrition in rural areas.

Workshop leaders assigned participants to small groups for role play and practical exercises to deal with the new information they had received. The flip charts about Awa were introduced and discussed. Participants made presentations based on their own experiences related to nutrition and child growth and development. Following the technical training on vitamin A conducted in Segou, VITAP held two workshops on nutritional communication techniques in Macina and Dioro, also in the northern part of Mali, for child survival project staff from CARE, Africare and World Vision. In addition, members of the nutrition section of the Ministry of Health attended, bringing the total number of Ministry health personnel trained nearly to 20.

³The number comes from VITAP's records of the workshop.

The sessions were particularly important for the staff of CARE because of their plans to introduce a vitamin A component in January 1991 to their ongoing integrated community development project in Macina in the northern section of Mali. The population seemed receptive to the idea of changing eating habits slightly. This was especially true in the villages where CARE worked, and thus the ones that had already gotten the messages about better eating meant better health. In general, vitamin A rich foods were available in the market most of the year, and CARE decided to concentrate on augmenting their consumption. Milk, fruit and vegetables were available, but are not considered good for men or older children, so the message that these are preventive for nightblindness in women and younger children would not be seen as depriving the more privileged group of anything. Liver could then be portrayed as a curative, which function it already has in the local context.

Baseline Survey

After the Segou workshop, VITAP was invited to conduct a survey for Save the Children Federation (SCF) on the presence of vitamin A deficiency in the Kolondieba region in the southern part of the country where drought and famine have been less severe. SCF has been active there since 1988 with a USAID-funded child survival project which focussed on comprehensive child vaccinations, oral rehydration therapy, growth monitoring and nutrition education, and pre- and post-natal health care. The actual survey was conducted during the month of December 1990 by a VITAP staff member and 14 Malian health personnel.

Three districts chosen for the survey provided a sample size of 200 mothers. The local language has a word for nightblindness, which was recognized by everyone. No one, however, complained about visual complications following measles, and because of SCF's efforts in the area, 76 percent of the children had been vaccinated. Only a third of those questioned were aware of the nutritional role in nightblindness, and health personnel in the district were unaware of the proper dosage of VAC to correct it. More seriously, the possibility that pregnant women could have a toxic reaction to massive doses of vitamin A was not understood, and several cases had been seen in the dispensary.

Because it was a season when food supplies were plentiful, researchers found up to fourteen different foods rich in vitamin A in the local markets; a list was circulated among district health personnel. In addition, another list with 24 such foods available generally in the district was compiled indicating seasonal availability, and information about foods rich in vitamin A consumed weekly by children was also collected. Although about 12 percent of the children under the age of three had not received sufficient amounts of the nutrient, little evidence was found to indicate that older children also suffered a deficit.

C. Academy for Educational Development and the Nutrition Communications Project (NCP).

In Mali, the Academy for Educational Development has been implementing the NCP with collaborating health organizations. The NCP currently has four parts: 1) training and other communication techniques in nutrition, 2) radio broadcasts, 3) material generation, and 4) teacher's guides. The radio broadcasts and the teacher's guides are just beginning.

NCP's training has included non-governmental organizations (NGOs), both international and Malian, in developing seven nutrition messages, many of which include vitamin A components. They have trained NGO staff in interpersonal and group communications. The former stressed how to gear the different messages to the different target groups, while the latter also included the creation and management of focus groups, such as those for Knowledge, Attitudes and Practices (KAP) analyses. The trainings in 1992 were held in May in Sikasso and November in Segou for one week in each place. They found that people needed training in nutrition (as opposed to animation techniques) and will likely try this type of training in 1993. All of the trained people are using the three finished flip charts and have demanded more. The next two flip charts will be revised based on comments AED has received.

There is, however, a problem with paying for the flip charts. Right now the flip charts are free, but AED needs to examine various cost structures which would allow cost recovery for producing the charts with a range of full and subsidized prices for the user groups. NCP staff have decided to concentrate on training people better in how to use the flip charts they already have, rather than continuing as an endless source of more flip charts. There is a recognized and real need for more input and feedback from field personnel and more follow-up on their own training efforts.

The radio program is just beginning, with impetus from the VITAP-assisted FAO workshop in Burkina last year. NCP and CNI ECS (Centre Nationale d'Information, d'Education et de Communication pour la Santé; the National Center for Information, Education and Communication for Health) are developing a series of radio spots in the form of soap operas about nutrition, and are in the process of revising the first five episodes. These spots will be produced with Radio Television Mali, but transmission will only start when they have at least ten episodes completed, so that an entire message can be transmitted. Informal testing of these soap operas was done during the last training.

NCP has already developed other visual aids such as the village companion booklet, advice cards, a newsletter (done in Burkina) and booklets about literacy. The project has also started teacher's guides, which provide suggestions for incorporating nutritional messages into the primary school curriculum. The project staff have just finished writing the first guide, but they plan to do a series using nutritional messages and how to

incorporate these into the school setting. Most of these materials will be in French, although they may be adapted to Bambara.

V. DISCUSSION AND CONCLUSIONS

There is not a lot of overlap of work among the PVOs because they are all very scattered geographically. There has, however, been a lot of cooperation among them, which has been fostered in recent years by the development of 'pivot groups' by USAID. The USAID Mission has designated a lead PVO to provide additional coordination and management to a group of PVOs and SCF is the lead agency for Child Survival activities. This coordination will hopefully foster sharing lessons learned, through workshops and newsletters, and has already resulted in several meetings on project management.

Since VITAP's training workshops were attended by a total of five PVOs and MOH staff from throughout Mali, vitamin A information has been disseminated country-wide for educational efforts, formal and informal, and through dramatic presentations. CARE has specifically attributed its increased project effectiveness to the training its 17 staff members received in 1990.

It is hard to judge, nevertheless, the extent to which VITAP's effectiveness has extended beyond its immediate trainees among the PVO and MOH staff. These original trainees have in turn educated over 800 volunteer and other personnel, but there is little available data to record village-level impact. This is due to the absence of follow up, especially after baseline surveys. Most of the PVOs have done baselines, and several have done subsequent KAP studies. The information from these is available from the PVO headquarters, and occasionally from the field sites, but few of the PVOs incorporate the results of their surveys into operational decisions. Information from one evaluation, or evidence of specific eating practices is not made available to the PVO community, nor is there a consistent picture of VAD throughout the country. Given that the PVOs work in fairly disparate parts of Mali, there may be less benefit to sharing information among themselves, but the benefits to both the multilaterals and MOH are glaringly apparent.

A. Echo Effects

The Nutrition Communication Project in Mali works closely with the National Center for Health Information, Education and Communication (CNIECS). While VITAP contributed to the initial development of the flip charts, NCP has further developed these into short radio dramas and has used them in several workshops on communication techniques. These in turn have created their own echo effects, such as skits and songs. Because CNIECS interacts with a wide variety of national and international organizations, it has a broad geographical impact in Mali. There is considerable potential for working on similar programs in neighboring countries which creates the

possibility for a major cooperative effort in this region of the Sahel. At present, CНИЕCS is the major source of vitamin A information and education in Mali. For the future, the Center has indicated the need for more training on the technical aspects of VAD, including clinical symptoms, treatment and prevention. As a result of AED's collaboration with VITAP and its subsequent activities with the CНИЕCS, it has been able to keep the role of vitamin A in child growth and development in the forefront of essentially every PVO's health agenda in Mali. It is still one of the top priorities of the MOH agenda. The continuing work on the national plan presented to the Rome conference to combat VAD in the MOH health strategy attests to this.

The MOH nutrition director specifically singled out VITAP's original training in Segou as the reason for incorporating vitamin A into both the national nutrition plan and the national VAD plan. Despite the presence of these plans, however, there is little evidence to suggest that the planned interventions have been accomplished. In its efforts to reduce the presence of VAD in Mali, the MOH will obviously need PVO assistance for the foreseeable future. In general, the levels of effectiveness of these activities should be determined by a more systematic approach in assessing actual needs, the specific goals expected, standardized methods for assessing progress, and for evaluating project results. Such steps are particularly important because of the opportunities available for testing the effectiveness of different models PVOs use to carry out project activities. One example would be to compare World Vision's reliance on illiterate women to work in their communities, to the more conventional use of salaried, literate VHEs who require transport to reach the communities in which they work. Another step would be the comparison of CARE's gardening activities with Africare's and FAO's.

B. PVO Initiatives and VITAP Possibilities

An obvious area for more collaboration and coordination is the addition to all PVO activities, as well as to those of local and international health agencies, of dramatic skits, puppet shows, songs and other theatrical events to health and nutrition efforts. For a population that is largely illiterate and with little access to such presentations, audience response should be favorable, considering the enthusiasm such presentations have already received across the Sahel. As village committees take over responsibility for improving and maintaining the health of their communities, such presentations could play a valuable back-up role in increasing receptivity to their activities.

More and more of the PVOs are working on similar projects (especially Child Survival), and using similar techniques to accomplish the project goals. While it is clear that PVOs have individual reporting requirements, most expressed specific training needs in monitoring and evaluation. VITAP has recently developed a booklet of VAD indicators, which would most probably be used either in baseline surveys or as part of the final evaluation. These would seem an ideal introduction to many PVOs with regards to both technical information and skill development, if VAD indicator workshops could be developed.

C. Conclusions

Even without the presence of either an HKI representative or VITAP coordinator, vitamin A education activities appear to have made clear gains at the policy-making level of the MOH and in the PVO community. One reason has been VITAP/NY's contacts with the PVO headquarters, their communication with their field offices, and the steady flow of information from VITAP to Mali. Another reason is AED's ongoing training program on vitamin A and its close association with the national nutrition plan and CНИЕCS. Additional follow up from VITAP would be valuable, however, and CНИЕCS staff had several specific suggestions:

- o supporting training efforts for teaching people how to use the flip charts;
- o training of trainers;
- o providing matching funds for the PVOs to purchase flip charts;
- o conducting or enhancing ongoing field research/surveys; and
- o establishing a documentation center for nutritional materials that have been produced here, as well as a series of publishing catalogues of other sources in French that could be ordered.

Other PVOs no doubt would add to this list, and VITAP could then winnow out the suggestions that fell within its mandate. Starting any future interventions with this field-level perspective on proposed interventions might foster greater PVO participation.

To sum up, VITAP's workshop and TA have provided a favorable environment for the subsequent developments by CНИЕCS. The PVOs reached by VITAP have successfully incorporated vitamin A nutrition education into their programs, and several have extended the basic health message into the agricultural sector. The mechanism for providing PVO to PVO technical assistance had perhaps its most difficult challenge in this country, where there were no major VITAP workshops for almost two years (early 1991 to late 1992).

Nevertheless, VITAP has worked effectively, as PVOs were able to proceed independently to incorporate vitamin A strategies into their programs once the initial collaborative investment was made with VITAP. The PVOs contributed time and resources (especially per diems for their staff) to the workshops initially. VITAP bore the cost of the consultants, but the total would have cost, at a minimum, five times as much if each PVO had conducted a separate training. The spread effects and ongoing programs, in which the PVOs have invested their own resources, attest to the value of a coordinated multi-organizational training effort. VITAP's cost-effective mechanism is the strongest argument for replicating it elsewhere.

VI. RECOMMENDATIONS AND FUTURE STEPS

1. Collaboration

Probably the most compelling need, which emerged at each PVO, is the demand for more coordination. Most PVOs were optimistic about the pivot groups, and additional collaborative work, for example, on technical areas such as VAD indicators, would be welcome and useful.

There are several areas in which VITAP can foster this collaborative work, especially with regards to extending the use of non-formal methods and fostering sustainability, as well as improving monitoring and evaluation skills. These include:

- o maintaining a repertory of non-formal vitamin A activities, including songs, skits and stories, which are made available to interested PVOs;
- o evaluating the effectiveness of the village committees organized by CARE and World Vision to determine if improvement and/or replication is possible;
- o developing a consistent training program for flip charts by VHEs to improve their effective use, and encourage echo effects;
- o identifying host country personnel, such as the nutritionist attached to the SCF project in Kolondieba, who are capable of conducting vitamin A workshops, and ensuring that they receive additional training in how to train, as well as opportunities to use those skills;
- o reviewing the existing training programs for PVO, Ministry and Peace Corps Volunteers to ensure consistency of the vitamin A information; and
- o working with the PVOs to ensure that vitamin A indicators are included in both baseline surveys and any subsequent data collection efforts, and that these are then properly analyzed and applied.

2. Collaboration with the MOH

Assuming that VITAP's work can be extended to include the Ministry of Health more directly in its efforts, VITAP should assist the Ministry in modifying the national plan for the supply and distribution of VAC, especially with clarifying the distribution route between the MOH and the PVO community. In addition, the MOH is in the preliminary stages of developing a continuous training system, based on a series of modules. VITAP could assist with their refinement. The Ministry is also interested in technical assistance

with the nutrition plan, especially the vitamin A component and with a precise survey instrument for VAD.

3. Reaching the non-literate population

The effect that the vitamin A messages have had on the non-literate population needs to be monitored more closely. Many of the PVOs have KAP studies planned at some point in their project cycle, and their final evaluations often include another in-depth study. VITAP could participate in the planning stages of these studies, building on its recent qualitative indicators report. The numerous spin-offs from the Awa story need to be examined in more depth in terms of their impact on their target population. This latter effort might be coordinated with AED's upcoming KAP study with the Nutrition Communications Project, or might be a useful addition to VITAP's final evaluation.

4. Working with local NGOs

VITAP should expand its efforts to the local NGO community, which has been outside of VITAP's prior mandate to this point. This becomes key given that, while the PVOs work in predominantly rural areas, many of the NGOs have targeted Bamako itself. The rapidly growing population, the dearth of sanitation, and the relative paucity of health facilities makes an urban vitamin A program important. Linking this urban effort with the PVOs' prior rural experience would increase the existing networking between and among the PVOs and NGOs.

5. Coordination of VITAP

While VITAP has done a phenomenal job without an on-site presence, there is no denying that a coordinator would have made follow up easier. It would not be cost-effective for VITAP to maintain a country coordinator for each of the twenty-two countries in which they operate, but there are several other alternatives for coordination. First, VITAP might recruit a regional coordinator, responsible for several countries. This individual could be based in one of the countries where HKI currently maintains an office so that administrative costs could be shared. Another alternative would be to increase the time currently spent on VITAP activities in one of the existing HKI offices, so that the staff person would be readily identifiable as working half-time on VITAP. Still another alternative builds on the Malian model, where one PVO could designate one of its own staff as the country's VITAP coordinator. While the current situation in Mali is less than ideal, this last option could be improved if the exact terms of the VITAP duties could be defined and compensated.

6. Expansion of VITAP for famine mitigation

One entire area has still to be addressed in Mali, and it is a singularly glaring oversight. While the MOH planned to maintain a stock of VACs for famine relief, there is little

indication that this has been done. A thorough famine mitigation effort, especially with regards to nutritional blindness, needs to be done and coordinated with any existing national famine relief plans. VITAP can play a key role in this process. Although VITAP was originally designed to work with PVOs and their Child Survival projects, there is clearly a need to incorporate vitamin A into the famine mitigation and relief efforts of the MOH, PVOs and NGOs.

7. Expansion into other sectors

While the PVO community has increased its collaborative efforts, these have been relatively confined to individual sectors. Greater collaboration with education and agricultural programs would bring the vitamin A messages to new audiences, and reinforce prior contact with nutrition education. Both education and agriculture are logical extensions to VITAP, given that each has an enormous cadre of existing personnel, and considerable PVO investment in their support. An initial survey of the education and agriculture programs in the PVO community would be a useful first step before refining either the vitamin A messages, as would contacting the other IEC Centers in Mali.

8. Refresher training

While the initial Vitamin A messages that VITAP transferred have been integrated into most of the PVO projects, several PVOs expressed the need for refresher courses and more and better methods for transmitting that type of information. A first task for VITAP's future involvement in Mali could be a more comprehensive survey of PVO expressed needs. It is clear, however, that there is still a great deal of additional work in vitamin A programming that could be done in this country.

ANNEX ONE: List of Contacts

Africare:

Bamako: Ms. Ann MARONI, Coordinator, Child Survival Project

Dioro: Ms. Ann MARONI
M. DIKO, Primary School Principal
Mme. Salimata, VHE

Save the Children Federation:

Bamako: Mr. Peter LAUGHARN, Co-director SCF/Mali
Mr. Issa SIDIBE
Mr. Modibo MAIGA

Kolondieba: Mme. Haby SIBY, nurse/nutritionist
M. Solo KANTE, Project Coordinator
M. Amadou KONARE, Deputy Coordinator
Mme. Marie BERTHE, nurse/midwife
M. Diakaridia DIAKITE, Deputy Coordinator (Information System)
M. Zana DAOU, Coordinator (Information System)
Dr. Souaibou SACKO, Deputy Coordinator (Health)

Academy for Educational Development (AED):

Ms. Robin ANTHONY, Country Coordinator

UNICEF:

Ms. Ellen BARCLAY, Nutrition Program Coordinator

USAID:

Mme. Fanta MACALOU, Health, Population and Nutrition Office

Ministry of Public Health (Ministère de la Santé Publique):

M. Djibril SEMEGA, Chief, Nutrition Division

FAO:

Dr. Zakary RHISSA, Deputy Representative to Mali

World Vision:

M. David COULIBALY, Project Director

CARE International:

Mr. Peter BUIJS, Deputy Project Director
Mme. Moussokoro KANE-COULIBALY

Plan International:

M. Doumbia LAMINE, Administrator
M. COULIBALY, Controller

Peace Corps:

Mme. Bonnie KITTLE, APCD/Health

CNIECS:

Dr. Mamadou KANTE, Director
Mme. Dandara KANTE, Nutritionist
Mme. Fatoumata MAIGA, Trainer
Mme. Safiatou TAMBOURA, Trainer
Ms. Rachel STOLLER, PCV

ANNEX TWO: Documents Reviewed

1. **AED -- Results of Communications Workshop Activities in Macina -- March, 1990.**
2. **Africare -- Baseline Survey in the District of Dioro, April-May, 1989.**
3. **Africare -- Child Survival Extension Proposal, December 1991.**
4. **Africare -- Results of Mid-Term Evaluation, 1992.**
5. **Enquête sur l'Avitaminose A dans la Zone d'Intervention de Vision Mondiale at Koutiala. Janvier 1992; Dr. Mohamed AG BENDECH, et al.**
6. **Ministère de la Santé Publique et des Affaires Sociales. Programme National de Lutte contre l'Avitaminose A au Mali. Aout 1990.**
7. **Child Survival IV Final Survey: Knowledge and Practice Survey, Save the Children/Mali. May-June 1992, Dr. Ahmed ZAYAN et al.**
8. **Save the Children Home Office Headquarters: Child Survival 5 Mid-term Evaluation. July 1992.**
9. **Save the Children/Mali Field Office. Child Survival 8 Proposal: Training in Child Protective Behaviors and Village Self-Management for Health. Kolondieba and Bougouni Districts, Sikasso Region, Mali. October 1, 1992 - September 30, 1995. Submitted: December 1991.**
10. **Communications pour la Vitamine A: Recherches sur le terrain à Macina, 5 au 22 mars 1990. Nutricom/AED.**
11. **Detailed Overview on NGOs Nutrition Activities in Mali. Contribution of Malian NGOs to the International Conference on Nutrition, Rome, December 5-11, 1992. By Modibo Maiga, Coordinator of the Pivot-Group for Child Survival and Cheikne Magassa, Nutritionist.**
12. **Aperçu détaillé sur les Actions des ONG dans le Domaine de la Nutrition au Mali. (French version of No. 11 above).**
13. **Rapport National sur la Nutrition. Conference Internationale sur la Nutrition. Rome Decembre 1992.**

14. **Ministère de la Santé Publique et des Affaires Sociales. Sous-Programme de Nutrition, 1991-1995. Fevrier 1991**
15. **VITAP -- Preliminary Evaluation of VAD in the Kolondieba District of Mali -- December, 1990.**
16. **VITAP -- Report on Training of Trainers on Vitamin A in Segou, Mali, October 1990.**
17. **World Vision -- Final Evaluation, First Phase of Child Survival Project, 1991.**
18. **World Vision -- First Annual Report - Second Phase, Child Survival Project, October 1991 - September 1992.**

ANNEX THREE: World Vision

The team interviewed David Coulibaly, the director of the health program for World Vision who had participated in the training in Segou.

As part of its integrated community development program, World Vision has included a USAID child survival project that began in 61 widely dispersed villages in 1987 as a vaccination and oral rehydration therapy project. After a 1988 baseline survey that revealed serious malnutrition among young children, growth monitoring and nutrition education were added. Of particular relevance to VITAP were the findings of this survey that reported 52 cases of nightblindness out of the 2632 children examined, for an prevalence rate of 2 percent (>WHO level of 1 percent), with a Bitot's Spots prevalence of .3 percent, no cases of keratomalacia, and 6 cases out of 2632 of corneal scars (or .2 percent vs. WHO .05 percent). Out of 260 responses, 61 respondents used liver as a remedy for nightblindness, 16 (6.2 percent) used the VAC, but 174 (66.8 percent) did not know of any cure.

Four project staff then benefitted from VITAP training sessions in 1990, after which the project included education on nutritious weaning foods and the treatment and prevention of VAD.

The project included components on nutrition/vitamin A, ORT, maternal health, immunization, malaria prophylaxis, and income-generating activities. The plan at that time was to start treating VAD in conjunction with the EPI; as well as starting a diagnosis/treatment program for nightblindness together with a nutrition education component.

In an unusual approach to dealing with these health problems in Mali, World Vision has trained over 600 VHEs who are not literate, nor does World Vision pay their salaries. This is in direct contrast with other PVOs where literacy is a requirement for employment and they pay salaries or in-kind reimbursement. These VHEs actually live in and receive support from the communities where they work, with as many as three per village, thus avoiding the need for transport.

World Vision has also designed a set of symbols for growth charts and well-baby clinic records that are appropriate for use by non-literate persons in compiling their monthly reports. The primary reason for filling out these monthly reports is to make the health community aware of the activities. These are then collected every three months by the project. While they have been filling out these reports for two years, the reports generated are not used to refine project activities.

The VHEs are also responsible for educational sessions for the community once a week. The flip charts were used for the training of VHEs and afterwards so that they could use

them to show to the village mothers. The staff think that the mothers basically understand the messages.

A 1991 evaluation of the first phase found an unusually enthusiastic response in the villages to the World Vision project. Supplemental feeding for infants 4-6 months had increased from 13 percent (found during the 1988 baseline survey) to 39 percent, even though the overall malnutrition rate remained high at 33 percent. Baseline data had also revealed that 58 percent of 12-23 months were two standard deviations below median in weight and height. By 1991 the rate had dropped somewhat to 51.6 percent.

The latest annual report covering October 1991 - September, 1992 indicated that the project had succeeded in promoting nutrition activities in the district. More than half the 61 villages in the project area have active village health committees supporting the VHEs. Their activities range from promoting gardening of vitamin-rich foods to registering children under six years of age for growth monitoring and all women of child-bearing age. There are 19 clinics with materials from the national nutrition project that include vitamin A information, and 47 clinic personnel have been trained in VAD and interpersonal communication techniques. Income generating activities have caught on, and the Malian Textile Company (a holdover parastatal that also has considerable community penetration) is active in the area. An interesting observation made on family food preferences found that males who eat first, as is generally the custom in the Sahel, are not fond of some of the more vitamin-rich foods and tend to leave them for the benefit of women and children. Men tend to eat meat and rice in preference to green, leafy vegetables, for example. Since the women generally cook the sauces using these vegetables, these are still available when women and children are allowed to eat.

The World Vision project at Koutiala emphasizes nutritional education for mothers, gardening: with regards to xerophthalmia and malnutrition, they provide a curative dosage of VAC, but do not have a systematic distribution of it. The children receive the capsules during weighing. They only weigh children in dispensary villages, in the other locations they simply use the circumference bands. They are going to start weighing all the children at least once a trimester and do messages at the same time. The VHEs are volunteers, but were trained by World Visions and the MOH.

There are 615 VHEs scattered over 61 villages. There are almost ten in each village. This is because the various village quarters are so far apart- and as many quarters as there are, World Vision installs twice that many VHEs. This way there is an automatic backstop for messages and coverage. Each VHE has a flip chart, a one liter cup for sugar salt solution⁴ and an arm circumference band.

⁴Sugar salt solution is a type of oral rehydration therapy (ORT). Rather than using the ORT packets that are not necessarily available everywhere, most PVOs have chosen to present this therapy using readily available - and usually less expensive - resources.

World Vision asked the VHEs to come with the Village Health Committees to a central location, often someplace with a dispensary. Their training took one day and was designed to show how all the different health messages were integrated. Follow up training has consisted of trainers going to the villages with the VHEs to correct the messages, as well as to expand the messages and to teach them new techniques of animating meetings. The training was set up this way because the VHEs' husbands did not like them to spend many nights away from home.

A recent evaluation noted that the project is slow to change even when the objectives are not necessarily realistic or well-chosen. Of the 615 VHEs, all are active; but only 5 village associations out of 12 pay their CHW, and there are only forty village health committees rather than 61.

It is doubtful that the activities would be sustainable because there is no supervisory mechanism (with the MOH or the NGO) built into the plan. As a result, they are considering the following option, whereby the monies collected in each village are divided in the following fashion: 10 percent to augment the rolling fund, 50 percent for health services and promotion, 40 percent for the VHEs. The money for this comes from the villages paying: 100CFA for growth monitoring cards, 100CFA for vaccination cards, and a 1000CFA village fee.

For the follow-on project, World Vision plans to: expand the target group for health education, emphasize nutrition/ supplemental weaning foods, expand the Vitamin A component to include more foods, mobilize people for EPI, stress giving more liquids in cases of diarrhea, and provide family planning messages for women as part of the maternal care component. They are going to expand the VHEs' involvement by putting them in all 60 villages and expanding the target audience, as well as putting them in all 12 districts of Koutiala town. VHEs will do weekly messages and home visits.

ANNEX FOUR: CARE

In the arid northeast of Mali is CARE's integrated community development project in 80 - 90 villages. They have managed this since 1987, with the 1990 addition of a child survival component. Like other similar PVO projects in Mali, CARE actively works to organize village health committees to ensure the sustainability of their interventions. With the help of AED-designed materials and training workshops, each of the 15 VHEs is responsible for 5 - 8 villages. They conduct nutrition education, malnutrition surveillance, and growth monitoring among young children. They also give cooking demonstrations with vitamin-rich food, especially of weaning porridges made with green leafy vegetables from the community gardens promoted by the project, and which are now firmly established in nearly half the target villages. Effective techniques for food preservation are still in the experimental stages.

The inclusion of these activities is a result of VITAP training workshops in late 1990 to which CARE sent a total of 17 of its project personnel. Earlier that year a baseline study had indicated that previous nutrition and vitamin A activities had failed to make headway in improving family nutritional practices and food consumption patterns in the area. Several years after that training, some village committees supporting these activities have become so successful that CARE has declared them self-sufficient enough to be phased out of the project. Less frequent supervisory visits to these villages encourage them to continue with their work. CARE makes the following classifications in their project area: untouched village, with a garden or well; in stabilization; and graduate villages.

CARE attributes much of its success in communicating vitamin A topics to more effective educational techniques, for which they have found AED materials useful. Many of their staff also participated in the VITAP workshop on communication of vitamin A topics held in Macina in 1990. With literacy at near zero, project staff expect to add dramatic skits and other theatrical devices to reinforce their nutritional messages for target groups. Gardening messages (including drying foods in the shade) and food preparation/purchase messages targeted at different groups (pregnant women should drink milk, older children should prepare special foods for the younger children in their care) were a major focus for the project.

By and large, the VHEs have succeeded: they have a certain prestige in the villages where they work and the messages on EPI and ORT have been successfully transmitted. The VHEs have given out small posters to the women who participated as a sort of certificate; this could easily be extended to other types of messages (like vitamin A-rich

foods) laminated so that they would last longer. Or it is possible that something with this message could be added to the gris-gris⁵.

Two interesting effects of the village education efforts were that, first, gardening initiatives were about constant during the two past years: 661 in 1989 vs. 642 in 1990, but the 1990 figures include 70 percent women gardening, vs. 36 percent the previous year. The percentage of women gardening had increased significantly. The second effect was the finding that while the messages had been received and understood, the 'why' it was necessary had either not been transmitted or else had not been clearly understood. This clearly needs additional effort, as it indicates that women are parroting the messages, rather than using them to change their actual practices.

CARE also plans to follow up its baseline survey to measure as accurately as possible any potential improvements in the nutritional status in its target villages. One important aspect of CARE's program that can be included in the follow-up study is the extent of nightblindness and knowledge about its cure. In 1990 the national nutrition project did a study of six villages where CARE had intervened and six control villages. Investigators found that nightblindness was commonly known, but that there was very little understanding about the cause or effective cures. If the six control villages have still not received CARE interventions at the time of the follow-up survey, a clearer picture of CARE effectiveness could emerge.

⁵ Gris-gris are protective charms, either animist or Moslem. Most Malians wear several, and it is usual to see a toddler wearing only a gris-gris.

ANNEX FIVE: UNICEF

While EPI is a nationwide program and VAC is distributed as part of this, UNICEF works mostly in the north: in Segou, Mopti, Timbuktu, and Gao. They will be distributing VAC to children 6 - 60 months in conjunction with the EPI. They are also starting a new health program to restart health services in the northern region which had been disrupted.

A micro-nutrient project has been drawn up for approval by UNICEF for implementation in four northern provinces, to be managed by a project coordinator in each province with an MOH counterpart. VAC distribution as a prophylaxis is planned, particularly for children age 12 - 23 months, in conjunction with a vaccination program, by mobile teams that will also conduct sessions with villagers on health, nutrition and vitamin A topics. FAO will also contribute information on food preservation.

They are just starting the micronutrient project. The problem for nutrition activities is that this is a grey area between agriculture and food security and health. The impact of nutrition therefore varies on who is running the program. There has been an operational shift in food security from an emphasis on production to women, literacy, and education. The old five year plan included nutritional education but it was ad hoc.

Nutrition information is a big gap, and so they are going to do a nutrition information system in these four regions. They have a documentation center and would be interested in being a clearinghouse for information and materials. They are also looking into collaborating with Early Warning Systems, but would want to incorporate certain standards for nutrition surveys.

They currently do not have any nutritional materials but are very interested in the AED ones and have started talking with them about more information, as well as on collaborative efforts. UNICEF hopes with assistance from AED to follow up the mobile teams' work with literacy classes that will include nutrition and vitamin A topics based on the "Awa" flip charts.

ANNEX SIX: FAO

Mali is one of the participant countries in FAO's Regional Communications Strategy project, which has been designed with technical assistance provided by VITAP and AED. FAO is actively investigating the most effective methods for preserving food in Mali, particularly for vitamin retention. Based on its results, successful techniques will be included in its project in a northern section of Mali. This project promotes nutrition education in villages, and works to improve and increase productivity of vitamin-rich fruits and vegetables by planting orchards and gardens.

These activities are actually implemented and supervised by Ministry of Agriculture extension agents who received training from FAO. As the confidence and ability of the agents is established, FAO plans to replicate this project in other sections of the country. They are actively involved in promoting increased production and consumption of foods rich in vitamin A. One initiative is a national project (i.e., limited to Mali) based in Segou. This has four components: production of vegetables, nutrition, food preservation/conservation, and the development of fruit trees. Most of the activities for this project take place in and around Segou, under the supervision of agricultural extension agents. These people report to the Regional Director of Agriculture, who decides how and in what manner they will collaborate with other sectors.

Of particular interest is the food preservation/conservation component. The FAO deputy representative keeps little sealed plastic bags of dried or dehydrated onions, pumpkins, mangoes and meat. Samples of all of these have been sent to the U.S., Germany and France to determine which method preserves the most vitamins. Once that is determined, they will start training people in the most effective food preservation techniques.

Another activity of interest in this project is the deliberate cultivation of baobabs as a vegetable. Rather than harvesting the leaves from mature trees, seedlings are planted in small groups and then the leaves are harvested as the farmer wants them in the daily sauce, or for sale. Since there is little effort in their cultivation, except an every other day watering requirement, these are an attractive and relatively inexpensive intervention.

There is a perception that people are interested in and actually starting to improve their diets. The actual availability of vitamin A-rich foods does not seem to be the key constraint. Instead, dual problems are the ability to purchase these foods and cultural habits creating unwillingness to consume them. These two issues need to be addressed through appropriate messages and other appropriate actions. People need to vary their diets and to augment what they currently consume by dry season gardening.

FAO is also investigating strategies that will be sustainable, and is pursuing some private sector initiatives that may prove so. To prepare the ground, FAO plans conferences, meetings and seminars on agriculture and nutrition-related topics to demonstrate the

success of its pilot project. Because FAO has links with other agencies, such as UNICEF, that are involved in helping to improve Malian nutritional status, it expects to have a broad impact on the effectiveness of long-term strategies to improve agricultural production in the country.

ANNEX SEVEN: Africare

Africare has had a small integrated community development project working in 30 villages since 1988. Child survival activities were added in 1990 and include nutrition education, gardening and food preservation. VITAP assisted with project design and Africare staff attended two training workshops.

According to a 1989 baseline survey, infant mortality stood at 160/1000, and the malnutrition rate was 29 percent for children under five years. For those between 12 - 23 months, however, it was 44 percent. The ORT utilization rate was 2.8 percent. The survey also found that weaning foods were started at 6 - 11 months by over 65 percent of mothers, 82 percent of whom reported feeding their children green leaves, papaya and other vitamin-rich fruits and vegetables when available. Note that these statistics pertain to the period before any project interventions. Although food supplies were plentiful in December 1992 during the Assessment Team's visit, by planting time in the summer of 1993 there will probably be severe scarcity.

By mid 1992, Africare was able to report a reduction in the malnutrition rate to 22 percent, even though it had been 28 percent in the first quarter. Whether there has been any change in the other figures has not been documented, because data collection and analysis has not been done effectively, according to a 1990 mid-term evaluation. No follow-up data were available to the team. The project coordinator in Dioro indicated that for this small project a simple manual system of reporting to headquarters would be preferable to computerization, especially since electricity supplies are usually haphazard. At the moment, information is compiled manually in response to requests from their headquarters office or in response to AID reporting requirements, rather than maintained more systematically.

Africare is very effective in using the resources available in the area. Training is provided for the few MOH personnel who work in the project area, IBM has contributed \$50,000 for gardening activities, and there is close collaboration with the school system.

Nutrition education is a recent addition to project activities, but shows promise as an effective reinforcement to the five VHEs who conduct educational sessions with community groups. These literate women have been trained in the importance of nutrition and vitamin A in the diet.

A VHE observed was holding a session on important ingredients for nutritious weaning foods that was initially well attended by village mothers, as well as some children and their grandmothers. In using the flip charts to illustrate her points, the VHE appeared to benefit from an attentive audience. As she progressed through the narrative, however, there seemed to be some loss of interest, as disappearances from the group became noticeable. Why this happened needs to be investigated because several possibilities are apparent, including the likelihood of previous exposure to the story in a more

imaginative form -perhaps live acting by school children.

In five villages, the VHEs mostly use the flip charts and give demonstrations on preparing enriched porridge. These five villages also have gardens so the nutrition activities are more integrated. There are anecdotal reports from the health officer that nightblindness is reduced in the areas with gardens. Altogether, there are 30 villages in this project. The five villages with gardens are demonstration centers for some of the others in the region.

The Africare agents mostly just use the flip charts, but they have also done some songs and role playing, and would like to do much more. One new activity is to go out to different villages in the evening to show videos on health issues, as well as other topics. This requires bringing not only the television and the VCR, but also a portable generator and a team to guide discussion groups afterwards.

Since May, there have been three workshops (two of them by AED) with a lot of informal exchanges of information. In fact, this is what prompted the agents to go visit other sites, in order to study the Child Survival projects and then bring ideas back to Dioro.

Since TV and radio are not very well established, theater is a much more viable option. Cassettes with musical messages have also been tried with some success by a PCV who then led the second AED training in Segou. A local school principal who attended a VITAP training workshop in 1990 has a talent for dramatic presentations and has contributed an enormous amount of time and energy to the project. He has written a short play in French that he plans to translate into the local language, Bambara, based on the VITAP storyline of Awa and her family with the malnourished child suffering from VAD. Both Africare and the principal are trying to introduce nutrition messages into the primary school level, possibly with a child to child program, with a schoolchild telling a child that does not attend school.

The theater piece was based on the AWA stories, but he wanted to emphasize the educational aspects. He also wanted to emphasize the communication techniques he learned in Segou. There is a cast of ten with a head of family, grandmother, older and younger brothers, as well as parents and the teachers. The family gets the information from the school child, from the VHE, from the health agent at the dispensary: all of whom reinforce each other. This way the family gets the same information from multiple sources. One thing they need to determine is whether people are perceiving these as the same messages.

The other teachers are interested in writing plays, perhaps longer ones with older children in mind. They are interested in putting this on video, and perhaps extending the subject to the gardening/reforestation efforts. One of the reasons for targeting schoolchildren is that you reach the rest of the family when each child goes home at

night and tells what she or he learned.

As Africare completes its planned activities in the original project villages, expecting them to become self-sufficient and able to carry on its work through the village committees it has helped organize, it plans to move on to another 52 villages it has already identified. There will be baseline surveys conducted in each village and questions to obtain information about the prevalence of nightblindness, a subject not covered in the first survey. If a set of indicators can also be established for growth monitoring and nightblindness for use in periodic reports, valuable information could be obtained about project progress.

ANNEX EIGHT: Save the Children

A physician and a nurse-nutritionist from SCF attended the VITAP training workshop on VAD in 1990. SCF has in turn trained a staff of eight VHEs to educate villagers on the need for vaccination, oral rehydration therapy, growth monitoring, and tetanus for pregnant women. Since 1986, SCF has had a nutritionist supervising the VHEs, and health has become the largest portion of this project, which also includes well-digging, gardening and literacy classes.

Since food supply in this area is a problem only during the planting season when stocks run low, most cases of malnutrition are attributed to poverty and lack of proper food preservation. This area was also the subject of a VITAP-assisted survey in 1990 that found no clinical symptoms of VAD. This survey was done in three sub-districts out of a total of five. Respondents identified eight vitamin A rich foods, three vegetable and five animal. People do give these to weaning children, but generally late and without realizing the nutritional value. Many women know about vitamin-enriched porridge and other local weaning foods. Most people do eat all of these foods at various times. Conclusions and recommendations from the survey were that mass distribution of VAC was not warranted, but high-risk cases should be addressed and nutrition education should be implemented, especially using the flip charts.

SCF has an integrated community development project with a child survival component in southeastern Mali. The target area includes 40-45 villages with a population of 126,000, 24 percent of whom are children under the age of 59 months. Nutrition activities, including vitamin A, have been an important part of SCF's health program. Since the project's main emphasis is on long-term strategies, VAC are not distributed, nor does SCF provide access to the capsules for curative cases. The nurse-nutritionist, who also participated in the survey after the VITAP workshop, expects nutrition education to be sufficiently effective for long-lasting results. In this case, SCF is implementing the nutrition education component of the recommendations, but has chosen not to address high-risk cases.

SCF has had a number of successes which indicate its program effectiveness. The measles vaccination rate has reached 75 percent, while the national average is 30 percent. The infant mortality rate for the SCF project is 73.2/1000, down from the baseline rate of 178. Because high maternal mortality rates persist, SCF has targeted 80 percent of pregnant women for pre- and post-natal care, with tetanus immunizations for 90 per cent. By late 1992, SCF was able to report informally that most of the women of the project area were delivering at the maternities, with improved outcomes.

To ensure the sustainability of these new activities at the local level, SCF hopes that by 1995, 80 percent of the village health committees they are currently organizing will be capable of managing community health activities.

There is a fully computerized data entry and retrieval system in place in Kolondieba, the project site. Children under the age of six and women of child-bearing age are all registered. They are looking towards universal enrollment in their health information system, about 126,000 people. The SCF staff, however, have no capability, either there or in Bamako, for analyzing the data. Information for progress reports is tallied manually because the computer system is extremely slow and training for it was inadequate. SCF staff prefer to rely on the manual system in which they were originally trained, and in which they have confidence. The manual health information system is a set of rosters that are kept by the village health workers on weighing and ORT for the children, as well as a number of other interventions.

SCF was recently designated the lead agency in Mali for Child Survival projects. While the assumption is that more collaboration and coordination will take place as a result, it is not entirely clear what it will mean in practice. So far there have been meetings for information exchange and talks on technical aspects of project implementation, such as evaluation.

There are six sector programs in credit, literacy, agriculture, water, primary education and health. About half the program is in health, including 40 - 45 people, including nurses, midwives and 34 village based health educators covering 5 - 6 villages which they visit twice/month. The VHEs do the following tasks:

- 1) children in yellow/red area of band are weighed every month and have follow up visits,
- 2) children in the green area are weighed every 3 months, and
- 3) mobilization for vaccinations. MOH personnel actually give the shots, so the VHEs just make sure people know when the EPI team will arrive and ensure that non-vaccinated children go. Mobilization for vaccination is a definite issue in that it takes so long to vaccinate because of cost and logistical features and, therefore creates a problem in terms of coordinating with VAC distribution.

Male VHEs also hold cooking demonstrations, which the village women especially enjoy. The male VHEs do the weighing every three months for normal children and newborns and at-risk children are weighed every month.

Each month there is a meeting in Kolondieba to discuss the individual male VHE's workplan. There is close collaboration between the health personnel and SCF's personnel and they come to each other's monthly staff meetings.

The VHEs who are trained by NCP and the nutritionists usually have a ninth grade education. Since both the female VHEs and the village agents are illiterate, SCF is planning to start training them in literacy this year. The training would be in the

familiar cascade fashion so that the trainees could start training other health personnel in literacy, especially the members of the village health committee. SCF also plans to tie the second phase of the project to literacy, especially female literacy. The project area has a 15 percent male literacy rate, and a 5 percent female literacy rate. Another project site emphasizes non-formal education, where SCF has started with a Bambara primary school in one village.

In addition to the flip charts, the VHEs use large pieces of white cloth, with the stories on it, chiefly on the two types of malnutrition and the three major groups of foods. They looked at the materials from GRAAP (Groupe de Recherches et d'Appui à l'Auto Promocion Paysanne in Burkina Faso; Research and Farmers' Self-Sufficiency Support Group), but thought that they were too expensive. The male VHEs already use stories from the Bambara oral tradition about health. The SCF nutritionist did not think they will have a problem in adapting these with the NCP materials.

One of SCF's activities has been in community collective gardens. There are plans to expand these into other arrondissements, introducing materials that are rich in vitamin A as well as known local foods. Family gardens are treated about the same as the community ones. There are approximately 300 family gardens that they have supported in some way, and they have noticed increases in consumption, as opposed to the mere production of foods for sale. The community gardens have similar outputs, i.e., consumption among the villagers and production for sale, which provides people some extra income. SCF provides an initial orientation and training and then provides seeds, especially for foods rich in vitamin A. They also do considerable follow up to identify the various local problems associated with gardening or other factors. SCF's approach is integrated, where the communities build wells first, then construct protection against animals, then receive training in gardening, and then begin gardening in conjunction with learning about health issues. Now that there are lots of dark green leafy vegetables for sale in the market, SCF is going to start messages about encouraging people to eat them.

BEST AVAILABLE DOCUMENT

ANNEX NINE: Peace Corps

Health education (as distinct from health) was added to the Peace Corps program in Mali in May 1992. Twenty Peace Corps Volunteers (PCVs) have been trained to hold village sessions on nutrition education and vitamin A topics, and to work in dispensaries on growth monitoring and to introduce and/or improve nutrition counseling. Volunteers are assigned to the district and sub-district health centers, but also get involved with TBAs and nurses to expand the health messages. These PCVs do not work on any curative aspect of health. Although Peace Corps Volunteers have traditionally worked with Ministry counterparts, more recently they have also been able to collaborate with the PVO community.

In general, Peace Corps has found visual aids, including the flip charts, to be extremely important tools in conducting informal educational sessions. They intend to adapt them for use by PCVs working as teachers and agricultural extension agents. Visual aids have also been developed by different volunteers: a health volunteer in Manantali did a cloth chart similar to the flannelgraph except that the pictures were stitched/stapled to the white backdrop. Copies of the flip charts developed by VITAP are available, but there is a demand for more, especially in the Bambara language. They could use at least 40 more sets, not just for the health volunteers, but also for agriculture volunteers who receive some health and nutrition training.

In Mali, Peace Corp Volunteers are placed on teams that are no more than 30 kilometers apart so that they work in integrated rural development. This is a new approach that has only been in place for just over a year, but this is designed to be more of a development effort than a simple cultural exchange. There are ten-year plans for each site where volunteers are placed. The twenty new sites they have chosen will have volunteers there for the next decade. They are going to do a training needs assessment of all the health personnel in the subdistrict where volunteers are assigned.

The Peace Corps program in Mali also includes two agricultural programs, as well as natural resources management, small enterprise development, teacher trainers, water resources management, and health. There is a certain amount of anecdotal evidence that there are more latrines than there were ten years ago; that there is a greater awareness of fruits and vegetables; and that there seem to be a lot more people with gardens, although production is more for sale than personal consumption.

ANNEX TEN: CНИЕCS
National Center for Information, Education and Communication for Health

Since 1988, the Center has devoted a major part of its resources to a nutrition and vitamin A communication project, with collaboration and assistance from the Academy for Educational Development (AED). Using data from knowledge, attitude and practice (KAP) studies to determine target groups and the kinds of messages needed to reach them, the Center has developed educational materials, such as brochures, flip charts and posters. These include many based on the VITAP storyline, originally developed with the MOH in Burkina Faso. A number of Malian NGOs involved in nutrition education have sent training staff to the Center's workshops where they learn how to use these materials, as well as techniques for interpersonal contacts and group discussion. A number of PVOs have also benefitted from the Center's training, including CARE, World Vision, Africare, Save the Children and Plan International.

More recently, CНИЕCS has collaborated with FAO and VITAP in the creation of 10 episodes for a radio drama in local languages for rural populations to be broadcast later in 1993. CНИЕCS has also developed a teacher's guide in local languages for primary classroom instruction. Trained health educators also work with the teachers to increase their effectiveness and to help increase class participation during the sessions.

A major concern for CНИЕCS is how to improve, on an ongoing basis, strategies and methods of working in villages on vitamin A and nutrition education. To update its information about target groups and the level of their understanding of the role of vitamin A and nutrition in child development and health maintenance, a follow-up KAP study was planned for February 1993. This is expected to provide guidance in improving nutrition messages on the village level.

ANNEX ELEVEN: Academy for Educational Development (AED)

AED, working through its Nutrition Communication Project, has been responsible for a number of nutrition education activities in Mali. These have occurred primarily in conjunction with CНИЕCS, but have also built on the initial VITAP workshop in Segou. Probably because of the presence of CНИЕCS, there are the most spin-offs of the flip charts in this country, and the use of different, simple, messages delivered via a variety of media is well-known. For example, in 1990-91, NCP interventions included training and print media; 92 community media (plays, etc.) will be added, followed by radio spots.

Between 11/11 and 12/16/90, NCP conducted a survey among the parents of children under three years of age in 47 villages (out of a total of 132 villages), half to be used in the NCP study, half as control. Each of the three sites had two teams of five people each, which included a health agent and four MOH personnel (of which three were female).

Nine PVOs, three government organizations, Peace Corps, and several donor agencies are involved with NCP's project, with lots of training and follow up. Some of the past activities included:

- o worked with nutrition section of MOH to finalize strategies for the Control of Diarrheal Diseases Project (with PRITECH), in collaboration with MOH, CARE, VITAP, Africare, World Vision;**
- o completed research for CARE/Macina report, health training module;**
- o held workshop June 18 - 22 (1990) about Macina results and incorporating vitamin A into program;**
- o performed KAP field work and analysis (December 1990); and**
- o held training and counselling sessions (December 1990).**

NCP uses different approaches with the different PVOs to accommodate their diversity of activities. For example, NCP and Africare are exploring how to introduce nutrition education into its agro-business and gardening projects. CARE is working with NCP on effective use of its child-to-child approach. SCF is institutionalizing NCP health worker training and motivation activities, as well as serving as the liaison with other PVO Child Survival Projects. With World Vision, they are experimenting with women's theater group as both health education and income generation.

Recommendations from a recent evaluation were to focus messages on fewer nutritional issues with a reduced set of behavioral objectives. For 1992 these have been limited to: 1) promoting vitamin A-rich foods as the prevention and cure for nightblindness; 2) emphasizing men's responsibilities for women's and children's nutrition; 3) helping men and women make better food choices in the market place for women and children's

snacks; 4) promoting discrete child feeding behaviors including at least 3 supervised meals/day and use of a separate feeding bowl for children 12-36 months old.

The target behaviors for the project are as follows:

- for women: o recognize nightblindness as symptom of VAD and know what foods to take to prevent/cure
- o eat extra fruits, milk, peanuts when pregnant
- for children: o breastfeed exclusively to 6 months
- o use separate bowl to feed children 6-18 months
- o feed at least 3 meals a day; supervise meals for children able to feed themselves
- o give mashed fruits and enriched porridge to children after sickness and during growth periods.

The development of particular messages for different target groups is another indication of the growing sophistication of the communication techniques. Not only are the PVOs in Mali given a wide variety of techniques, but they are also provided with a growing variety of tools. Many of these are moving beyond the health sector to initiatives in education.

ANNEX TWELVE: Plan International

Plan has a decentralized operation in Mali with three separate community development projects that report only to its international headquarters. These are in Katie, Banaba and Kangaba. While there is an office in Bamako, it opened only recently, serves mostly as a post office, and had minimal information available to the Assessment Team on the scope and content of field operations. These projects, the first having started in 1976, all have components promoting health, agriculture and education, plus Child Survival activities, one of them having been funded by USAID. Other activities include setting up dispensaries and digging wells, to which villagers contribute their time and labor. Only Banaba has any funding from USAID; the other two are supported solely by donations from overseas.

Health activities comprise more than half the focus of the project in Banaba, which is staffed by two doctors as well as several specialized health agents. They have reputedly done quite a lot regarding Vitamin A activities in Banaba, especially in terms of vaccinations and other interventions, but the staff at the Bamako office could not provide any information on either scope or effectiveness.

While Plan International uses both male and female VHEs, their primary village level contact is the Village Development Committee. This Committee is charged with identifying and prioritizing specific needs in the community, which are then presented to Plan and the local government officials. Many of these projects include things like dispensaries or wells, to which the villages also contribute, either in labor or in kind.