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QUARTERLY REPORT
April 1992-June 1992

Edited and Produced by

Vitamin A Field Support Project (VITAL)
International Science and Technology Institute, Inc.
1616 North Fort Myer Drive, Suite 1240
Arlington, Virginia 22209
Phone: (703)841-0652
FAX: (703)841-1597

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VITAL

VITAMIN A FIELD SUPPORT PROJECT

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PROJECT OVERVIEW

The VITAL project was initiated by the Nutrition Office of the Research & Development Bureau (R&D/N), U.S. Agency for International Development (USAID) in fiscal year 1989 to respond to the field support needs of its missions, bureaus and offices to expand their programs to combat vitamin A deficiency. The project is committed to serve USAID, host country governments and institutions in the design and implementation of vitamin A intervention programs.

As part of the Office of Nutrition's Vitamin A for Health project, VITAL provides **technical assistance** for prevalence assessments, feasibility studies, project design, monitoring and evaluation. Program interventions include vitamin A supplementation through health care delivery systems, food fortification, nutrition education and home or community gardening.

Through **collaborative inquiries**, VITAL supports operational research to test innovative ways of increasing the coverage, effectiveness, and sustainability of vitamin A activities to prevent blindness and enhance child survival.

Through its multi-channelled **information gathering and dissemination strategy**, VITAL provides a central resource base for information exchange and training on vitamin A problems and programs throughout the world.

VITAL is managed by the International Science and Technology Institute, Inc. (ISTI). Its subcontractors include the University of Arizona, Community Systems Foundation and Program for Appropriate Technology in Health. A Technical Advisory Group, composed of distinguished nutrition experts provides guidance and monitors work in progress.

REPORTING PERIOD ACTIVITIES

General

1. Program Evaluation

VITAL staff provided information about the R&D/N Vitamin A for Health Project activities and collaborators to a team of external evaluators who initiated a several month long review of the project for R&D/N. As one component of that overall project, VITAL's activities were included in the evaluation.

2. Project Mid-Term Review and Planning Meetings

In June, VITAL staff reviewed project performance to date and plans for the remaining project period with R&D/N staff and representatives of the Africa and LAC Bureaus. Based on the experience to date and expectations and priorities of USAID, VITAL will direct its efforts towards making measurable impacts in priority countries.

3. International Donor Agency Collaboration

VITAL's collaborative relationships with international donor agencies were strengthened further during the third quarter, especially with regard to the Africa region. Dr. Barbara Underwood, WHO Vitamin A Advisor, provided valuable assistance to VITAL and the Nigerian counterparts in initial planning for a national micronutrients survey there, and provided valuable comments on a preliminary report of the Uganda prevalence survey. Final arrangements will be made during the fourth quarter with WHO/SEARO to implement the collaborative inquiries project with the three member institutes of the SEARO Nutrition Research-cum Action Network described further below. We also made preliminary plans to work with FAO/Rome to implement a Sahel region solar drying project to increase consumption of vitamin A rich foods. More detailed plans will be made during the fourth quarter. We continue to work closely with UNICEF in Uganda, where we will be collaborating on planning and implementing action programs stemming from the recently completed prevalence assessment.

Africa Region Activities

1. Cameroon

Dr. Pierre Huguet of the Institut d'Ophtalmologie Tropicale pour l'Afrique (IOTA), Bamako, Mali, went to Cameroon in early April for VITAL to train and standardize the four ophthalmologists participating in the blindness and vitamin A deficiency prevalence assessment in the Extreme North Province of Cameroon. Field work for this survey was completed by mid-May, and data analysis is currently underway. The survey is a collaborative effort of the Ministry of Health, and two USAID - funded collaborators - Drew University and VITAL. The Drew team is now analyzing the clinical data and VITAL is supporting analysis of the biochemical and dietary/nutritional data through the Organisation de Coordination pour la lutte contre les Endémies en Afrique Centrale (OCEAC) in Yaoundé. Dr. Mohamed Mansour, VITAL Nutrition Advisor, will go to Yaoundé in early August to help with the interpretation of preliminary nutrition results, and to begin making plans for a national workshop to disseminate survey results. Drew and VITAL staff will meet in mid-August to review the analysis process and plan the preparation of the final report. Results will be presented at a workshop in Cameroon later in 1992 at which time appropriate program strategies will be formulated.

2. Mali

Robert Pratt and Dr. Mansour went to Mali in May to discuss with the Institut du Sahel (INSAH) plans for collecting and disseminating vitamin A information to francophone Africa through its Documentation Division (RESADOC). VITAL also visited Ministry of Agriculture's Research Service for Fruits and Horticultural Projects (SRFM) to discuss solar drying opportunities to reduce post harvest losses in Mali and to increase consumption of vitamin A rich foods. VITAL also met with the director of the Institut d'Ophtalmologie Tropicale pour l'Afrique (IOTA) to discuss the need for and feasibility of conducting a vitamin A status assessment in the Sahel region.

3. Nigeria

Robert Pratt and Dr. Mansour traveled to Nigeria in May at the request of the Federal Ministry of Health and Family Welfare to participate in a series of workshops and meetings to plan for a national micronutrient deficiency prevalence assessment, scheduled to take place in April 1993. VITAL also arranged for Dr. Barbara Underwood, Special Advisor on Vitamin A to the World Health Organization's Nutrition Unit, to participate in these planning discussions. The survey was called for by the National Food & Nutrition Committee, which assigned responsibility for it to the Primary Health Care Directorate of the Ministry of Health and Family Welfare. Primary technical

responsibility for its implementation rests with the College of Medicine of Ibadan University. A draft protocol was prepared by the Nigerian team in June and a final version will be submitted to the Ministry of Health for approval and then to VITAL for review in August.

4. Uganda

VITAL staff reviewed and commented on a draft report of the Kamuli District Blindness and Vitamin A Deficiency Survey, to help prepare the document for presentation at the National Dissemination Workshop, tentatively scheduled for September or October 1993. Preliminary analysis suggests that vitamin A deficiency is a significant public health problem in Uganda. VITAL will assist the Ugandan team to incorporate the biochemical and dietary results into the draft report, to assist with final analysis of the data, and to prepare an appropriate plan of action to address the vitamin A deficiency problem in Uganda. VITAL will collaborate with UNICEF in planning the workshop and in formulating appropriate strategies to be discussed at the workshop.

5. Zambia

VITAL continued to support the vitamin A information collection and dissemination activities at the Tropical Diseases Research Centre (TDRC) in Ndola, Zambia. Two press releases were prepared during this quarter, one announcing the preliminary results from the Ghana VAST studies, and another on the impact of maternal literacy on vitamin A deficiency in Nepal.

Asia Region Program

1. South Pacific Vitamin A Deficiency Surveys

A report of the Solomon Islands Xerophthalmia Survey, which was conducted in four provinces, was published in May and sent to the country for discussion and dissemination of the results. The survey revealed a prevalence of 1.42% for Bitot's spots (X1B), which far exceeds the WHO criterion of 0.5% for a significant public health problem. Additional survey work may be performed to determine the extent of the problem in other provinces.

A draft report of the Vanuatu Xerophthalmia Survey was sent to the country for review. The results revealed that vitamin A deficiency is not a significant public health problem in Vanuatu: one case of active xerophthalmia was detected from a total of 1,870 children examined. The dietary component showed that traditional child-feeding practices include frequent consumption of vitamin A-rich foods and appear to protect against vitamin A deficiency among the pre-school age population.

Mary Linehan and VITAL consultant Guy Hawley plan to go to the Cook Islands in July to implement a xerophthalmia survey in collaboration with the Ministry of Health.

2. Papua New Guinea

Two VITAL-supported vitamin A status studies were begun during this quarter in Papua New Guinea, in collaboration with the USAID-funded Child Survival Support Project implemented by John Snow, Inc. (JSI). The first study is to determine prevalence of vitamin A deficiency among hospitalized children in provincial hospitals by clinical examination for xerophthalmia, and by blood samples for serum retinol, when possible. VITAL provided the services of an experienced PNG ophthalmologist for this study.

The second study, begun in June, is to determine baseline prevalence of vitamin A deficiency in the project area of the JSI project in the East Sepik region of the country. VITAL is providing the services of an ophthalmologist from Australia to conduct the clinical exams, and assisted the team to use the modified IVACG dietary intake methodology as part of the study. The study is to be completed by September.

3. WHO/SEARO Nutrition-cum-Action Network

A meeting to standardize research techniques and to begin the WHO/SEARO investigation of food preservation and preparation techniques on the beta

carotene content of foods was held in Bogor, Indonesia in June. VITAL consultant Emorn Udomkesmalee of Mahidol University, Thailand planned the meeting on behalf of the Network and VITAL. Representatives of the three participating institutes (NIN, NRDC, INMU) and WHO/SEARO then met in Bali in conjunction with a Network meeting to make final plans for the project. VITAL is awaiting final approval by WHO of a sub-contract with VITAL to begin implementing the project.

4. Nepal

During April and May VITAL sub-contractor, University of Arizona, and several Nepali consultants conducted the baseline survey for a CARE/Nepal gardening collaborative inquiry project. The purpose of this two year project is to determine if increased availability of vitamin A-rich foods from gardens can increase adequately the vitamin A intakes of pre-school children. The project is taking place in Bajura, Far Western province, and Mahottari, in the terai. The baseline survey found extremely high prevalence of Bitot's spots among children examined in Mahottari (7% - 10% vs. WHO cutoff of 0.5%); high rates of severe malnutrition in both sites, and low frequency of consumption of vitamin A rich foods in both sites. Bitot's spots were rare in Bajura, presumably because vitamin A capsules had been distributed previously.

5. Philippines

Dr. Mohamed Mansour went to Manila in May to train staff of the FNRI in the IVACG Simplified Dietary Assessment Methodology, which will be used to obtain baseline consumption data for the gardening impact evaluation project. FNRI will conduct a cross-sectional evaluation of consumption of vitamin A rich foods in June-July, comparing intakes of children in villages with gardens versus those without.

6. India

VITAL made preparations to assist CARE/India to determine the feasibility and effectiveness of fortifying PL480-provided cooking oil with vitamin A to compensate for vitamin A losses detected in fortified CSB (corn soy blend) used for child feeding in the national ICDS program. Fortified vegetable oil will be transported to ICDS sites during the peak seasons of heat and humidity (May-July, 1993) and samples will be tested for vitamin A activity. Fortified CSB will be subjected to the same temperature and humidity conditions and will also be tested to determine what is the most cost-effective vehicle for the vitamin A fortificant.

Latin American and Caribbean Region Program

1. **Bolivia**

Dr. David Nelson assisted the MOH with final analysis of the survey data, preparation of the survey report, and planning for the national seminar to take place July 28. Plans were made for active VITAL participation at the seminar by consultants Dr. Hernando Flores and Dr. Guillermo Arroyave and VITAL staff Dr. David Nelson and Ms. Michele Dreyfuss. The survey revealed that vitamin A deficiency, as defined by "low" serum retinol levels in pre-school children, is not a significant public health problem at the overall national level (11.3% <20ug/dl vs. 15% <20ug/dl WHO cutoff). However, low serum levels (<20ug/dl) clearly exceeded 15% in many rural areas of the "altiplano" and "llanos" (jungle). Also, 48.3% of children surveyed were marginal or below (<30ug/dl).

The PROCOSI vitamin A program support to PVOs in Bolivia (for which VITAL provides technical and financial assistance on behalf of the USAID Mission) proceeded well during the quarter. Project Esperanza implemented its home gardening and nutrition communications project in Villamontes. They obtained baseline data on consumption of vitamin A rich foods and will measure its change over the course of the two year project. PROCOSI has received proposals from several more PVOs for similar community based projects (Save The Children, CARE, Caritas).

2. **Dominican Republic**

The USAID Mission informed VITAL that it may not provide in-country support for intervention programs in response to the vitamin A survey findings because nutritional activities no longer fit within its country program strategy. However, since the Mission will continue to support the NGO FUDECO's community development work, VITAL will be permitted to assist FUDECO with solar drying of mangos and other vitamin A rich foods.

4. **Guatemala**

The IEF/CESSIAM team completed the first phase of the Sweet Potato Buds project in June. The vitamin A content of the dried and powdered sweet potato was found to be very high (HPLC analysis by North Carolina State Univ.) and children rated the taste and texture of the product (paps and gruels) very acceptable. Community-based trials will be conducted in the fourth quarter to test alternative recipes and modes of distribution, including sale at full price, subsidized price and gratis.

VITAL's close collaboration with INCAP continued during this quarter: INCAP analyzed the blood samples from the Panama survey for VITAL, after having trained the Panamanian team in proper sample collection and handling procedures.

5. Honduras

VITAL held discussions with Mission staff about provision of support for vitamin A initiatives and plans are underway for VITAL to participate in a MOH planning meeting in August. Dr. José Mora will go to Honduras in August for that purpose.

6. Haiti

Despite political difficulties and diminished USAID and VITAL support, the Save the Children women's group, "Famn Decidé" have continued to conduct their solar drying activity to preserve vitamin A-rich foods. Additional dryers have been built to increase production and training of 57 additional women's groups in the Plateau Centrale is planned for the coming months. VITAL will test a new batch of dried mangos from the project to determine their beta carotene content, as a means of providing ongoing monitoring support to the program. The USAID Mission requested that VITAL resume its direct support to the program as soon as possible.

7. Panamá

The vitamin A prevalence survey conducted by the Ministry of Health with assistance from VITAL, was completed at the end of May, and INCAP completed the laboratory analysis of the 1,100 blood samples at the end of June. Based on the serum retinol results, vitamin A deficiency does not represent a significant public health problem in Panama (6% <20ug/dl), although higher levels were found among the indigenous population.

Information Gathering and Dissemination

1. Publications

The sixth issue of VITAL NEWS will be distributed in August. The lead article will feature Vitamin A Deficiency in Africa and preliminary results from the VAST Ghana studies. The next issue is planned for October. The newsletter continues to expand its audience, with daily requests for the publication from public health personnel. The mailing list now numbers 600. The newsletter is also translated into Spanish and French and distributed directly to in-country personnel in Latin America and Africa. The mailing list has been updated to include key Wellstart graduates in Latin America.

Vitamin A Facts have been updated and used as the disseminating vehicle for VITAL's vitamin A database.

VITAL published the following reports during this quarter:

- Arroyave, Guillermo, *Food Nutrification with Emphasis on the Addition of Micronutrients to Wheat Flour*, VITAL Report No. TA-9, June 1992. English and Spanish.
- *Solomon Islands Xerophthalmia Survey*, VITAL Report No. TA-8, May 1992. English.
- *Vitamin A Mortality and Morbidity Studies: Report of a Joint WHO/USAID/NEI Consultation of Principal Investigators*, May 28-29, 1991.

2. Library

As a result of articles and listing of VITAL reports in VITAL News, Dialogue on Diarrhea, SCN News, Vitamin A News Notes and World Immunization News, requests for documents from the VITAL library have increased. VITAL's library now holds a total of over 1,200 documents and continues to grow.

3. Training Materials

Solar Drying Manual

The final text of the solar drying manual was completed in June, and a training manual consultant, Benedict Tisa, is currently putting the text into a training format. The manual, "Solar Drying for Vitamin A" was adapted from the original Creole version developed in Haiti, and is designed to explain how to build a solar dryer, how to prepare and dry fruits and vegetables, and how to use this technology to increase the availability of vitamin A-rich foods for families during the off-season. The manual will be completed and printed this fall in English, Spanish and French.

"Measles Case Management and Vitamin A" Module

The Module was extensively reviewed, pre-tested in Nigeria and translated into Spanish and French this quarter. The module contains the first comprehensive set of guidelines on measles case management (developed with the assistance of WHO and REACH) and has received favorable reviews from pediatricians and auxiliaries, who confront measles cases in their programs, for filling this gap. Field testing is currently underway in Bolivia, Panama, Peru and Mexico and REACH is exploring

possibilities for implementing vitamin A dosing of measles cases in Africa as part of their Measles Initiative activities. A final training/information package is expected to be finalized this fall.

"Vitamin A Deficiency: An Update" Slide Presentation

The slides are being used by VITAL consultants and staff on their TA assignments. It is now available in English, Spanish and French. Training institutions and others in a position to make slide presentations for policy makers and implementers of food, nutrition, and health activities are being identified to receive copies.

"Vitamin A Fortification" Module

Current information on technical and program aspects of vitamin A fortification activities is being packaged into a module for the benefit of up-dating decision makers and program implementors on the role of fortification in improving vitamin A nutrition and food quality. The package is expected to contain a review paper by Dr. Penelope Nestel on recent program experience and technical and cost issues, a series of slides, charts on pre-mixes currently in use, and a chart on how to calculate fortificant levels. The slide presentation was developed in conjunction with Dr Guillermo Arroyave and is scheduled to be tested in Bolivia and Honduras.

Module on "Improving the Vitamin A Content of Diets"

Improving the Vitamin A Content of Diets slide presentation was reviewed and revised by nutrition education consultant, Benedict Tisa. It contains information on the role of nutrition education and localized food production/preservation activities in improving vitamin A intake. In addition to the slides, this module will contain examples of training and education materials, and examples of weaning recipes enriched with vitamin A and carotene.

Slide Presentation on "Vitamin A Supplement Programs"

In response to requests for information on the implementation aspects of vitamin A supplement distribution activities, a slide presentation was developed for use by VITAL consultants. It is based on an assessment guide developed last year and used by VITAL teams for assessing supplement distribution programs. The slides were reviewed by Dr. Hernando Flores and will be further reviewed and pre-tested (Bolivia and Honduras) prior to being finalized.

VITAL Nutrients

VITAL Nutrients has been well-received both in the U.S. and abroad. It is available in English, French and Spanish. In addition to being a very comprehensive and attractive micronutrient information document, it has been used as a marketing document for both USAID's Office of Nutrition and VITAL. Daily requests for the document not only come from USAID and national counterparts, but from U.S. universities (University of California - Irvine and Virginia Polytechnic Institute), who

will use the publication as part of their regular course curriculum. VITAL will reprint another 5,000 copies of the English edition in the fourth quarter.
