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... PAPER (PRP)

Development of Vitamin A Delivery Systems

13 p

931-11-560-045

X: ... 1/23

X REV. 1

[X]

Life of project: 74 – 79

A. Funding by fiscal year	B. Total $	C. Personnel (1) $	(2) MM	D. [illegible] (1) $	(2)	E. Commodities $	F. Other costs	G. [illegible] (1) $	(2)	[illegible]	[illegible]
[illegible]											
[illegible]											
Budget FY 74	40	40	10								
Budget FY 75	66	60	16			6					
Budget FY 76	630	580	142			50					
Budget FY 77	1300	1255	301			45					
All subs. 78	2038	2015	484			23					
Grand total	4074	3950	953			124					

9. OTHER DONOR CONTRIBUTIONS

(a) NAME OF DONOR | (b) KIND OF GOODS/SERVICES

III. ORIGINATING OFFICE CLEARANCE

1. DRAFTER: Dr. Irwin Hornstein — TITLE: Deputy Director, TA/N — DATE:

2. CLEARANCE OFFICER: Dr. Martin J. Forman — TITLE: Director, TA/N — DATE:

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

2. CLEARANCES

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE

3. APPROVAL ... OFFICE DIRECTOR

SIGNATURE | DATE

TITLE

4. APPROVAL ...

SIGNATURE | DATE

This PP revision proposes an increase in the total funding level of the project from the original approved level of $668,000. The revised total funding level of $4 million will provide for the expansion of activities in response to the Secretary of State's initiative made at the World Food Conference.

INTRODUCTION

Vitamin A deficiency is said to be the biggest single cause of preventable blindness in many of the developing countries. Extensive studies have established the widespread distribution of this deficiency particularly in pre-school age groups in South East Asia, The Middle East and Latin America. It has been estimated that at least 80,000 children below the age of 4 become blind every year because of avitaminosis A. Furthermore blindness is but the "tip of the iceberg". Vitamin A deficiency inhibits growth, increases susceptibility to infection and can lead to death particularly when associated with protein/calorie malnutrition.

As a result of technological developments over the past several years, low cost approaches are now available to address the problem. The administration of massive periodic doses of vitamin A is considered an effective ermegency measure for overcoming the deficiency. Vitamin A fortification of food staples may be the most economical and socially acceptable long-term method for assuring that vitamin A requirements are met. Vitamin A programs utilizing massive periodic doses and/or vitamin A fortification have been equally under utilized on a national scale. Fragmented efforts have been made in the developing countries to establish programs but to date these efforts have been uncoordinated at the national level. This program is being proposed with the hope that AID can serve as the catalyst for coordinating and implementing worldwide efforts in vitamin A programming.

A. Statement of Goal

1. The Goal

   To minimize the effects of malnutrition by instituting appropriate systems for the delivery of vitamin A to preschool children in LDCs.

2. Measurement of Goal Achievement

   a) Decrease in vitamin A deficiency among preschool children.
   b) Decrease in new cases of xeropthalmia.

3. Assumptions About Goal Achievement

   a. Methodologies for administering vitamin A by the massive dose technique are available.

   b. Techniques for fortifying food staples with vitamin A are either available or can readily be developed.

   c. Mass delivery of vitamin A to target groups can either be "piggy-backed" on to existing distribution systems or new innovative systems can be developed.

   d. The efforts of all concerned groups can be coordinated to achieve maximum benefits at relatively small costs.

f. Cost estimates can be made from studies in Bangladesh and Pakistan. In Bangladesh, the one country where a nationwide "massive-dose" program has been attempted, the yearly cost is approximately $300,000. The program hopes to reach 15,000,000 children 0-6 years of age semi-annually. Vitamin A capsules containing 200,000 I.U. cost about $10/thousand. The capsules are distributed by piggy-backing an existing malaria control system that reaches virtually every household in Bangladesh. The cost of distribution is absorbed by the Bangladesh government.

The cost of vitamin A fortification is similar in magnitude. AID/W through its PASA with USDA has developed a technique for the fortification of tea with vitamin A. Children drink tea at a very early age in India, Pakistan, Bangladesh, and Ceylon. Tea can therefore provide an appropriate vehicle for carrying vitamin A to the target group in these countries. The cost of fortifying tea as a large scale on-going program in Pakistan has been calculated. The capital cost for providing sufficient capacity to produce all the vitamin A/tea concentrate to fortify 90,000,000 pounds of tea per year is only $60,000. The cost for fortifying the total supply of 90,000,000 pounds of tea per year is approximately $500,000 and $350,000 represents the import cost for vitamin A. The increase in the cost of vitamin A fortified tea per pound would be less than one percent the price of tea.

B. Statement of Purpose

1. To assist LDCs in implementing programs for alleviating vitamin A deficiency.

2. Conditions Expected at End of Project

a. An assessment of extent of vitamin A deficiency in approximately twelve countries.

b. A surveillance methodology based on easily available indicators that will predict where and when vitamin A deficiency will become a problem.

c. Development of the appropriate vitamin A techniques to be utilized (massive doses, fortification, nutrition education or a combination) in these countries.

d. Implementation of appropriate programs in at least 5 of these 12 countries.

e. Coordination of efforts by donor agencies in implementing vitamin A programs in LDCs. (This will be accomplished through a consultative group consisting of members of AID, WHO/PAHO, FAO, UNICEF, the World Bank and private donors such as the American Foundation for the Overseas Blind. The group would convene at least on an annual basis. The group would provide guidance (a) regarding needed research and field programs, (b) possibilities for joint funding of major programs, and (c) the need for workshops or seminars. This coordinating activity would minimize duplication of research projects, encourage execution of major projects that would be beyond the financial scope of any one organization and insure dissemination of information and new knowledge to concerned organizations.)

* This will be part of an integrated and planned national nutrition effort.

3. Basic Assumptions About Achievement of Purpose

a. Blindness caused by vitamin A deficiency can be prevented by the use of one or more existing technologies for supplying vitamin A to the vulnerable preschoolers.

b. Mass delivery of vitamin A to the target group can in many instances be based on utilization of existing distribution systems. (e.g. use of malaria control systems for delivery of semi-annual massive doses of vitamin A)

C. Statement of Project Outputs

1. Outputs

a. The development of country specific procedures for determining: (1) the extent of blindness due to vitamin A deficiency, (2) the techniques to be implemented for alleviating the deficiency, (3) the methodology to use for evaluating effectiveness of programs, and (4) the techniques to be utilized to maintain effective surveillance programs.

b. LDC personnel trained to carry on in-country vitamin A programs.

c. Information relative to the progress of vitamin A programs disseminated to LDCs and other donor agencies.

d. Bio-chemical method of detection of vitamin A deficiency in target groups.

2. Output Indicators

Established avitaminosis A programs at the national level in several countries utilizing the methodologies developed for (a) assessing extent of deficiency numerically and geographically, (b) supplying vitamin A in appropriate form to target groups, (c) evaluating effectiveness of programs and (d) maintaining effective surveillance programs.

3. Basic Assumption About Production of Outputs

a. Each country must be considered as a separate problem. Analysis of needs and resources (government/private) will lead to the development of an appropriate system in a specific country for the mass delivery of vitamin A to target groups.

b. Implementation of at least 5 projects will demonstrate that a relatively low-cost approach can be undertaken on a national scale and yield tangible and beneficial results by reducing blindness caused by vitamin A deficienc within a relatively short period of time.

D. Statement of Project Inputs

1. Inputs

a. Expert groups to provide guidance to AID in determining program planning.

b. Team(s) of experts to develop specific country programs.

c. Seminars, workshops site visits to disseminate information to LDCs and coordinate efforts of donor agencies.

d. Training program for LDC personnel.

e. Development of bio-chemical method for determining degree of vitamin A deficiency.

2.

BUDGET (X $1000)

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79	TOTAL
Planning & Coordination	-	-	30	30	30	30	120
Prevalence Surveys & Surveillence	-	-	120	240	240	120	720
Assay & Other Technical Development	-	-	30	50	50	-	130
Field Demonstrations	-	-	100	600	500	300	1500
Education (KAP)	-	-	25	150	123	100	398
Evaluation of Methodologies & Preparation of Project Compendium	-	66	300	150	200	200	916
Workshop & Conference	40	-	-	45	-	75	160
Dissemination of Information	-	-	-	10	10	10	30
Consultant Group(s) (Including experts)	-	-	25	25	25	25	100
GRAND TOTAL	40	66	630	1300	1178	860	4074

3. Basic Assumptions About Management of Inputs

a. Existing technologies for delivering vitamin A to target groups can be adapted to meet the diverse conditions existing in the LDCs.

b. USAID Missions, LDC public and private sectors, and donor agencies including WHO/PAHO, FAO and UNICEF will support programs designed to meet vitamin A requirements of LDC populations.

E. Rationale

The tragedy of blindness extends beyond the individual and his immediate family. It represents a loss of potential talent and creates an economic burden for society. Cumulatively, 80 to 100,000 new cases per year of blindness caused by vitamin A deficiency may mean 2 to 3 million blind who must be cared for in the LDCs at any given time.

Reduction of Xerophthalmia induced blindness would afford a dramatic demonstration of the effectiveness of improved nutrition on health and could serve to encourage LDC nutrition planning on a national scale.

This program is being proposed (a) with the knowledge that methods for alleviating vitamin A deficiency worldwide are available; (b) with the belief that proper implementation of programs and coordination of efforts by the LDCs, AID and other donor agencies can lead to at least a 75% reduction in new cases of blindness attributable to vitamin A deficiency, (This prediction assumes that at least 75% of the target group can be reached on a continuing basis in a given LDC within 3 years after the introduction of a comprehensive vitamin A program.) and (c) with the hope that AID can serve as the catalyst for coordinating worldwide efforts and for developing proper implementation procedures.

In addition, an all out effort to overcome vitamin A deficiency ties in with AID's program on breeding cereals and legumes that are superior in protein quality and quantity. Children in the LDCs not only suffer from protein/calorie malnutrition but from concomitant vitamin and mineral deficiencies. Thus, if a new variety of grain, e.g. opaque-2 corn, is introduced, the available protein in the child's diet will increase appreciably. This increase in protein will tend to promote growth and increase the demand for vitamin A. If the child is borderline in vitamin A, this added stress could throw the child into a state of vitamin A deficiency. If one looks at the entire food system it becomes obvious the one intervention may create problems that should be addressed simultaneously on other fronts. Thus, the proposed vitamin A program could be a necessary adjunct to programs designed to improve dietary protein thru the introduction of new crop varieties.

In order to properly define AID's role in avitaminosis A program planning, an ad hoc expert group was convened prior to the initiation of the project. This group included representatives from donor agencies as well as experts in vitamin A technology and programming. The group provided preliminary advice needed to initiate AID's proper role in the area. Their recommendations included:

-- AID should support countries interested in initiating vitamin a programs. AID, through an appropriate mechanism, could provide a person or a team to determine in a given country any or all of the following: (a) incidence of vitamin A deficiency, (b) geographical areas where the deficiency exists, (c) appropriate short and long term measures to be instituted, (d) the most appropriate delivery systems for bringing together the treatment and the target and (e) a methodology for evaluating the efficacy of the program.

-- Demonstration projects should be established, if needed, to evaluate the effectiveness of proposed intervention programs such as massive oral doses of vitamin A. Evaluations should include a determination of the cost effectiveness of the program--and if possible a comparison with alternate intervention strategies.

-- AID should endorse and encourage the cooperation of Voluntary Agencies in adding a vitamin A component to their nutrition programs.

Course of Action

The steps required to implement a program for the alleviation of vitamin A deficiency in a country or region include the following:

a. an analysis of the numerical and geographic extent of vitamin A deficiency,

b. adoption or development of suitable technologies for overcoming vitamin A deficiency in the specified area, and

c. developing vitamin A delivery systems tailored to fit the specific constraints and opportunities existing with the area for reaching the preschool child.

The first step--the determination of the extent of vitamin A deficiency--not only locates the regions in a given LDC where the vitamin A problem is most serious but also serves to provide a baseline for measuring the decrease in avitaminosis A as the program continues. Quantitative base line data is however seldom available in the LDCs; and in most cases, it will be necessary to teach the survey teams how to recognize early clinical signs of vitamin A deficiency in order to obtain the required data.

The second step--the mix of technologies to be utilized may include one or more of the following:

a. Periodic distribution of high potency vitamin A capsules to the most vulnerable groups.

b. Fortification with vitamin A of food staples which are widely available to vulnerable groups.

c. Nutrition education to encourage the production and consumption of foods with high carotene content such as dark green vegetables.

The first alternative may be considered an effective emergency measure for overcoming existing deficiencies. Fortification is a preventive measure that if "doable" requires no action on the part of the consumer. Measures designed to modify food habits require understanding and cooperation on the part of the consumer and their major impact may be quite long range.

The third step--the choice of delivery system(s) may e.g. piggy back an existing health delivery system. Thus in Bangladesh distribution of high potency vitamin A capsules was superimposed on an existing malaria control program. Evaluation of the programs will be continuous throughout the life of the project.

The Implementation Plan

Background

Considerable spade work has been done by TA/N prior to the submission of this "PROP". The implementation plan per se is a follow up to these initial efforts. Work to date is summarized and implementation plan follows.

a. In FY '74 a "vitamin A expert group" was established on an ad hoc basis. Included in this group were individuals with specific expertise in vitamin A research and development of applied programs plus representatives from the U.N., PAHO, the American Association for Overseas Blind, etc. In May 1975 the "ad Hoc" group was formalized into the International Vitamin A Consultative Group (IVACG) with the function of recommending tasks to the member agencies. This approach will serve to (1) minimize duplication of effort, (2) encourage execution of major projects that otherwise would be beyond the financial means of any one organization, and (3) to insure the dissemination of information and new knowledge to concerned organizations and individuals.

   The provisional goals of the group are the following:

   -- To encourage the coordination of vitamin A programming and research activities worldwide.

   -- To provide for the establishment of a clearinghouse for the collection and dissemination of information on vitamin A activities.

   -- To sponsor workshops, symposia and seminars that will help encourage the implementation of Vitamin A programs.

b. In FY '74 a comprehensive review of the "state of the art" with respect to vitamin A requirements, deficiencies, diagnostic criteria, ongoing programs and available technology was prepared. The three-volume status report will serve as a base for future programming and is being made available to scientists, institutions and donor agencies engaged in vitamin A programming.

   A less technical monograph providing a condensed version of the contents of the three-volume set is in preparation. This will be made available to non-technical but concerned workers in the vitamin A field.

c. In the latter half of 1974 a joint WHO/AID conference was held. Its goal was to develop specific recommendations that would serve as a basis for vitamin A programming and research, both by AID and other funding agencies.

Plan

(a) LDC Involvement and Commitment: To date, all Agency vitamin A activities in LDCs involve in-country institution and/or host government participation. Current project activities have or will start in Guatemala, Sri Lanka, Philippines, El Salvador, Haiti and Indonesia. In each of these countries, host government or in-country institution personnel and equipment serve as a significant or total part of the field team. Commitment to delivery programs depend on the type of ongoing activity. In the case of Guatemala, the government is strongly committed and has initiated a national program of vitamin A fortification of sugar. Whereas, in El Salvador, commitment to delivery program is predicated on the interpretation of data collected from an in-country prevalence survey.

Selection of these countries for program activities is based on host government and/or in-country institution requests or via a U. S. institutional collaboration which has had prior sanction from the LDC government. Moreover, all host governments indicated firm or conditional commitment to a vitamin A program.

During FY '76 a determination will be made of LDCs interested in initiating vitamin A programs, and a clearinghouse for dissemination of information concerning vitamin A activities will be established.

(b) Education Component: Educational programs are being developed that will both inform and elicit response in the populations to the signs of vitamin A deficiency, and instruct and encourage them to produce and/or consume foods rich in vitamin A. Educational materials and instructional procedures are to be worked out for different age, population, occupational, and professional groupings. Currently, a specific activity in this field is being carried out by the American Federation for Overseas Blind in conjunction with the Nutrition Foundation.

In addition, in each country selected LDC para-medicals will be trained in the identification of clinical signs of vitamin A deficiency. These personnel will be used in conducting prevalence surveys and surveillance programs. In all field operations LDC personnel will gain from on-the-job training.

(c) Research Component: Research will be initiated in support of field activity needs. Examples include (a) improved biochemical methods for the determination of vitamin A status under field conditions; (b) factors which contribute to the development of vitamin A deficiency and keratomalacia in the preschool population; (c) improved methods for delivering vitamin A to target groups.

d. A contract will be established with an appropriate institution to provide, upon AID request, an expert team to determine in a given LDC any or all of the following: (1) incidence of vitamin A deficiency, (2) geographical areas where the deficiency exists, (3) appropriate short and long term measures to be instituted, (4) the most appropriate delivery system for bringing together the treatment and target, and (5) a methodology for evaluating the efficacy of the program.

Three or four countries will be surveyed in each of FY '76, FY '77, and FY '78.

e. Through an appropriate contract (not necessarily with the same institution) demonstration projects will be established to evaluate the effectiveness of the proposed intervention programs. It is assumed that a minimum of 3 years will be required for each study. Evaluation will include a determination of the cost effectiveness of the program.

Five such demonstration projects will be initiated. Two in each of FY '76 and FY '77 and one in FY '78. Each to run for 2-3 years.

At the completion of the initial studies (in FY '77 or '78) and remaining studies in FY '79 conferences will be held to summarize the results of the projects to concerned institutions and agencies to further promote implementation of vitamin A projects.

The plan as outlined will support the Secretary of State's position formulated at the November 1974 World Food Conference in Rome. Dr. Kissinger stressed the need for immediate campaigns against blindness due to vitamin A deficiency and stated that the United States was prepared to initiate a multi-million dollar program for this purpose. Recommendations to eradicate this nutritional problem were included in the resolutions adopted at the Conference.

EVALUATION

Periodic reviews of the project will be carried out in accordance with TA-1026.1 Manual Order on "Instructions and Guidelines for the Annual Evaulation of TAB Technical Services Projects." Specifically, after the first and third years of project activities an informal evaluation (Option A) will be conducted by TA/N. The matrix included with the PP, updated as necessary, will be used along with the issues paper and the contractor's reports as the basic documentation for the review. An in-depth evaluation (Option B) will be conducted at the end of the second and fifth years. This will be a two-step, comprehensive and intensive review and will include outside experts as members of a review panel.

Activity: RDA # 2--Reaching the Pre-School Child

Train: t Development of Vitamin A

No. New Title Delivery Systems

Contract/PASA No. Num

Irwin

Project Manager Horenstein Extension 29771

Contract/PASA Officer Extension

TAB - GENERAL TECHNICAL SERVICES

FY 1976 Interregional Program Budget Review
Project and Budget Analysis Matrix

Major Country/Countries

Worldwide

Obligation: Begin FY 1974 End FY 1979
Work Begin FY 1974 End FY 1979
PROP Status: PROP approved thru FY 19
New/Revised Required in FY 19

Estimated Submission Date Jan. 1974 (Month / Year)

Evaluation Schedule March 1974 A (Month / Year / Type)

Narrative

B1 Purpose:

To assist LDCs in (a) analyzing the extent of Vitamin A deficiencies, (b) adopting and/or developing technologies for overcoming Vit. A deficiency, (c) adapting and/or developing delivery systems for reaching the target group and (d) implementing programs for alleviating Vit. A deficiency.

C1 Outputs:

a. The development of country specific procedures for determining the extent of blindness due to Vitamin A deficiency, the techniques to be implemented for alleviating the deficiency, and the methodology to use for evaluating effectiveness of programs.

b. Indigenous personnel trained to carry on in-country Vitamin A programs.

c. Information relative to the progress of Vitamin A program disseminated to LDCs and other donor agencies.

D1 Inputs: Funding of:

a. Expert groups to provide guidance to AID in determining project programming.

b. Team(s) of experts who will develop specific country programs.

c. Programs for implementation and evaluation of Vitamin A programs.

d. Seminars, workshops, site visits, etc. to disseminate information to and coordinate efforts of donor agencies.

e. Establishment of a clearinghouse for the collection and dissemination of information on Vitamin A activities.

Objectively Verifiable Indicators

B2 End of Project Status:

a. Assessment of extent of Vit. A deficiency in 8 countries.

b. Development of methodologies to be used in these 8 countries for combatting avitaminosis A.

c. Programs carried out in 2 countries.

d. Coordinated efforts by donor agencies in combatting Vit. A deficiencies in LDCs.

C2 Output Indicators:

Established Avitaminosis A programs at the National Level in several countries utilizing the methodologies developed for assessing extent of deficiency, supplying Vitamin A in appropriate form to target groups and evaluating effectiveness of program.

D2 Budget Summary (In thousands of dollars)

	(1) PASA/Contract		(2) Participants		(3) Commodities	(4) Other Costs	(5) Total	(6)* Expenditures	(6)* June 30 Pipeline	(7) Terminal Funding Date Month	Year
All Prior Years											
1. Thru FY 1975											
2. FY 1976											
3. Trans FY 1976	[illegible]	[illegible]									
4. Thereafter	142.5	77					40				
5. All other	340.0	78			20		182.5				
6. Total	387.5	165			20		365.0				
					40		387.5				

Important Assumptions and Progress to date

B3 Assumptions for Achieving Purpose:

a. Blindness caused by Vit. A deficiency can be prevented by the use of techniques (adapted or developed) for delivering Vit. A to vulnerable pre-schoolers.

b. Mass delivery of Vit. A to the target group can in many instances be based on utilization of existing distribution systems.

B4 Progress to date:

C3 Assumption for Achieving Outputs:

a. Analysis of needs and resources (government/privat will lead to the development of an appropriate syste in a specific country for the mass delivery of Vit. A to target groups. b. Implementation of one or two projects will demonstrate that a relatively inexpensi approach can be undertaken on a national scale and yi tangible and beneficial results.

C4 Progress to date:

A compendium completed on the current state of the art in the technology, deficiency status and current worldwide programming efforts on vitamin A has been completed.

*Key Problem Area, Area of Concentration, or Field Supp[illegible]

*Expenditures are to be counted on an accrual basis

Project and Budget Analysis Matrix

Major Country/Countries

Worldwide

Obligation: Begin FY 1974 End FY 1979
Work Begin FY 1974 End FY 1979
PROP Status: PROP approved thru FY 19__
New/Revised Required in FY 19__

Estimated Submission Date Nov (Month) 1975 (Year)
Evaluation Schedule March (Month) 1976 (Year) A (Type)

Contract/PASA
No.____ Name Irvin
Project Manager Hornstein Extension 29771

Contract/PASA
Officer____ Extension____

Objectively Verifiable Indicators

B2 End of Project Status:

a. Assessment of extent of Vit. A deficiency in 12 countries.
b. Development of methodologies to be used in these 12 countries for combatting avitaminosis A.
c. Programs carried out in 2 countries.
d. Coordinated efforts by donor agencies in combatting Vit. A deficiencies in LDCs.
e. Development of surveillance methodology that will predict where and when vitamin A deficiency will become a problem.

C2 Output Indicators:

Established Avitaminosis A programs at the National level in several countries utilizing the methodologies developed for assessing extent of deficiency, supplying Vitamin A in appropriate form to target groups, evaluating effectiveness of program, and maintaining effective surveillance programs.

deficiency in target groups.

Important Assumptions and Progress to date

B3 Assumptions for Achieving Purpose:

a. Blindness caused by Vit. A deficiency can be prevented by the use of techniques (adapted or developed) for delivering Vit. A to vulnerable pre-schoolers.
b. Mass delivery of Vit. A to the target group can in many instances be based on utilization of existing distribution systems.

B4 Progress to date:

C3 Assumption for Achieving Outputs:

a. Analysis of needs and resources (government/private) will lead to the development of an appropriate system in a specific country for the mass delivery of Vit. A to target groups. b. Implementation of one or two projects will demonstrate that a relatively inexpensive approach can be undertaken on a national scale and yield tangible and beneficial results.

C4 Progress to date:

A compendium completed on the current state of the art in the technology, deficiency status and current worldwide programming efforts on vitamin A has been completed. Prevalence surveys being conducted in SriLanka and planned for El Salvador. Evaluation of national vitamin A fortification program being conducted in Guatemala. Field demonstration activities planned for Haiti and Indonesia.

Narrative

B1 PURPOSE:

To assist LDCs in (a) analyzing the extent of Vitamin A deficiencies, (b) adapting and/or developing technologies for overcoming Vit. A deficiency, (c) adapting and/or developing delivery systems for reaching the target group and (d) implementing programs for alleviating Vit. A deficiency.

C1 OUTPUTS:

a. The development of country specific procedures for determining the extent of blindness due to Vitamin A deficiency, the techniques to be implemented for alleviating the deficiency, and the methodology to use for evaluating effectiveness of programs.
b. Indigenous personnel trained to carry on in-country Vitamin A programs.
c. Information relative to the progress of Vitamin A program disseminated to LDCs and other donor agencies.
d. Biochemical method of detection of vitamin A

D1 INPUTS: Funding of:

a. Expert groups to provide guidance to AID in determining proper program planning.
b. Team(s) of experts who will develop specific country programs.
c. Programs for implementation(s) and evaluation of Vitamin A programs.
d. Seminars, workshops, site visits, etc. to disseminate information to and coordinate efforts of donor agencies.
e. Establishment of a clearinghouse for the collection and dissemination of information on Vitamin A activities.

B2 Budget Summary (in thousands of dollars)

	(1) Personnel		(2) Participants		(3) Commodities		(4) Other		(5)
All Prior Years	Dollars	%	Dollars	%			Dollars	%	
1. Thru FY 1972									
2. Actual FY 1974	40	10					40	10	
3. Estimated FY 1975	60	16			6		66	16	
4. Proposed FY 1976	580	142			50		630	142	
5. All other	3270	685			58		3328	785	
6. Total	3950	953			124		4074	953	

d Support.

**Expenditures are to be computed on an accrual basis

*Key Problem Area, Area of Concentration, or Fiel