

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The project serves as the S&T/N's mechanism for assisting developing countries in combatting iron deficiency anemia (IDA). The project channels scientific, technical and planning expertise to host country institutions and AID field staff through grants/cooperative agreements with the Nutrition Foundation (NF) and Kansas University Medical Center (KUMC). This is an interim evaluation.

The NF serves as Secretariat for the International Nutritional Anemia Consultative group (INACG) which has as its purpose to guide international activities aimed at reducing nutritional anemia in the world. The group offers consultation and guidance to various operating and donor agencies who are seeking to reduce IDA. In fulfilling this mandate, INACG sponsors scientific reviews and convenes task force groups to analyze issues related to etiology, treatment and prevention of nutritional anemias.

The current cooperative agreement with KUMC established the International Center for the Control of Nutritional Anemia (ICCNA). ICCNA functions as the scientific and technical resource for this project. Activities under the current cooperative agreement are restricted because of reduction in funding to technical assistance and methodology research.

The project has developed improved methods for the assessment of iron status. These methods are significantly more accurate, less costly and employ very small quantities of biological samples. (e.g. blood) than traditional methods.

New systems for supplementing and fortifying food and food products with biologically available iron have been developed and are poised for field use.

COSTS

I. Evaluation Costs

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
Dr. Samuel Fomon,	School of Medicine Univ. of Iowa	4		
Dr. Guy Johnson,	Director of Nutr Gerber Baby Food Co.	2		
2. Mission/Office Professional Staff Person-Days (Estimate) <u>Seven</u>		3. Borrower/Grantee Professional Staff Person-Days (Estimate) _____		

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S U M M A R Y (Continued)

Strategies for combatting IDA have been formulated in collaboration with host governments but only a few implemented by country. Under the project, state-of-the-art monographs, technical abstracts and guideline reports have been prepared and disseminated. These have been well accepted as basic reference documents on IDA.

External reviews of the project have taken place in 1980 and 1985. The current interim review was conducted at the beginning of a new project extension period.

The 1988 evaluation stated in part:

"An excellent support program has been put together by AID to combat IDA. What is lacking is the ability to move the potential created by the support program into Third World situations. This inability to move into overseas situations appears to result primarily from competition with other AID priority activities, which have significantly larger resources, and from the benign image of IDA. Both have worked against this serious nutritional public health problem."

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided);

Address the following items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:

S&T/N

Date This Summary Prepared:

3/27/90

Title And Date Of Full Evaluation Report:

Nutrition: Combatting Iron Deficiency

The purpose of the activities evaluated are as follows:

(a) The INACG serves as a forum for donor agencies, government representatives, industry, academia, NGO and experts to guide international activities aimed at reducing nutritional anemia, in particular iron deficiency anemia (IDA), in the world. The INACG prepares guidelines and recommendations for: (a) assessing regional distribution and magnitude of IDA, (b) developing intervention strategies and methodologies to combat IDA, (c) evaluating intervention programs, and (d) research needed to support the assessment, intervention and evaluation of programs.

To fulfill its mandate, the INACG sponsors scientific reviews and convenes task force groups to analyze issues related to etiology, treatment and prevention of IDA.

A series of monographs, manuals, reports and other publications are the result of these task force group efforts. The INACG also has conducted international conferences and workshops. Many of the publications of the INACG have been translated into French and Spanish, one publication has been put into Portuguese and an INACG lab manual has been translated into Chinese.

(b) The ICCNA/KUMC functions as a scientific and technical resource for this project. Under the original cooperative agreement ICCNA was involved in: (a) refinement of methods to assess iron nutrition, (b) studies of iron bioavailability, (c) overseas technical assistance and the training of overseas personnel, and (d) the development of field intervention programs. Activities under the current cooperative agreement have been restricted, because of reduction in funding, to technical assistance and methodology research. In other words, ICCNA cannot initiate, through subgrants, any overseas research, developmental and operational activities. This has been a constraint in moving ICCNA developmental work into overseas pilot and field operations.

To overcome this project constraint, the project manager has strived to secure funds for IDA overseas activities through other S&T, regional bureau and mission projects. Limited funds from other S&T activities have been obtained. The problems in securing adequate monies is one of having to compete with other A.I.D. priority activities, which have significantly larger resources, and from the benign image of IDA.

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(2) Purpose of the evaluation was to:

(a) review and evaluate the progress and experience gained to date, with emphasis in activities since the previous February 1985 review, and

(b) advise as to future project direction in the context of the past and current project activities.

The types and sources of evidence used to assess the project were project reports, fiscal information, cooperative agreement documents, site visits to KUMC and Nutrition Foundation, meetings with AID/W regional bureaus and S&T/N staff.

(3) Findings and Conclusions (in response to questions in the Scope of Work):

Question: Will the project design: (a) expand the scope of knowledge regarding IDA and methods for its assessment and control, (b) develop and test intervention procedures, (c) disseminate new knowledge on control of IDA, and (d) catalyze worldwide efforts in prevention of iron deficiency anemia?

Response: (a) The scope of knowledge will be expanded greatly, as will methods for assessment and control. (b) Intervention procedures are likely to be developed in a general manner but the current cooperative agreements do not provide for the individualization of the procedures to a specific country. (c) Dissemination of new knowledge will be reported in different formats (technical papers, monographs, etc) and therefore will be widely available. (d) However, the current project design as structured is unlikely to catalyze worldwide efforts in prevention of IDA.

Question: Is the project making an impact consistent with the resources available?

Response: The project has facilitated communications among academia, industry and donor agencies. New iron delivery systems that have great potential in combatting IDA have been developed, but await field testing. There is every reason to believe that the past level of productivity will continue. There is, however, little evidence to suggest that the project has had a major impact on policy makers' efforts to combat nutritional anemias in developing countries.

Question: Are the needs of developing countries being adequately responded to, and has research, training & technical assistance been sufficiently supporting of project objectives?

Reponse: Though research, training, technical reports and technical assistance are readily available little is used by the developing countries. It appears that the various countries do not consider nutritional anemias to be of high priority among health issues.

Question: Have AID resources been adequate to support the planned activities?

Response: The planned activities include testing of intervention activities - AID funding and administrative resources are not adequate to accomplish this objective.

Question: Are there management issues or practices which may be adversely affecting progress of the project?

Response: Management practices at the Nutrition Foundation and KUMC appear to be satisfactory. However, intervention programs, cannot be implemented without some initiative from the governments and USAID personnel in the developing countries. Discussions with the three A.I.D. regional bureau health/nutrition advisors confirmed this impression that nutritional anemias are overshadowed by other health & nutrition issues in most developing countries. Thus program priority issues at A.I.D. level and/or at the government level appear to be the major obstacles to introduction of intervention measures aimed at combatting nutritional anemias.

Question: Is the interaction with other multilateral & bilateral donor agencies sufficiently active and effective?

Response: Both INACG and ICCNA have served in advisory capacity to foreign government ministries and international agencies. INACG has interacted with WHO/FAO/UNICEF and other national and international organizations. Nevertheless the reviewers felt they had insufficient information to judge what would be a desirable level of interaction.

Question: Is the interaction with the private sector sufficiently active and effective?

Response: The intervention of INACG with the private sector has been exceptional. KUMC has collaborated with industrial sources in developing & testing various forms of iron products. This interaction was considered to be appropriate and effective.

Question: How well has information been disseminated under the project?

Response: INACG information has been disseminated to USAID missions and major institutions in the third world but the difficulty of maintaining copies in USAID missions and in governmental libraries of developing countries may be almost insurmountable.

Data information developed at KUMC is published in scientific literature and presented at major professional meetings & conferences. The researchers at KUMC are to be commended on their promptness in publishing their findings. However, there is little evidence that this KUMC technical information is reaching the USAID Missions. A KUMC quarterly newsletter had been circulated, but, because of subsequent cuts in funding by AID, the newsletter was discontinued. The three bureau health advisors, with whom the reviewers met, seemed only vaguely aware of the activities at KUMC other than training.

Question: Do the project achievements and potential appear to justify its continuation?

Response: The project has developed processes and information that have great potential for success. Continuation is justified if AID is willing to recognize the priority of this problem in the third world and address it with appropriate support funds.

Question: Are the project's activities significant in combatting iron deficiency worldwide?

Response: No, the project provides a good support facility but thus far there is little to support. Adequate resources need to be made available to address the problem through in-country activities.

Question: Are there activities related to iron deficiency which should be pursued by AID that are not currently found in the project?

Response: The reviewers conclude that the grantees are performing in an exceptional fashion but that an additional activity is necessary to achieve results in developing countries.

(4) Principal Recommendations

(a) AID should continue its good efforts to combat IDA, but in doing so AID needs to put additional resources into promoting operational programs in the third world.

(b) Specifically, AID Washington should move more aggressively into the field and not depend completely on USAID Missions and host governments to initiate activities. Otherwise the excellent support groups created (INACG & ICCNA) will continue to be underutilized.

(c) The grantees performed well. What now needs to be done is to establish an activity piece that can take and promote the information and products developed at the country level.

(5) Lessons Learned

The Agency must be willing and ready to invest into operational activities when it successfully has created an excellent project support system. It cannot rely on host government, other donors and organizations to fill this role, at least initially. The Agency has a knack of establishing and developing exceptional technical centers and technical assistance support systems but, unfortunately, has a problem in conceptualizing and establishing follow through operational support systems within the context of its own programming.

The Agency needs to recognize that it cannot always rely on other donors or host governments to pick up and operationalize the good products of the Agency's efforts. A.I.D. needs to follow through itself if it is to realize the application of its efforts and get credit for its works.

Attachment

Attachment A: Current Evaluation; May 1988.

XD-AP/A-909-A
ISA 66189

Review of Project
NUTRITION: COMBATting IRON DEFICIENCY
PROJECT NO. 931-0227

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May 1988

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JOHN SNOW, INC.

A review of two AID grants concerned with combatting nutritional anemias was carried out on May 23-25, 1988. On May 23, Dr. Fomon met with Dr. Cook, principal investigator, at the Kansas University Medical Center to discuss AID/DAN-0227-A-00-2104-00 and to visit the facilities of the International Center for Control of Nutritional Anemia (ICCNA). On May 24, Drs. Fomon and Johnson, met with Dr. Kahn of AID and Dr. Chichester and Ms. Lindsay of the Secretariat of the International Nutritional Anemia Consultative Group (INACG) at the office of the Nutrition Foundation, Incorporated, in Washington, DC. Dr. T.A. Morck of the International Life Science Institute (ILSI) joined in discussions of AID/DAN-0227-G-SS-1027-00. A third reviewer (Dr. Z.I. Sabry) was unable to participate in the review because of illness. Later in the day on May 24, Drs. Fomon, Johnson and Kahn met with three AID Health Advisors (Ms. Alrutz, Klement and Pielemeier) at the State Department to discuss current priorities of Nutrition/Health personnel in USAID Missions. On May 25 Drs. Fomon and Johnson prepared a preliminary draft of a report, and had final discussions with Dr. Kahn.

Background

Nutritional anemias are estimated to affect 700 million to 1 billion individuals worldwide. The consequences of these anemias, particularly iron-deficiency anemia, are believed to be decreased work capacity, interference with cognitive function, interference with immune function

and, in pregnant women, preterm delivery. The prevalence of nutritional anemias is greatest in developing countries. USAID provides grants to the Nutrition Foundation and to Kansas University Medical Center with the goals of increasing knowledge concerning nutritional anemias and their prevention and providing assistance worldwide in combatting these anemias.

Program of Nutrition Foundation

The Nutrition Foundation, Inc. was first granted financial support as secretariat for the International Nutritional Anemia Consultative Group (INACG) from the Agency for International Development (AID) in February 1977. The initial grant was for the period from 2/16/77 through 12/31/77. An additional grant was provided for the two-year period of 1/1/78 through 12/31/79. The grant period was extended by means of amendments through 12/31/80. A grant, covering the period 1/1/81 through 12/31/82 was amended to include the three-year period of 1/1/83 through 12/31/85. The grant was again amended in 1986 to increase the obligated amount to a total of \$629,920 for the period ending 2/28/87.

In May 1987 the grant was amended to increase the obligated amount to \$701,324 with an expiration date of 6/30/87. An extension of time without funds then permitted the use of remaining obligated funds until 12/31/87 for continuation of INACG projects nearing completion.

Additional AID funding in the amount of \$89,902 was provided for the period of 1/1/88 through 12/31/88. The INACG secretariat and its activities receive additional funding from the private sector and from several national and international agencies.

The INACG has sponsored task force meetings and international meetings, and in publication of monographs in English, Spanish and French, and publication of technical papers, a book on technology of iron fortification of foods, and a laboratory manual on methods for determining iron nutritional status.

Program at Kansas University Medical Center

In 1978, the Kansas University Medical Center (P.I. Dr. Cook) was awarded a 3-year contract by AID to determine bioavailability of various forms of iron, to analyze diets consumed in developing countries and to devise strategies for iron fortification of foods. External review in 1980 indicated considerable enthusiasm about the work accomplished. This contract was extended without additional funding until 1982.

In 1982, a 3-year cooperative agreement between AID and the University of Kansas was established for support of an International Center of Control of Nutritional Anemia (ICCNA). The goals of ICCNA were training of overseas personnel, provision of technical advice to overseas personnel,

establishment of an information center on nutritional anemias, and conduct of research on bioavailability of iron in foods. By the terms of the cooperative agreement, ICCNA was to work with developing countries that exhibited an interest in devising strategies to combat nutritional anemias and were receptive to involvement with ICCNA. Long-term relationships were to be established with approximately three such countries and short-term relationships with a number of others. An effort was to be made to determine the magnitude and distribution of iron-deficiency anemia, to develop strategies for decreasing the prevalence of iron deficiency anemia, and to disseminate information relevant to combatting nutritional anemias. This agreement was extended after 1985 at approximately 6-month intervals with modest additional funds through 8/31/87. Total funds awarded from 1978 through 8/31/87, including indirect costs, were \$1,734,856.

In a report dated April 1, 1985, an external review committee concluded that the overall objective of the cooperative agreement had been accomplished, that the activities of the program have been significant in combatting iron deficiency worldwide, and that none of the activities that were then ongoing should be curtailed. The committee recommended that iron enrichment programs be undertaken in some LDCs and that longitudinal monitoring of outcomes be included.

Effective 9/1/87, the cooperative agreement between USAID and the University of Kansas was extended for a 5-year period but with a reduced scope of work. The total amount of funding for this period, including indirect costs, was \$886,000. The scope of work was limited to providing support for overseas programs, including scientific development, training of selected personnel, provision of reagents (especially monoclonal antibodies), monitoring progress of field studies of fortification initiatives, and assistance in evaluating results. The University of Kansas explicitly declined to accept responsibility for motivating governments or missions in developing countries with respect to combatting nutritional anemias.

Responses to Specific Questions Asked by AID

Responses were requested to a series of specific questions. In some instances the responses are not identical for the two grants. The reviewers have therefore listed the responses as applicable to INACG, to ICCNA, or to both activities.

- a) Will the project design expand the scope of knowledge regarding iron deficiency anemia and methods for its assessment and control, develop and test intervention

procedures, disseminate new knowledge on control of iron deficiency anemia, and catalyze worldwide efforts in prevention of iron deficiency anemia?

INACG and ICCNA: The scope of knowledge will be likely to be expanded greatly, and the new knowledge will be reported in original scientific publications (ICCNA) and in monographs and technical papers (INACG) and therefore will be widely available. The past record of the grantees provides considerable confidence in this prediction. Intervention procedures are likely to be developed in a general manner by ICCNA but the cooperating agreement does not provide for the individualization of the procedures to a specific country. Testing of intervention procedures overseas is beyond the scope of either grant, although technical assistance for such tests is provided through ICCNA. Current activities, by themselves, are unlikely to catalyze worldwide efforts in prevention of iron deficiency anemia.

b) Is the project making an impact consistent with the resources available?

INACG: The publications have consisted of high quality state-of-the-art summaries and interpretation of current knowledge relating to nutritional anemias. Workshops and conferences have facilitated communications among academia, industry and donor agencies.

ICCNA: A substantial number of original publications have increased knowledge of bioavailability of iron in foods and have provided greatly improved methods for evaluating iron nutritional status. ICCNA has collaborated in developing new systems of delivering bioavailable iron (via supplementation and fortification) that have great potential in combatting iron deficiency anemia. These new systems await field testing.

INACG and ICCNA: There is every reason to anticipate that the past level of productivity will continue. The publications have made a definite impact on academicians and on industrial and governmental scientists in the US and in other highly developed countries. There is, however, little evidence to suggest that the publications have had major impact on health policy makers' efforts to combat nutritional anemias in developing countries.

- c) Are the needs of developing countries being adequately responded to, and has research, training and technical assistance been sufficiently supporting of project objectives?

INACG: Individuals from developing countries have participated in INACG meetings, and the INACG reports are applicable to efforts at combatting nutritional anemias. However, as already mentioned, relatively little activity is evident in this regard in developing countries.

ICCNA: A number of professionals from developing countries have received training at Kansas University Medical Center to prepare them for roles in nutritional anemia intervention programs. Dr. Cook stated that few of these individuals are now involved with nutritional anemia programs.

It appears (see (e)) that the various countries do not consider nutritional anemias to be of high priority among health issues. Until the need for combatting nutritional anemias is recognized within the developing countries, it will be impossible to respond adequately. Research training and technical assistance are readily available but little used.

- d) Have AID resources been adequate to support the planned activities?

ICCNA: The planned activities include testing of intervention activities and AID funding and administrative resources are not adequate to accomplish this objective.

- e) Are there management issues or practices which may be adversely affecting progress of the project?

INACG and ICCNA: Management practices at the Nutrition Foundation and at Kansas University Medical Center appear to be satisfactory. However, intervention programs cannot be implemented without some initiative from the governments and USAID personnel within the developing countries. A meeting of the reviewers with three AID regional bureau health/nutrition advisors confirmed the impression of Dr. Cook that nutritional anemias are overshadowed by other health and nutrition issues in most developing countries. With limited funds and great emphasis on immunization, oral rehydration therapy for diarrhea, prevention of vitamin A deficiency, and growth monitoring, nutritional anemias receive scant attention. Thus, program priority issues at the AID level and/or at the government level appear to be the major obstacles to introduction of intervention measures aimed at combatting nutritional anemias.

- f) Is the interaction with other multilateral and bilateral donor agencies sufficiently active and effective.

INACG and ICCNA: Both INACG and ICCNA staff have served in advisory capacity to foreign government ministries and international agencies. The reviewers, however, are unable to answer the question as to the effectiveness of this interaction. INACG has interacted with FAO/WHO/UNICEF and other national and international organizations. The

ICCNA has served as a training center for donor agencies and has interacted with USDA (apparently without success) but the reviewers have insufficient information to judge what would be a desirable level of interaction.

g) Is the interaction with the private sector sufficiently active and effective?

INACG: Interaction with the private sector has been exceptional. The collaboration of the Nutrition Foundation with the food industry has worked remarkably well in supporting the activities of INACG. A number of industrial concerns have joined the Nutrition Foundation in providing financial support of workshops, conferences and research activities.

ICCNA: Kansas University Medical Center has collaborated with industrial sources in developing and testing various forms of iron fortification. The reviewers consider this interaction to be appropriate and effective.

h) How well has information been disseminated under the project?

INACG: The various INACG reports have been printed in sufficient numbers and languages, are available by request, and are carried in most major libraries of industrialized countries. Copies are sent to all USAID

missions and major institutions in the third world, but the difficulty of maintaining copies in USAID Missions and in governmental libraries of developing countries may be almost insurmountable.

ICCNA: New information developed at the University of Kansas has been published in the scientific literature and presented at major professional meetings and conferences. Dr. Cook and his colleagues are to be commended on their promptness in publishing their findings. However, there is little evidence that the information is reaching USAID Missions. A quarterly ICCNA newsletter had been circulated, but because of subsequent cuts in funding by AID the newsletter was discontinued. The three health advisors with whom Drs. Foman and Johnson met, seemed only vaguely aware of any nutritional activities other than training at the University of Kansas.

- i) Do the project achievements and potential appear to justify its continuation?

INACG: The monographs and technical papers have been a major scientific contribution to understanding of nutritional anemias. The translation of knowledge to intervention programs has not yet occurred in most developing countries (see (a)).

ICCNA: A superb support mechanism is in place and Kansas University Medical Center is ready and eager to assist developing countries in efforts to combat nutritional anemias. Few such efforts are likely to be initiated through AID contracts or agreements currently in force. The achievements of the project have been great but the program priority problem identified previously (see (e)) must be solved if the goals of the project are to be met.

INACG and ICCNA: The project has developed processes and information that have great potential for success. Continuation is justified if AID is willing to recognize the priority of this problem in the third world and address it with appropriate support funds.

j) Are the project's activities significant in combatting iron deficiency worldwide?

INACG and ICCNA: The answer to this question is no. As already discussed, the project provides a good support facility but thus far there is little to support. Adequate resources need to be made available to address the problem through in-country activities.

k) Are there activities related to iron deficiency which should be pursued by AID that are not currently found in the project?

The alleviation and prevention of iron deficiency requires a commitment from the developing countries. Efforts to achieve such a commitment are beyond the scope of the grants to the Nutrition Foundation or to Kansas University Medical Center. The reviewers conclude that the grantees are performing in an exceptional fashion but that an additional activity (presumably, a separate grant) is necessary to achieve results in developing countries.

Summary

An excellent support program has been put together by AID to combat iron deficiency anemia. What is lacking is the ability to move the potential created by the support program into third world situations. This inability to move into overseas situations appears to result primarily from competition with other AID priority activities, which have significantly larger resources, and from the benign image of iron deficiency anemia. Both have worked against this serious health/nutrition public health problem.

Recommendations

1. AID should continue its good efforts to combat iron deficiency anemia, but, in doing so, AID needs to put additional resources into promoting operational programs in the third world.

2. Specifically, AID Washington should move more aggressively into the field and not depend completely on USAID Missions and host governments to initiate activities. Otherwise the excellent support groups created will continue to be underutilized.

3. As stated in the review, the grantees have performed well. What now needs to be done is to establish an activity piece (e.g., a public health management group) that can take and promote the information and products developed at the country level.