LATIN AMERICA AND CARIBBEAN
HEALTH AND NUTRITION SUSTAINABILITY:

Technical Support for Policy, Financing and Management

1129 20th Street, NW
Suite 706
Washington, DC 20036
(202) 466-3318
FAX (202) 466-3328

This contract is implemented by:

International Science and Technology Institute, Inc. (ISTI)

Community Systems Foundation (CSF)

Development Group, Inc. (DGI)

University Research Corporation (URC)

URC is the prime contractor under Contract No. LAC-0657-C-00-0051-00 with the U.S. Agency for International Development.

Mid-term Evaluation of the

INCAP Institutional Strengthening Project

July 1993

Alberto Gonima, Team Leader
Eduardo Atalah
Barry Smith
George Woodring
Jorge Gonzalez

Prepared for USAID/ROCAP by
LAC Health and Nutrition Sustainability
Contract No. LAC-0657-C-00-0051-00
University Research Corporation/
International Science and Technology Institute, Inc.
1129 20th Street, NW, Suite 706
Washington, DC 20036

- 5

Mid-term Evaluation of the INCAP Institutional Strengthening Project

ABSTRACT

Founded in 1949, INCAP has and continues to be a primary source of training, applied research, and increasingly, technical assistance to the countries of the Central American isthmus in food sciences, nutrition and maternal and child health. The three-year INCAP Institutional Strengthening Project (IISP) was developed to provide technical and financial inputs to enable INCAP to make the attitudinal, managerial, technical, structural and financial changes needed to sustain its programs without reliance on A.I.D. core funding. This mid-term evaluation of the IISP (project 596-0169) assesses the extent and significance of progress to date toward achievement of the project purpose and outputs.

Based on significant actions taken by INCAP under IISP, including reduction in staff size, implementation of cost containment measures, mobilization of a more aggressive marketing strategy, and measurable progress toward attainment of project outputs in each component, the evaluation team concludes that the project purpose is achievable and that IISP activities are contributing to that purpose. The team believes that the project design has proven effective but that the project's purpose is not achievable within the current completion date, due principally to the complexities of enacting fundamental changes in any organization's structure and culture.

INCAP needs to further develop the management systems and capabilities required to operationalize its strategic plans and new organizational structure, which are a positive step in the direction A.I.D. has encouraged. The advanced state of INCAP's negotiations with the Central American Bank for Economic Integration (BCIE) on the creation of the endowment fund and inter-institutional collaboration on development projects creates a reasonable possibility for INCAP to ensure its self-sustainability. However, the current PACD risks setbacks in the IISP's purpose of creating the conditions necessary for long-term sustainability, since it will be difficult for INCAP to compensate in the short-run for this strategically important contribution from USAID/ROCAP.

The evaluation recommend that INCAP accelerate its efforts to install new procedures and information systems for financial management, programming and monitoring; develop detailed financial scenarios adequate to evaluate consequences of alternative financing strategies; assess the training needs and design a more effective system for prioritizing and focussing the activities of its successful country-level teams; and move quickly to generate contributions and creative funding mechanisms to build up an endowment trust fund. To complete the important achievements already recorded by the IISP and to solidify INCAP's basis for long-term sustainability, the evaluators recommend that ROCAP extend the PACD of the IISP from 30 June 1994 to 30 June 1996, increase the USAID/ROCAP funding authorization level of $6,400,000 to $7,400,000, and obligate an additional $1,000,000 to the IISP.

9

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i
- Background i
- Objectives and Methodology of the Evaluation i
- Findings and Conclusions ii
- Recommendations vi

I. OBJECTIVES OF THE EVALUATION 1

II. METHODS USED BY THE EVALUATION TEAM 1

III. INSTITUTIONAL ASSESSMENT 2
- A. Strategic Decisions and Organizational Changes Occurring at INCAP 2
- B. Strategic Plans and Programs 2
- C. Strengths, Weaknesses, Opportunities and Threats 3
- D. Leadership and Management Issues 4
- E. Institutional Resources 6
  - 1. Human Resources 6
  - 2. Financial Resources 6
  - 3. Physical Plant and Laboratories 9
  - 4. Information Technology 9
- F. Marketing of Services and Products 9
- G. Future Financial Viability 11

IV. PROJECT LEVEL ASSESSMENT 12
- A. Effectiveness of Project Design 12
  - 1. Logical Framework 12
  - 2. Core Resources 12
  - 3. Length of Project 14
- B. Effectiveness of Implementation Strategies 14
  - 1. Technical Assistance 14
  - 2. Annual Work Plans 14
  - 3. Monitoring and Evaluation 15
- C. Effectiveness of the Add-on Mechanism 15

V. IISP ACHIEVEMENTS AT MID-TERM: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS 17
- A. Strategic Planning and Management (SPM) Component 17
  - 1. SPM Sub-output (1) 17
  - 2. SPM Sub-output (2) 22
  - 3. SPM Sub-output (3) 25

TABLE OF CONTENTS, Continued

Page

B. Technical and Technology Transfer (TTT) Component 27
   1. TTT Sub-output (1) 27
   2. TTT Sub-output (2) 33
   3. TTT Sub-output (3) 39
   4. TTT Sub-output (4) 42
C. Financial Resources Development (FRD) Component 43
   1. FRD Sub-output (1) 43
   2. FRD Sub-output (2) 46
   3. FRD Sub-output (3) 48

ANNEXES 52

ANNEX 1: List of Major Documents Reviewed
ANNEX 2: List of Persons/Organizations Interviewed
ANNEX 3: INCAP Mid-term Evaluation Chronology
ANNEX 4: Annual Work Plan Outcomes (Planned vs. Accomplished)
ANNEX 5: Stability Analysis of GTB Professional Personnel

LIST OF FIGURES AND TABLES

Page

Figures

Figure 1: INCAP's Organizational Structure 5
Figure 2: Number of Employees by Type, 1990-93 6
Figure 3: Budget and Expenditures, 1990-93 8
Figure 4: Expenditures by Source of Funding, 1990-93 8
Figure 5: Number of Professionals by Academic Level 29
Figure 6: Number of Publications by Type 29
Figure 7: Submitted and Approved Projects, 1989-92 30

Tables

Table 1: Comparison of INCAP Budget and Expenditures by Source of Funds and Fiscal Year 7
Table 2: INCAP Budget Projection for 1993-1998 11
Table 3: Expenditures to Date by IISP Component 14
Table 4: Technology Transfer Activities 36

LIST OF ACRONYMS

AID	U.S. Agency for International Development
AMPES	American Region Programming, Planning, Monitoring and Evaluation System
APB	Annual Program Budget
AWP	Annual Work Plan
BCIE	Central American Bank for Economic Integration (Banco Centroamericano de Integración Económica)
CCI	Internal Coordination Committee (Comité de Coordinación Interna)
CDC	Centers for Disease Control
CEPROD	Center for Studies and Promotion (Centro de Estudios y Promoción)
EFA	Endowment Fund Agreement
FLACSO	Latin American School of Social Sciences (Facultad Latinoamericana de Ciencias Sociales)
FMS	Financial Management System
FRD	Financial Resources Development
GTB	Basic Technical Group (Grupo Técnico Básico)
IBRD	International Bank for Reconstruction and Development (The World Bank)
ICA	Inter-institutional Cooperation Agreement
IDB	Interamerican Development Bank
IISC	Internal Information Systems Committee
IISP	INCAP Institutional Strengthening Project
IMS	Information Management System
INCAP	Institute of Nutrition of Central America and Panama
JSI	John Snow, Inc.
LAN	Local Area Network
LAU	Unified Analytical Laboratories (Laboratorios Analíticos Unificados)
NGO	Non-governmental Organization
OPS	Organización Panamericana de la Salud (PAHO)
PACD	Project Activity Completion Date
PAHO	Pan American Health Organization
PIL	Project Implementation Letter
PRAF	Program of Family Subsidies (Programa de Asignaciones Familiares)
PTC	Trimestral Work Planning (Programación de Trabajo Cuatrimestral)
SIAANS	Integrated Systems of Agriculture, Food, Nutrition and Health (Sistemas Integrados de Agricultura, Alimentación, Nutrición y Salud
SICA	System of Central American Integration (Sistema de Integración Centroamericana)
SPM	Strategic Planning and Management
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBC	Tuberculosis
TTT	Technical and Technology Transfer
UNDP	United Nations Development Program
WHO	World Health Organization

Executive Summary

BACKGROUND

The Institute of Nutrition of Central America and Panama (INCAP) is the premier technical and scientific resource in the fields of food and nutrition in the Latin American region. Founded in 1949, INCAP has and continues to be a primary source of training, basic and applied research, and increasingly, technical assistance to the countries of the Central American isthmus in food sciences, nutrition and maternal and child health.

Among the Institute's noted technological and scientific contributions are the development of enriched foods such as Incaparina and the nutritionally improved cookie, advances in food fortification with micronutrients, epidemiological studies of the interaction of malnutrition and infectious diseases, treatment of protein-energy malnutrition, and the development of innovative field methodologies for anthropometric and dietary surveys. INCAP's excellence in basic and applied research has attracted diverse donor support and collaboration with scores of leading scientific institutions and international agencies.

A.I.D. support to INCAP through applied research, technical assistance and technology transfer projects has been a major funding source for INCAP since the 1970's, reaching a peak in 1988 when INCAP relied on A.I.D. for 42% of its operating budget. By 1990, changing prospects for donor support and creative new leadership at INCAP led to recognition of the need to move the institute toward greater diversity in its funding sources and client base and initiation of a profound strategic planning and restructuring process.

It is in this context that the three-year INCAP Institutional Strengthening Project (IISP) was developed to provide technical and financial inputs to enable INCAP to make the attitudinal, managerial, technical, structural and financial changes needed to sustain its programs without reliance on A.I.D. core funding.

OBJECTIVES AND METHODOLOGY OF THE EVALUATION

The mid-term evaluation of the IISP (project 596-0169) assessed the extent and significance of progress to date toward achievement of the project purpose and outputs. To assess the project's progress toward enabling basic organizational changes within INCAP, the evaluation examined how the implementation of IISP has affected INCAP's ongoing restructuring, strategic planning and management systems, strengthened technical capacity, and long-term financial sustainability. The results of the evaluation are intended to inform decisions by INCAP and ROCAP concerning the final phase of project implementation.

A five-person team consisting of a Strategic Planning and Management Specialist, a Nutrition Specialist, a Technology Transfer Specialist, and two Financial Resources Development Specialists spent three weeks carrying out the evaluation during May-June 1993. The team developed its findings and conclusions from a review of documents and interviews with staff of INCAP headquarters and Basic Technical Groups, as well as officials from ROCAP, AID/W, USAID Missions, PAHO, and INCAP clients at Ministries of Health and other agencies in Guatemala, Honduras, El Salvador, and Nicaragua. The evaluation team's recommendations were presented to INCAP and ROCAP in briefings prior to their departure from Guatemala.

FINDINGS AND CONCLUSIONS

Institutional Assessment

INCAP is in the midst of a multi-year period of intense re-examination of its purpose, strategic mission and institutional organization, a process to which the IISP has provided crucial support. Significant progress has been made in reducing INCAP core expenditures through staff reductions and other cost-cutting measures, while at the same time maintaining a diverse portfolio of activities and a high level of technical quality. While the reorganization plan developed during 1992 and approved in January 1993 is a solid step in the right direction, INCAP needs to further develop the management systems and capabilities required to operationalize its strategic plans and new organizational structure. Linkages between headquarters and INCAP's country-level Basic Technical Groups (GTBs) are still being adjusted to reflect the new organization, leading to some adverse effects on communication between the two levels.

INCAP's principal institutional weaknesses that must continue to be addressed by the IISP are weak managerial skills, limited financial management capabilities and experience, insufficient delegation of decision-making authority, and gaps between planning by INCAP's priority programs and access to and control of resources needed to implement these plans.

INCAP's long-term financial sustainability is still unresolved. The prospects for an inter-institutional agreement with the Central American Bank for Economic Integration and the future potential for an INCAP endowment are encouraging, but a longer time-frame than is possible under IISP is needed to build an adequate endowment fund. The Institute's medium-term financial situation is precarious. INCAP's immediate problem is how to rapidly gear up its capabilities to generate revenues through sale of services and other strategies for drawing in new resources in the medium term while the long-term solution--the endowment fund--is worked out. The inputs of the IISP in its second half are essential for INCAP to successfully achieve this transition.

Assessment of Project Design

The evaluation team concludes that the project purpose can be achieved and that IISP activities are contributing to that purpose, as evidenced by INCAP's reduction in staff size while maintaining its productivity and technical calibre, implementation of cost containment measures, and demonstration of measurable progress toward attainment of project outputs in each component. The team believes that the project design has proven effective but that the project's purpose is not achievable within the current completion date, due principally to the delay in start-up occasioned by institutional issues and to the complexities of enacting fundamental changes in any organization's structure and culture.

The effectiveness of the project's implementation strategies is mixed. Notable successes are the extensive use of qualified local consultants and the development of collaborative relationships with several other A.I.D.-funded projects. A persistent problem area in work planning is linkage of resources with activities. For example, delays in channeling funds to the GTBs and poor communication about the amount of funds approved have led to GTBs being unable to fulfill commitments made for 1993. However, the appreciable increase in the quality of the 1993-94 annual work plan as compared to the 1992 plan is persuasive of INCAP's efforts to strengthen project implementation strategies.

The add-on mechanism has had limited use in the project's first 24 months. This situation appears to result from the lack of a systematic strategy of pursuing Mission add-on's and, to a lesser extent, from preferences among some USAID officials for contract mechanisms. INCAP's current ineligibility to directly compete for A.I.D. contracts does pose a significant obstacle to the development of precisely the kind of experience and capabilities needed to successfully compete in the technical assistance marketplace which the IISP is striving to develop at INCAP.

Assessment of IISP Progress and Achievements

The major part of the evaluation effort was directed at assessing, for each of the three components of IISP, INCAP's progress in achieving objectives and outputs set forth in the project's annual implementation plans, the relevance and appropriateness of these results, and their expected sustainability upon project completion.

Strategic Planning and Management

The extensive organizational changes underway at INCAP attest to the institute's perception of the need for change and willingness to adapt. Development of the planning and management systems needed to operationalize strategic decisions needs to keep pace with the demands of the new organizational structure. The group responsible for fostering strategic planning and management throughout the

16

organization was formed only as of January 1993, and it is too early to judge its effectiveness.

More sophisticated strategic planning and financial resource analysis capabilities need to be developed to permit detailed projections of expected income and expenditures. Better coordination is needed between headquarters and the GTBs concerning strategic planning, identification of priorities and annual work planning and budgeting. A priority for the IISP is the development of an effective process for early detection and follow-up of potential technical assistance and project proposal preparation opportunities.

A recent audit found that INCAP's accounting practices have improved considerably in the past three years to correct internal control weaknesses, improve identification of program support costs, and institute cost containment measures which have produced regular budget surpluses. INCAP is now in the process of adapting the PAHO-mandated accounting system to make it more useful for INCAP's internal budgeting and monitoring. Current financial reporting mechanisms are adequate for day-to-day administration, but need to be expanded to provide managers with a longer term perspective for strategic planning.

The IISP has provided highly relevant contributions to the upgrading of INCAP's information systems for analytical services and scientific/technical transfer. Advanced development of management and financial information systems has lagged.

Technical and Technology Transfer

The IISP has developed diverse activities to improve the technical capacity of INCAP staff and strengthen their potential for providing high quality technical assistance. As a result of the reorganization, INCAP's priority programs were redefined, requiring adjustments in some of this component's outcomes. All of the redefined areas are relevant and respond effectively to the countries' interests. Activities related to nutritional surveillance, technical support to group feeding programs, and maternal and child health are now being carried out by various programs and should be reinforced, to ensure that INCAP's capabilities and efforts in these important areas are not diluted. INCAP staff skills in the formulation and evaluation of projects in these areas need further development.

Counterparts interviewed by the evaluation team feel that INCAP's technology transfer capability and effectiveness has increased dramatically with the establishment of the country level GTBs. An important indication of member country satisfaction with INCAP has been the substantial reduction in member country arrears in annual quota contributions over the past three years. USAID Missions and NGO's with whom INCAP has worked were less consistent although generally positive in their evaluation of INCAP and endorsed the quality of its technical assistance. Several successful

technology transfer efforts have been facilitated by IISP, including production of the nutritionally improved cookie in four countries, Vitamin A fortification of sugar, and iodine fortification of salt. Excellent social communication materials for use at the local level have been developed by GTBs in three countries.

There remains a lack of clarity in regard to lines of communication between the GTB and headquarters. While the internal integration and cohesion of the GTB teams has improved, most GTBs continue to try to do too much with too few resources.

Laboratory equipment has been upgraded under IISP but substantial further investment is needed to significantly augment INCAP's laboratory services capacity. The sale of laboratory services has begun to generate appreciable income, but not always benefitting the laboratories themselves. Clear policies governing the use of revenues need to be developed to ensure that appropriate incentives are maintained to encourage the marketing and sale of services by the technical programs.

Financial Resources Development

High quality consultants have been retained to develop internal financial and accounting procedures to support expanded cost recovery activities. Further transfer of financial resource development and management expertise to INCAP staff is needed to ensure continuity of this work.

Since the formalization of the Marketing and Sale of Services Program in January of 1993, the marketing group has concentrated efforts on marketing products and services to the food industry in member countries. The income of about $326,000 to be generated from their activities in 1993 exceeds initial expectations. Drawing on the positive experience of marketing to the food industry, an integrated marketing plan considering all INCAP clients' needs by products and services and defining clear pricing policies and promotional activities needs to be developed to increase the effectiveness of marketing activities.

The endowment fund feasibility analysis has been completed, and negotiations are well advanced with the Central American Bank for Economic Integration (BCIE) for an inter-institutional cooperation agreement that will include financial management of the fund as well as joint development of projects. While INCAP has achieved its work plan targets for preparation of the endowment fund, the actual implementation of such a fund is complex and takes time, particularly to garner contributions sufficient to generate adequate operating income. However optimistic the scenarios on the development of the endowment fund, under the current PACD it will be difficult for INCAP to compensate for the strategically important contributions of the IISP without causing setbacks in its very efforts to create the conditions necessary for long-term sustainability.

15

RECOMMENDATIONS

The evaluation team's detailed recommendations for each component of the project and for USAID/ROCAP are summarized below to address the priority areas in which the IISP can support INCAP in further strengthening its technical and financial resource development capabilities.

General Actions to be Taken by INCAP's Executive Director and Internal Coordination Committee

1) Define and prioritize short-term (need to be addressed within the next three months), medium-term (three to twelve months) and long-term (over one year) institution-wide problems and concerns.

2) Assign responsibility and decision-making authority and provide resources to address the immediate problems and concerns.

3) Develop a schedule and assign responsibility and decision-making authority for addressing the medium- and long-term problems.

Expected Outcomes: Understanding throughout the INCAP about how decisions are made; managerial responsibilities clearly linked to authority to effect changes; procedures developed for identifying and dealing with important issues facing INCAP.

Strategic Planning and Management Component

4) Formulate by the end of 1993, detailed financial scenarios adequate to evaluate consequences of alternative strategies and decisions to be made to achieve the financial sustainability after the IISP ends.

Expected Outcome: Financial statements projected with alternative decisions and goals by year (1994-2000) by source of funds and by major line item.

5) Establish a task force charged with developing by June 1994 the information systems required for financial management, programming and evaluation (PAHO's APB/PTC system) and project/portfolio management to support the decision-making processes of the different decision centers of INCAP, including GTBs.

Expected Outcomes: Financial management, programming and evaluation software operating by June 1994, and managers and staff at all levels trained in their use.

Technical and Technology Transfer Component

6) Define a human resources development plan to strengthen technical capabilities in critical areas and priority programs.

7) Reinforce activities related to maternal and child health, nutritional surveillance, and group feeding programs, as well as skills in project preparation and evaluation, at both the headquarters and GTB levels.

Expected Outcomes: External technical assistance accessed related to priority programs and to project preparation and evaluation; proposals related to maternal and child health, group feeding programs or nutritional surveillance prepared in each member country and presented to potential funding sources by June 1994.

8) Conduct a technology transfer needs assessment of GTBs, providing background materials on the nature of technology transfer and case studies on useful technology transfer materials as inputs into the discussion. Build a training and technical assistance program upon these needs for the GTBs as a group and as individuals. Facilitate the provision of technical assistance from one GTB to another.

Expected Outcomes: Common understanding of technology transfer priorities and implementation strategies within the INCAP context and both general and specific needs identified; a plan developed by January 1994 with budget for the addressing technology transfer weaknesses.

9) Develop an effective system for prioritizing and focussing GTB activities, including strategic planning processes similar in purpose to those which have been undertaken at the headquarters level; link this effort to the 1994 budgeting exercise.

Expected Outcome: GTBs with more focussed programs addressing priority nutritional and MCH needs of their countries, consistent with their expertise, capability to respond and with the support which headquarters can provide.

10) Incorporate the GTBs into the institutional restructuring process through new decentralized operations procedures and regular meetings with the GTB coordinators. The resolution of financial management issues and timely disbursement of funds to the GTBs are of paramount importance.

Expected Outcomes: Revised Manual of decentralized operations; more timely release of funds to the GTBs by June 1994.

20

Financial Resources Development Component

11) Implement by September 1993 the inter-institutional cooperation agreement with BCIE and take the appropriate steps to develop by the end of 1993 INCAP's capability in the preparation of investment, technical assistance, research and transfer of technology projects.

Expected Outcome: INCAP/BCIE action plan prepared by September 1993, to develop a permanent source of revenue from external financing of its research, technical assistance and product-development activities.

12) Organize by September 1993 INCAP's capability to promote the funding of the endowment trust fund to be administered by BCIE.

Expected Outcome: Substantially increased capital resource of INCAP's endowment trust fund from outside assistance in the next three years.

Recommendations to USAID/ROCAP

The evaluation team concludes that implementation of the above recommendations will enable INCAP to achieve the purpose and objectives of the IISP. To enable INCAP to enact the steps outlined here, the evaluators conclude that an extension and additional financial and technical resources will be required from USAID/ROCAP. Specifically, it is recommended that ROCAP:

1) Extend the PACD of the IISP from 30 June 1994 to 30 June 1996.

2) Increase the USAID/ROCAP funding authorization level of $6,400,000 to $7,400,000 and obligate an additional $1,000,000 to the IISP.

3) Seek a determination of legal advice on the issue of competitive limitations to INCAP institutional strengthening grants, and based on that assessment, eliminate or significantly modify current limitations on INCAP's ability to compete for A.I.D. contracts.

4) Amend Article 3: Section 3.2.(b) and Article 5: Section 5.5 by replacing the minimum required contribution of INCAP goods and services to IISP of $2,134,000 with an amount calculated as 25% of actual expenses.

5) A two-year extension of the IISP would require USAID administrative support to INCAP. It is recommended that this support be provided by a long-term (one to two years) consulting contract or similar arrangement with one qualified individual (to ensure continuity) for a minimum of six two-week visits per year.

IISP MID-TERM EVALUATION

I. PURPOSE OF THE EVALUATION

The mid-term evaluation of the INCAP Institutional Strengthening Project (IISP) (596-0169) was charged with assessing the extent and significance of progress to date toward achievement of the project purpose and outputs.

To assess the IISP's contributions toward enabling fundamental changes at INCAP, the evaluation team was asked to examine issues related to institutional organization, management structure, and decision-making. For the project as a whole, the evaluation examined the effectiveness of the project design and implementation strategies, with particular emphasis on the effectiveness of the add-on mechanism for Mission participation in IISP. The major part of the evaluation effort was directed at assessing, for each of the three IISP components, INCAP's progress in achieving objectives and outputs set forth in the project's annual implementation plans, the relevance and appropriateness of these results, and their expected sustainability upon project completion. The detailed recommendations provided for the project as a whole and for each component are intended to inform decisions by INCAP and ROCAP concerning the final phase of project implementation.

The evaluation was organized under a Technical Services Order to the LAC/DR/HPN-funded LAC Health and Nutrition Sustainability contract. The services of the Technology Transfer Specialist were provided by the PRITECH II Project[1].

II. METHODS USED BY EVALUATION TEAM

A five-person team consisting of a Strategic Planning and Management Specialist/Team Leader (Alberto Gonima), a Nutrition Specialist (Eduardo Atalah), a Technology Transfer Specialist (Barry Smith), and two Financial Resources Development Specialists (George Woodring and Jorge Gonzalez) spent three weeks carrying out the evaluation during May-June 1993. The team developed its findings and conclusions from a review of documents and interviews with INCAP headquarters and country level staff, as well as officials from ROCAP, AID/W, USAID Missions, PAHO, and INCAP clients at Ministries of Health and Agriculture and non-governmental organizations in Guatemala, Honduras, El Salvador, and Nicaragua. The lists of documents reviewed and persons interviewed by the evaluators are found in Annexes 1 and 2, respectively.

The evaluation team's recommendations were presented to INCAP and ROCAP in briefings prior to their departure from Guatemala in June. A debriefing on the evaluation's findings and recommendations was held in Washington in July for LAC/DR/HPN and R&D staff. A chronology of the evaluation is found in Annex 3.

---

[1] Technologies for Primary Health Care Project, Contract No. DPE-5969-Z-00-7064-00

III. INSTITUTIONAL ASSESSMENT

A. Strategic Decisions and Organizational Changes Occurring at INCAP

The Institutional Strategic Plan 1991-2000 developed by INCAP in the late 1980's adopted decentralization as one of the major strategic decisions to achieve INCAP's mission in the 1990's. The Basic Technical Groups (GTBs) were officially established in August 1990 as a means to focus INCAP's assistance at the local level after the Council of Ministers approved the INCAP decentralization strategy. GTBs are groups of INCAP professionals permanently assigned to the seven INCAP Member Countries and physically and administratively located within the in-country PAHO representation.

INCAP's technology transfer capability has increased dramatically with the establishment of the GTBs. INCAP's counterparts confirmed to the team members their appreciation of INCAP's increased effectiveness since the creation of the GTBs. This perception of increased effectiveness is a result of having a permanent, multi-disciplinary team that is responsive to local concerns and effective in providing on-going assistance. Member governments have been more responsive in adopting technology that has been shown to be effective within their own national environments.

During 1992, an intense, participatory analysis of INCAP's strategic programs was carried out with support of the IISP, culminating in a planning meeting held on November 27, 1992. The discussions and conclusions of that meeting provided the basis for the structural reorganization of INCAP that was adopted in January 1993.

B. Strategic Plans and Programs

The strategic planning meeting held in Antigua in November 4-5, 1991 reformulated INCAP's four basic functions into 12 scientific-technical priority areas. The quadrennial action plan 1991-95 was formulated for those areas, addressing Central America and Panama's food and nutrition problems and member countries' specific needs.

As part of the institutional restructuring enacted in January 1993, INCAP has prioritized its technical areas and lines of activity to focus on: the most vulnerable groups; the availability and transfer of food and nutrition technologies; and the promotion of the Institute's participation in decision-making processes to adopt measures which will contribute to the improvement of food security and nutritional status.

INCAP has defined as most important those programs which tend to protect and promote the food and nutritional well-being of population groups at risk and which are related to:

- Food, nutrition and health care of most vulnerable groups.
- Prevention of micronutrient deficiencies, specially those micronutrients which are deficient in the Central American population.
- Prevention and treatment of infectious diseases which affect nutritional status.
- Food safety and consumer orientation regarding healthy diets and lifestyles.
- Integration of agriculture, food, nutrition and health systems.
- Socio-economic analysis of food and nutrition problems and support to the incorporation of nutritional goals in development programs.

C. Strengths, Weaknesses, Opportunities and Threats

The analysis of INCAP's strengths, weaknesses, opportunities, and threats (SWOT) provides a rapid overview of the internal and external environments in which INCAP is operating during this process of effecting major structural changes within the Institute.

INCAP's internal strengths include:

- Unique capabilities in nutrition and maternal and child health.
- Strategic geographical location for Central America.
- Logical link between major academic research institutions (CDC, U.S. universities and other consulting groups) and Central American environments.
- INCAP has demonstrated technical competence in nutrition for over 40 years.
- World class scientific reputation.
- PAHO/WHO relationship.
- Demonstrated understanding throughout the organization of need to gather additional financial support.
- Ability to attract donor support for research activities.

Significant internal weaknesses are INCAP's:

- Lack of experience, capability and information systems to market their technical cooperation services to financial agencies.
- Weak financial management.
- Precarious financial situation in the medium-term.
- Over-reliance on A.I.D. funds.
- Insufficient delegation in the decision-making process.
- Lack of managerial capacity.

24

INCAP INSTITUTIONAL STRENGTHENING PROJECT MID-TERM EVALUATION

July 1993

25

External opportunities for INCAP in the 1990's:

- Availability of financial resources that are not currently fully used for development, such as P.L. 480 and Balance of Payment Counterpart funds.
- Increased funding for health and nutrition projects by World Bank (IBRD), InterAmerican Development Bank (IDB) and the Central American Bank for Economic Integration (BCIE) among others.
- Central American Integration efforts.

External threats to INCAP as it develops a more solid basis for sustainability:

- Reduction in A.I.D. assistance resources flowing to Central America in general and to INCAP specifically.
- Increase in market-and client-oriented competitors in Central America.
- Low priority assigned by member countries and funding agencies to channeling financial resources to food and nutrition programs.

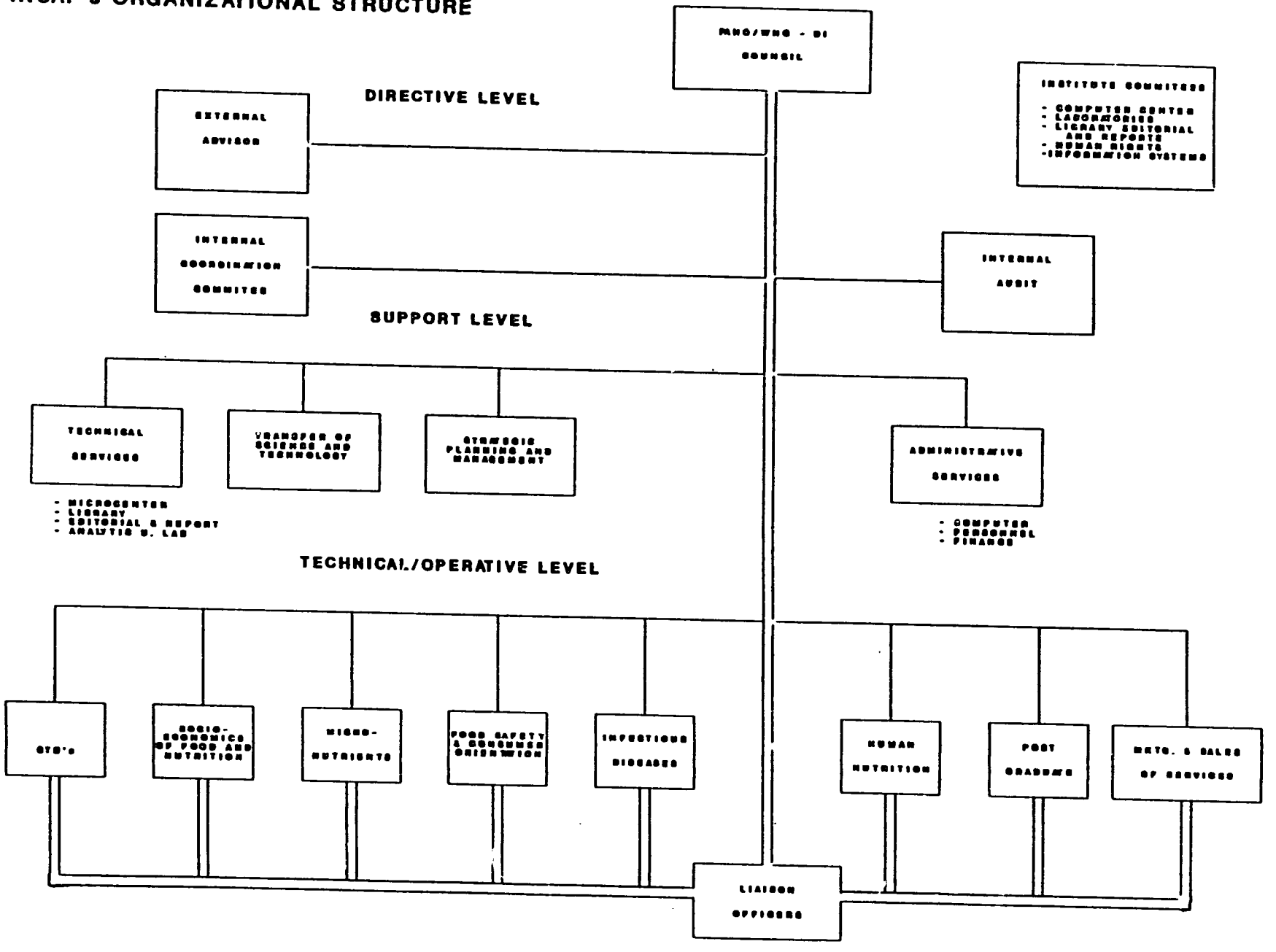
D. Leadership and Management Issues

The style of INCAP's leadership is very much a participatory one. The participatory style is demonstrated by the "esprit de corps", a willingness to openly discuss all aspects of the organization, and the large and diverse membership in coordination committees.

The new organizational structure adopted in January 1993 is shown in Figure 1. The management structure of this new configuration is awkward and not clearly defined to efficiently serve the decision-making needs of the organization. At the time of evaluation, the lines of authority and decision-making process were unclear. Because of this, the increased participation of the staff in multiple committees and programs has temporarily reduced the efficiency and productivity of the organization although internal communication has increased. Some of the programs have defined informal internal management structures, others have adopted the task force approach.

The relationship between the GTBs and headquarters has not yet been adjusted to reflect the new headquarters structure. GTB-headquarters communication and communication between GTBs have diminished in 1993. There have been no meetings between the GTBs as a group and headquarters in the first five months of this year. An effort to bring them to the headquarters in February of this year was voted down by the Internal Coordination Committee (CCI) because of the expense involved. The GTBs thus have not been fully brought into the new management structure. The Liaison Officers, although well accepted by the GTBs, do not have a formal mechanism to share GTB problems and opportunities and look for solutions.

FIGURE 1
INCAP's ORGANIZATIONAL STRUCTURE



E. Institutional Resources

1. Human Resources

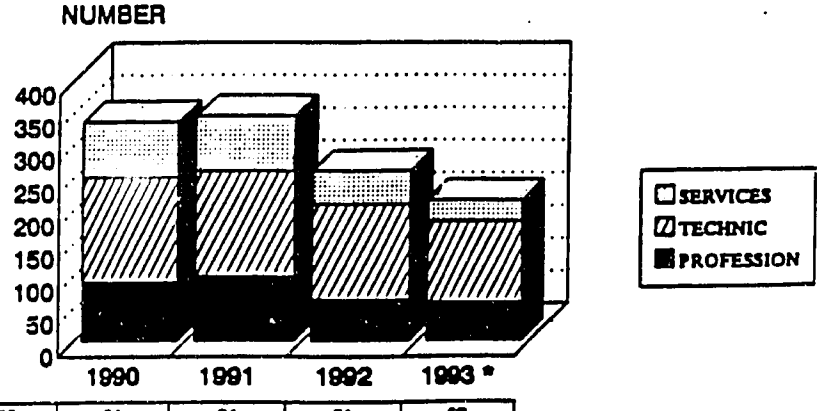
A major step in restructuring INCAP to enhance financial sustainability has been the reduction in staff since 1991, as shown in Figure 2. The reduction in personnel has principally affected professionals with no post-graduate training, raising the proportion of personnel with doctorate and master degrees from 46% in 1991 to 66% in 1993. This demonstrates an excellent strategy for maintaining the technical capacity of the institute despite budget restrictions.

Costs containment efforts included the replacement of 19 permanent staff who provided janitorial services with a contractual arrangement with a local private firm.

2. Financial Resources

Table 1 presents INCAP budget vs. expenditures by major source of funding for the years 1990-1993. INCAP budgets according to the funds it expects to receive. Due to the timing of the receipt of awards from donors in the "Other" and "A.I.D." categories, full budget amounts are often not received in the year that they are budgeted, contributing to the large gap between budgets and expenditures, as seen in Figure 3. Annual operating budgets are not updated to reflect this situation. However, some of the funding not received is re-budgeted and received the next year.

FIGURE 2
NUMBER OF EMPLOYEES BY TYPE, 1990-93
IISP Mid-Term Evaluation-May 1993



	1990	1991	1992	1993 *
SERVICES	84	84	51	32
TECHNIC	180	180	146	123
PROFESSION	90	99	63	59

JUNE 1993

TABLE 1

COMPARISON OF INCAP BUDGET AND EXPENDITURES BY SOURCE OF FUNDS AND FISCAL YEAR
(in thousands of US $)

SOURCE OF FUNDS	1990			1991			1992			1993	
	Budget	Expend.	%	Budget	Expend.	%	Budget	Expend.	%	Budget	Expend.[2]
PAHO	1,169.5	1,149.0	98.2	1,460.1	1,460.1	100.0	1,267.4	1,235.4	97.5	1,302.2	462.9
INCOME	650.0	650.0	100.0	816.6	731.9	89.6	606.8	573.7	94.5	600.0	256.2
OTHER	3,849.0	2,168.1	65.3	4,279.3	2,586.0	60.4	3,541.6	2,500.5	70.6	1,625.3	531.6
A.I.D.	3,295.1	2,173.8	66.0	3,670.0	2,300.1	62.7	4,195.9	2,514.8	60.0	3,307.4	962.3
TOTAL	8,963.6	6,149.0	68.5	10,226.0	7,078.1	69.2	9,611.7	6,824.7	71.0	6,834.9	2,213.0

DEFINITIONS:

PAHO = All Pan American Health Organization funds.
INCOME = Member countries' quotas; royalties (nutritionally improved cookie, Incaparina, etc.); publications; tuition; overhead; miscellaneous.
OTHER = All donor contributions, excluding A.I.D.
A.I.D. = All A.I.D. contributions.

Figure 4 disaggregates INCAP's expenditures by source of funding. The funding provided by "PAHO" and "INCOME" (member country quotas, royalties, etc.) is consistent with the budget. These are funds that INCAP can be relatively confident in receiving.

The "OTHER" and "A.I.D." funds represent an average of eighty percent of the budget and seventy percent of expenses. Due to a variety of factors, including difficulties in accurately projecting expenditures for field-based activities carried out jointly with member country governments, INCAP has typically expended only about 65% of the amount it budgets annually for these two major sources of funds. This situation introduces an element of uncertainty in financial planning and management.

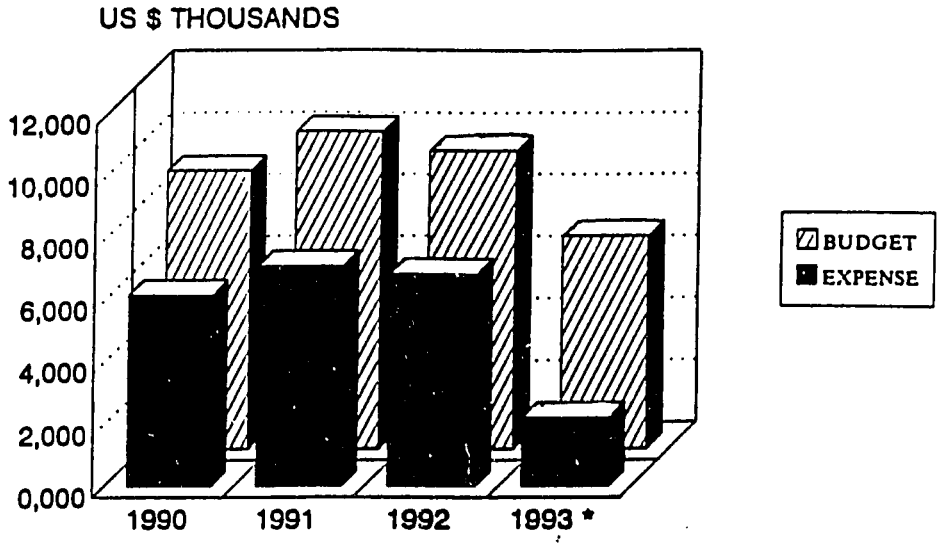
It is also worth noting that the "OTHER" category currently does not include any funding from the World Bank or IDB at a time when those institutions are funding health and nutrition projects in the Latin American and Caribbean region at a rate of an estimated US$47 million a year.

---

[2]Expenditures for January through May.

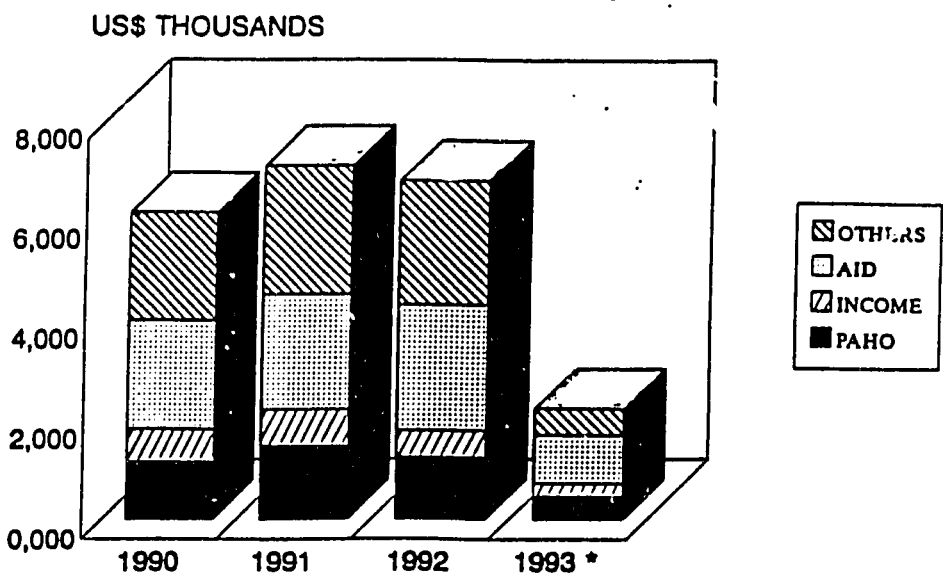
29

FIGURE 3
BUDGET AND EXPENDITURES 1990-93
IISP Mid-Term Evaluation-May 1993



* JANUARY - MAY.

FIGURE 4
EXPENDITURES BY SOURCE OF FUNDING, 1989-1992
IISP Mid-Term Evaluation-May 1993



* JANUARY - MAY.

INCAP's success in dealing with this budgetary uncertainty has been improving in recent years. In fact, the auditors report that in 1991 there was a surplus of $300,000, and in 1992 a surplus of $540,000 before adjustments for exceptional items.

INCAP's expenditures have remained relatively level for the past three years with A.I.D. funding averaging thirty-five percent of total expenditures. The projections for 1993 indicate this relationship will continue.

3. Physical Plant and Laboratories

With 16 laboratory units in about 30 environments and a maintenance unit that is understaffed and underbudgeted, INCAP's physical plant and equipment has deteriorated. The IISP is contributing to the improvement of some of the analytical laboratories, and a contract for refurbishing the physical plant is in the bidding process. The sale of laboratory services, diagnostic solutions, and reagents has also contributed to the improvement and replacement of equipment. With the recent establishment of revolving funds, some of the income generated is being used by the respective laboratory to repair and improve the plant and equipment.

4. Information Technology

The recent integration of the Administrative Local Area Network (LAN) with the new scientific/technical LAN via a bridge will allow access to the databases and software available in both LANs. The 50 terminals linked to the Administrative LAN and the 225 connections installed in the new technical LAN will provide an advanced microcomputer environment to 46 professionals and 50 administrative and support staff. The software available supports administrative and financial accounting needs; communications; library searches; statistical and epidemiologic analyses; and other scientific purposes. Although the databases available could provide the required information, INCAP lacks the integrated systems needed for timely and effective managerial decision-making.

F. Marketing of Services and Products

The diversification of INCAP's client base, specifically to include more "paying customers" who could support, either directly or indirectly, INCAP's primary mission of improving the nutritional and health status of the neediest populations in the region, is a core institutional sustainability strategy that IISP was designed to address.

As part of the technical analyses conducted in preparation of the IISP Project Paper, in July 1991 an in-depth assessment was made of INCAP's specific needs in terms of marketing capabilities and resources, perceptions about INCAP capabilities among

31

potential clients, and potential areas where INCAP could provide assistance to these clients (see Annex G of the Project Paper).

The IISP Project Paper noted that the marketing analysis "found tremendous demand for INCAP goods and services throughout Central America" (p. 9-9). The greatest demand was found among ministries of health and agriculture, local universities and research organizations, and non-governmental organizations, which are also however those groups with the most limited ability to pay for needed services. The analysis identified U.S. universities and consulting firms as the primary marketing opportunity for INCAP, and to a lesser extent, USAID Mission and other international donors and private food and agriculture-related industries. The report went so far as to identify specific services for which the potential clients contacted were interested in INCAP assistance. The marketing analysis recommended that INCAP expand marketing of nutritionally blended foods such as the nutritional cookie, laboratory services and products, analytical services related to micronutrients and to food quality, as well as ancillary services such as training/conference support, technical translations, media/graphic design, and information support.

The marketing analysis identified several short-range (i.e., during the life of the IISP) actions which INCAP should take to broaden its client base and expand the marketing and sales of its services. The analysis recommended that INCAP market its services to donors and collaborating organizations that in turn provide funding to the countries for priority problems addressed by INCAP, expand its services provided in association with PAHO, and concentrate on strengthening staff skills in business development and market analysis.

The evaluation team found considerable evidence to suggest a far greater openness and awareness on part of INCAP staff to the importance of "market development" than was prevalent at the time of the marketing analysis. The evaluators second much of that suggested by the 1991 marketing analysis regarding steps INCAP must take enable it to effectively access potential clients and market opportunities. Conclusions and recommendations presented in section V.C of this report identify continuing needs for the development of staff skills and effective systems related to marketing of INCAP services and products.

While the scope of the present evaluation did not include updating the assessment of current and potential future demand for INCAP services and products, INCAP's recent experiences with the food industry in Guatemala, Honduras, El Salvador and Panama are encouraging. As discussed in section V., INCAP has, under IISP, aggressively pursued market opportunities with respect to its nutritional cookie and to laboratory services and has significantly increased revenues in these areas.

In the context of its strategic planning and institutional restructuring, INCAP has also more explicitly identified its major "service" lines and potential assistance roles in

pursuit of its underlying mission. These roles include training of personnel, social marketing/communication/promotion, technical assistance in the Institute's areas of expertise (human nutrition, maternal and child health, micronutrients, food technology, etc.), research (epidemiological, applied, and formative), and information dissemination (including translation and document production). As noted below in section V.C, INCAP needs to conduct in-depth marketing studies for specific services and develop marketing strategies tailored to specific clients.

G. Future Financial Viability

The future financial viability of INCAP without any change in the present structure of non-A.I.D. revenues and total expenditures is precarious. Table 2 shows the impact of declining A.I.D. funding for the IISP through the generation of unmet financial requirements, assuming that the level of activity budgeted and the level of funding expected from non-A.I.D. sources are maintained at current (1993) levels. The major conclusion is that INCAP could not operate after 1993 at the present level, unless radical changes are introduced in the sources of revenue or the level of expenditures is reduced.

As explained in section V.C of this report, the implementation of an inter-institutional cooperation agreement with the Central American Bank for Economic Integration (BCIE), which contemplates the establishment of an endowment trust fund, would substantially improve INCAP's financial sustainability in the long-term. But in order to fully develop this strategic opportunity, it is essential that INCAP increase revenues and explore other sources of external support to meet its net financial requirements in the medium-term.

TABLE 2

INCAP BUDGET PROJECTION FOR 1993-1998
(in thousands of US $)

Category	1993	1994	1995	1996	1997	1998
Ordinary Budget	600.0	600.0	600.0	600.0	600.0	600.0
PAHO	1,270.2	1,270.2	1,270.2	1,270.2	1,270.2	1,270.2
Non-A.I.D. Projects	3,218.8	3,218.8	3,218.8	3,218.8	3,218.8	3,218.8
A.I.D. Projects	1,800.3	1,800.3	1,800.3	1,800.3	1,800.3	1,800.3
TOTAL	6,889.3	6,889.3	6,889.3	6,889.3	6,889.3	6,889.3
IISP Funding	1,800.3	1,200.0	0.0	0.0	0.0	0.0
Financial Requirements[3]	(0.0)	(600.3)	(1,800.3)	(1,800.3)	(1,800.3)	(1,800.3)

[3] Financial Requirements = (IISP Funding) - (A.I.D. Projects)

IV. PROJECT LEVEL ASSESSMENT

A. Effectiveness of Project Design

The evaluation team believes that in general the project design has proven effective. There is persuasive evidence that the purpose is achievable and that project activities are contributing to that purpose. The evaluators conclude, however, that the project purpose is probably not achievable within the timeframe of the current Project Activity Completion Date (PACD). The project purpose responds to INCAP's own sense of its priorities and needs which assures total institutional support in implementation. Evidence of movement toward the attainment of project purpose are the reduction in human resources with an overall maintenance of scientific productivity and quality, and the implementation of effective cost containment activities.

1. Logical Framework

The Logical Framework of the IISP, although relevant for INCAP's needs and the achievement of the project purpose, was too general for evaluation purposes at the output level. Furthermore, changes induced partly by the project in INCAP's reorganization process changed some of the outcomes of component 2, Strengthened Technical and Technology Transfer Capabilities. The evaluation of the Technology Transfer component was carried out on the basis of the project's 1993 Action Plan, which reflects this modification and not in relation to the logframe defined in 1991.

2. Core Resources

Resources obligated to the project by USAID/ROCAP have proved adequate so far, and the evaluation team believes that they have been used both efficiently and effectively by INCAP. Table 3 shows the level of project expenditures at the time of the evaluation. This level, however, reflects the delay of six months in the implementation of the IISP, attributed to PAHO's intervention and no fault of the project. Thus, although the formal length of the project has run almost two-thirds of the time assigned, less than one half of the resources approved has been expended.

INCAP estimates that funds as yet unspent from the approved A.I.D. funding for the IISP would enable them to continue project activities for about 12 months beyond the current PACD. It is recommended that A.I.D. obligate an additional $1,000,000 to the IISP in order to provide sufficient resources so as to extend the PACD by twenty-four months.

TABLE 3

EXPENDITURES TO DATE BY IISP COMPONENT
May 1993

INPUTS	COMPONENT													
	Strategic Planning and Management		Technical/Technol. Transfer		Financial Resources Development		Vitamin A		Administrative Support		Add-Ons		TOTAL FOR INPUTS	
	US$	%	US$	%	US$	%	US$	%	US$	%	US$	%	US$	%
1. Institutional Support	49,323	42	617,543	61	58,503	45	105,614	61	12,711	36	7,252	47	850,496	57
2. Short-Term Technical Assistance	36,593	31	102,884	10	41,544	32	11,803	7	14,201	41	2,166	14	209,191	14
3. Training	14,051	12	153,024	15	11,022	8	32,035	19	0		4,230	27	214,362	14
4. Commodities	17,613	15	144,314	14	19,943	15	23,200	13	8,016	23	1,813	12	214,899	15
5. Evaluations														
6. Audits/FMRs														
7. INCAP Contribution														
8. Add-Ons														
TOTAL FOR COMPONENT	117,580	100	1,017,765	100	31,012	100	172,652	100	34,928	100	15,461	100	1,409,309	100
COMPONENT AS % OF TOTAL	8		68		2		12		2		1		100	

3. Length of Project

By its very nature, a project with the purpose of the IISP involves important changes in staff behavior and attitude as well as in organizational culture. These cannot be achieved effectively in the short period of three years adopted in the project design. On the other hand, as already indicated, the project had a delayed start which reduced in practice the life of project to two and a half years. The evaluation team believes that the PACD must be extended by twenty-four months to allow for a realistic expectation of the attainment of project outputs and purpose.

B. Effectiveness of Implementation Strategies

1. Technical Assistance

The project has made extensive use of available local consultants. This efficient mechanism has also contributed to the identification of qualified professionals that, eventually, may become part of INCAP staff. The evaluation team noted, however, the need for use of international consultants in some project components. In most of the cases, this need has been fulfilled with resources coming from other centrally funded A.I.D. projects (e.g., the case of assistance by Ed Glaser under a regional support contract held by Management Systems International to the Strategic Planning and Management component), with a total estimated value of $70,000 that was not charged to the project. A similar situation was experienced in the Technical and Technology Transfer component in the areas of nutrition communications, operations research, and Vitamin A. Relationships established between INCAP and consultants in these areas have strengthened the Institute's linkages with other A.I.D. projects, including PRITECH, MotherCare, Wellstart Expanded Promotion of Breastfeeding Project, Quality Assurance and Sustain.

2. Annual Work Plans

Annual work plans have been developed throughout the project to identify short-term goals and outcomes for INCAP's programs, as well to define the appropriate procedures for implementation. There has been a notable increase in the quality of the 1993-94 annual work plan as compared to that of 1992. Annex 4 provides the assessment made by the evaluation team about the status of outputs planned in the annual work plans vs. those accomplished to date.

The GTBs have experienced severe delays this year (1993) in the receipt of project funds. INCAP uses the PAHO annual program budget (APB) methodology for budgeting purposes. The GTBs presented their budgets to the INCAP Technical Coordination Office in October 1992. Their budgets, which included funds from IISP, France, Sweden and Switzerland, were included in the overall INCAP APB and presented to PAHO for its approval and to A.I.D. for approval of the IISP. Both

budgets left INCAP at the end of November. The GTBs were informed by the Technical Coordination Office, their headquarters contact point at that time, that their budgets were approved as submitted. Several untoward events then occurred. The French and Swedish currencies were devalued, resulting in a decrease in the amounts available to the GTBs from those sources; and INCAP reorganized and, as a result, the Technical Cooperation Office ceased to exist, thereby eliminating the principal channel of communication with the GTBs.

Unfortunately, no one informed the GTBs of these changes. The GTBs entered the year assuming that the funds they had been told were approved existed, only to be told that they did not. They then wanted to tap into the existing IISP resources (approved by A.I.D. in a PIL dated January 20, 1993) to allow them to fulfill their obligations with their counterparts and were told that they did not: INCAP headquarters told them that the IISP funds had to be used for operations research. Two GTBs presented proposals, but they were not deemed by headquarters to be of sufficient quality. The poor communication and the unexpected changes left the GTBs unable to meet commitments.

3. Monitoring and Evaluation

Mechanisms by which IISP monitoring occurs include: (1) annual work plans; (2) annual reports; (3) consultant reports; (4) USAID semi-annual reports; (5) personal contact between ROCAP Project Manager and INCAP headquarters; (6) project financial reports issued by the Controller's Office; and (7) audits. The Project Manager meets with senior project managers at least once per week, is frequently on the phone with them, and has often accompanied them on country visits to help serve as an interlocutor with USAID Missions. These visits are not programmed on a regular basis but are in response to needs that arise. All of the other monitoring mechanisms outlined in the Project Paper have been utilized as well.

The current evaluation is the first evaluation and has occurred approximately as planned in the project paper.

C. Effectiveness of the Add-On Mechanism

The IISP has an add-on authorization of $2,000,000. To date, only $141,782 has been obligated (as of 09/30/92). USAID/ROCAP plans to obligate $200,000 of Latin America Bureau micronutrient funds by June 30, 1993. The total amount of add-on funds obligated by the end of June 1993 will be $341,782 or seventeen percent of authorized add-on funds in the first twenty-four months or two-thirds of the project period.

Procedures governing the use of add-on funds are not overly restrictive. Add-on funds can be used for USAID activities if such activities are consistent with the purpose of

the project and meet some general administrative requirements. To date, INCAP has not included add-on funds in the annual operational budget so there has been no adverse financial effect.

Several factors have contributed to the limited use of the add-on mechanism. First, INCAP has not pursued Mission add-ons in any systematic way. There seems to be both a lack of knowledge of how to negotiate add-ons with Missions and some reluctance to approach Missions for funds.

Missions in the region have differing attitudes toward the IISP add-on mechanism. USAID/Honduras staff reported that they had considered the add-on mechanism, but preferred the contract mechanism in order to exercise greater control over the deliverables. They indicated that USAID/Honduras was moving from level of effort agreements to deliverables agreements and that this would limit their future consideration of the add-on mechanism. USAID/Guatemala, on the other hand, expressed that they found the add-on mechanism to be quite easy to use.

Projects supported with add-on funds must be completed by the IISP PACD (June 30, 1994). Even if USAID/Guatemala were to process a new add-on in FY93, there would be less than one year remaining until the PACD to complete work. The closer the PACD, the more difficult it will be to implement the scope of work of any add-on.

Another problematic issue related to limited use of the add-on mechanism stems from Article 3: Section 3.2.(b) of the Project Grant Agreement - "resources provided by the Grantee for the project will be not less than the equivalent of Two Million One Hundred Thirty Four Thousand United States Dollars (US$2,134,000)," which corresponds to twenty-five percent of the total IISP budget. This means that INCAP is responsible for $2,134,000 of project resources independent of how much in add-on funds is actually obligated to the project. Since it is unlikely that any significant add-on funds will be obligated given the current PACD, INCAP's proportional share will increase from twenty-five percent to thirty-two percent. This increase in relative share of INCAP's contribution to the IISP will have an adverse impact on INCAP's future financial situation unless some remedial action is taken.

A major factor affecting use of INCAP services by USAID Missions is INCAP's ineligibility to compete directly for A.I.D. contracts, as defined in Sections 5.4 and 8.2 of the Project Paper. Considering issues identified earlier in this section, "ineligibility to compete" is a significant limitation, for two reasons.

First, the project paper describes the purpose as strengthening "INCAP so that it may be sustainable without further A.I.D. core financial support". If the position expressed by USAID/Honduras reflects a shift in USAID's approach in providing assistance to Central American organizations such as INCAP, then ineligibility to compete completely shuts them off from any possibility of competing for A.I.D. projects until

after the IISP ends. Second, one of the main purposes of the IISP is to prepare INCAP for sustainability. Sustainability requires access to the market place. Providing more than $4,400,000 to prepare for competition without providing an opportunity to begin testing the competitive market makes little sense.

In Section 8.2 of the Project Paper, where the "competitive advantage" argument is discussed, USAID/ROCAP notes its concern with the limitations on competition and because "of the potential seriousness of this issue with respect to Agency operations in the region", agreed to take the lead seeking an acceptable solution. The situation facing INCAP would make an excellent trial case, and modification of the restriction should be actively pursued by USAID/ROCAP.

Finally, A.I.D. has begun the process of reducing its presence in Central America. By 1996 most of the health funds will cease but the health and nutrition needs in Central America will not. Other major donors (World Bank, IDB, etc.) will move to help meet these needs. Market demand for technical services that INCAP delivers will increase, and INCAP should be positioned as the only truly first class Central American institution capable of providing high level technical assistance in health and nutrition in the region. Financial support to INCAP to provide technical assistance will be available if its institutional capability has not deteriorated.

V. IISP ACHIEVEMENTS AT MID-TERM: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A. Strategic Planning and Management (SPM) Component

1. SPM Sub-output (1): Strategic Planning and Management system designed, institutionalized and implemented, including annual work plans and a monitoring and evaluation system

Findings

The strategic planning process that was initiated in 1990 with the publication of the "Institutional Strategic Plan 1991-2000," benefitted from two major interventions funded by the Institutional Strengthening Project in November 1991 and November 1992. The strategic planning meeting held in Antigua on November 4-5, 1991 reformulated INCAP's four basic functions in 12 scientific-technical priority areas. The areas were identified to address the Central America and Panama's food and nutrition problems and priorities. The 1991-95 action plan formulated for those areas focused on strategies to achieve INCAP's mission through the delivery of technical cooperation to member countries. The strategies adopted included the strengthening of the operational capacity of the GTBs and the provision of the technical cooperation to benefit high risk population groups.

The quadrennial action plan provided the framework for the formulation of goals, objectives and strategies of priority programs for 3 to 4 years, as well as the annual action plans in implementation.

The discussions and conclusions of the planning meeting held on November 27, 1992 provided the basis for the structural reorganization of INCAP adopted in January 1993 (shown in Figure 1). In January 1993, INCAP established the Planning and Management Coordination Unit to foster the development and implementation of the strategic planning and management (SPM) component across the organization.

The main strategic elements in development through the SPM component are the financial resources development program and some of the databases that will be required for strategic planning and management. Short-term actions have focused on organizational issues including an "organizational climate" survey to address the effects of the new structure adopted in January of 1993, and short-term programming through the implementation of PAHO's APB (Annual Program Budget) and PTC (Programa de Trabajo Cuatrimestral/Trimestral Work Program) systems as part of the monitoring and evaluation system.

Conclusions

Past and current efforts by INCAP to adapt to the realities of a changing environment have demonstrated the ability of the organization to perceive the need for change and the willingness to adjust. The effectiveness of the change process, however, has not yet been confirmed, given the limited development to date of the management interventions and systems needed to operationalize the Institute's strategic goals in its day-to-day activities.

A good example is found in the process of introducing the new organizational structure. Up until November of last year, the different levels of professional and support staff, from both headquarters and the GTBs, actively participated in the reorganization process. The same degree of participation was not maintained after November and yet would have been useful to assure a smoother implementation of the reorganization adopted in early 1993.

Although the conclusions of the "organizational climate" survey were not available at the time of the evaluation mission, the different groups interviewed expressed varying degrees of satisfaction or dissatisfaction. A remarkable phenomenon is, nonetheless, the "esprit de corps" and loyalty of the staff, even those with reservations about the reorganization, who are committed to implement the decisions made. This cohesiveness is due in large part to the participatory leadership style of INCAP's Director. Future developments of the SPM system should prevent the need to adopt shock measures to implement changes, assuring gradual and effective interventions to strengthen INCAP's performance.

The formation in January 1993 of the group responsible for supporting the activities of the SPM component has helped to accelerate the development of SPM processes and instruments needed to guide the future strategic planning and management system of INCAP. However, the results obtained to date in this component are mainly planning outputs and as such, are not adequate to evaluate the financial impact of the strategic decisions (i.e., sale of services, endowment fund, technical cooperation) thus far adopted to ensure the sustainability of INCAP after the end of the project in June 1994.

The financial forecasts and possible scenarios generated thus far by INCAP lack the detailed information to project the level of financial resources required for future years. Funding to be obtained through new projects in the pipeline needs to be analyzed in conjunction with funds already negotiated with current projects. The computer databases developed for project monitoring under this component deal principally with descriptive and programmatic information; financial data are still processed manually. Detailed financial projections, which are critical for the strategic planning of INCAP, given the significance of income generated through technical cooperation, are not available to assess the expected income and expenditures in future years.

Another example of the limitations of the available databases for strategic decision-making is the fact that the ongoing efforts made to incorporate INCAP in the Central American Integration System (SICA) are not supported by detailed cost-benefit and "stakeholder analysis" to evaluate the opportunities and risks involved in such integration.

Notwithstanding efforts with the GTBs to implement the decentralization process in 1991 and 1992, carried out by the IISP with the collaboration of the Central American Management Administration Institute (INCAE), the decentralized levels of INCAP have not been fully incorporated into the Institutional Strengthening Plan. Although all GTBs are involved in the annual planning process through the annual program budget (APB) and trimestral monitoring and evaluation (PTC) systems, some of the GTBs are not actively participating with headquarters in the identification and or implementation of strategic projects and approaches that will lead to the sustainability of INCAP. It is expected that the training activities now being carried out with professionals and support staff concerning work programming and monitoring using PAHO's methodology (AMPES/BPB/APB/PTC) will provide operational tools to link strategic planning with the APB and PTC exercises.

Recommendations

1) The multiple activities of this component should be readdressed to implement, in the short-term, the strategic planning and management processes needed to:

- Prepare detailed financial projections (i.e., by source of funding and by major line item) and evaluate consequences of alternative strategies and decisions to be made now to achieve financial self-sufficiency after the PACD in June 1994.

- Assess the opportunities and threats of participating in the SICA, with the identification of information requirements and development of databases to address those requirements.

- Integrate the efforts of headquarters and the GTBs through common programming and evaluation processes, mainly through the ongoing institutionalization of the APB/PTC system to enable the efficient allocation of scarce resources to implement adopted strategies.

2) The coordination mechanisms used to implement the project (CCI and institutional committees) should be strengthened to implement strategic management functions until the current transitional structure incorporates appropriate management levels and clearly identifies decision-makers. As such, those committees could be invested with the authority to make decisions and allocate resources to implement project activities. The process of allocating resources and decision-making in the working committees and programs must be better defined and communicated to all staff.

3) The stand-alone programming software developed by PAHO, though valuable as a training instrument, should be reprogrammed to make it available on line in the now extended INCAP LAN (administrative LAN plus the new scientific/technical LAN). The development of information systems like the APB/PTC and project control and portfolio management, should be given priority by the Institutional Information System Committee. The use of such systems will allow INCAP managers to integrate information on programmatic activities with financial data, particularly annual budget with trimestral expenditures. This integration will provide program, project and GTB managers with much needed planning, programming and control information.

4) To attend to the needs of future strategic planning processes, the SPM group will need to change the focus of the development of databases and decision support systems. Emphasis should be given to the identification of other "stakeholders" in the Central American region through "stakeholder analysis". Databases should address the variables leading to the identification of potential donor and financial agencies in order to channel financial resources to the member countries.

5) INCAP must develop, through the IISP, a system for the early detection and follow-up of potential technical assistance and project proposal preparation

opportunities that are consistent with its mission and countries' needs. Special effort should be given to the participation of INCAP staff in project preparation activities with financial agencies like the BCIE, World Bank and IDB. INCAP could effectively work with member countries in the identification and formulation of food and nutrition projects. The negotiation of technical cooperation and institutional development projects in member countries with BCIE, World Bank and IDB funding, will be instrumental in building new linkages with the international financial agencies operating in the Central American region. Financial resources generated through such technical cooperation activities will also be critical for the attainment of long-term institutional sustainability.

6) INCAP should initiate an aggressive in-house management training program, tailored to INCAP's needs, in order to develop the managerial capacity needed to implement the SPM system. While the specific topics and sequencing of training need to be developed through a more in-depth needs assessment, the evaluation team suggests that the following topics may be appropriate:

First level priority:

- Strategic and management planning, sector analysis, and health and nutrition project preparation and evaluation.
- Management information systems and decision-making processes.
- Financial management for non-financial managers.
- PAHO's AMPES/BPB/APB/PTC programming, evaluation and control methodology adapted to INCAP's needs.
- Cost-effectiveness, cost-benefit, least cost and financial analysis; discounting methodologies.

Second level priority:

- Project programming and control (CPM/PERT).
- Team work approach, behavioral and motivational techniques.
- INCAP's policies and procedures (human resources, financial resources, purchase and inventory control, administrative support, laboratories, plant and equipment maintenance).
- Microcomputer software (Windows, Database management systems, spreadsheets, project control, statistical packages, graphics and desktop publishing, word processing).

2. SPM Sub-output (2): Financial Management System system designed, institutionalized and implemented that can account for a diversified funding mix and provide timely accurate information regarding financial resource allocation

Findings

Three components make up the financial management system (FMS): budget, accounting, and financial reporting.

INCAP uses the PAHO budget system, which in its present form is not flexible enough to meet the budget requirements of the Institute. PAHO support is contingent upon using PAHO administrative procedures including the budget and accounting systems.

INCAP's accounting system was described in the latest external audit (for the period ending December 31, 1992) as a sound and acceptable system. The evaluators agree with this assessment.

The financial reporting system produces a range of current year financial reports on a regularly scheduled basis and can respond to most special requests. The system does not produce adequate information for multi-year financial resource allocation or financial management.

Conclusions

Budget: The inflexibility in the budget system results because the PAHO system mandates specific budget program categories to be used which, in many instances, are not relevant to INCAP'S needs.

The PAHO requirement to use its financial system forces INCAP to develop redundant procedures to apply the traditional PAHO operating environment to INCAP's operational needs. This adaptation is somewhat inefficient, but the magnitude and relatively unrestrictive nature of PAHO funds clearly offset the additional effort required.

Fortunately, the PAHO system compensates for its rigidly defined program categories by allowing very flexible sub-program categories. This flexibility is the basis for a program INCAP is developing to make the PAHO system useful to INCAP. Administration believes it will be ready for the 1994 budget process scheduled to begin in the fall of 1993.

If this amended PAHO program is not ready, preparation of a 1994 budget that reflects INCAP's operational realities will be more complicated than necessary because manually generated budget reports will be required to consolidate the sub program budgets.

Accounting: The review of the accounting system revealed that the strength of the system has increased markedly over the past three years. According to the auditor, in this period INCAP has achieved acceptable inventory procedures, corrected internal control weaknesses and inefficiencies, improved identification of program support costs, and instituted cost containment measures that have produced regular budget surpluses. Some problems remain, and others can be anticipated as INCAP works through the process of integrating into the system new and different institutional needs resulting from the reorganization. Many of the improvements can be attributed to the influence of the INCAP Administrator, who joined INCAP on January 1, 1992 and who has contributed a needed level of professional experience.

There is inadequate communication within INCAP between Administration and the operational units with regard to accounting procedures and how they are administered. This has produced an observable tension (a "we-they" situation) between financial administrators and the operational units. It has also led to incidents of avoidance behavior on the part of certain operational units, i.e., creating parallel records, ignoring procurement policies, and expressions of lack of confidence in Administration.

GTBs report that headquarters sometimes makes arbitrary and unilateral reductions in their approved budgets and that delays in receiving funds are sometimes experienced.

A relatively new development for INCAP in the accounting system are the revolving funds which are used to record revenues and expenditures associated with the sale of goods and services. As the range of goods and services which INCAP provides has increased, so has the number of revolving funds. Currently there are six revolving funds, and more are anticipated. Policies and procedures for controlling these funds need to be further developed and amply communicated to all staff.

Financial Reporting: For financial reporting on the current year's budget, the system is adequate. It is also flexible enough to respond to special requests made either directly to Administration or queries made from any computer work station on the LAN. These reports provide detailed information adequate for managing current year activities and general information on the status of donor and income accounts.

For projects with performance periods that do not fall completely within the current fiscal year, the system does not provide information at a level of detail needed for planning. This information can only be developed manually after various sections of INCAP are mobilized and coordinated to do so. This weakness inhibits long-range planning (for this discussion, anything beyond one year) due to the inability to make informed and realistic estimates of both the sources and amounts of future income. INCAP is being thrust into a new environment where major, long-term donor support can no longer be taken for granted and must adjust its practices accordingly.

Administration has taken a year to identify qualified candidates for a two-year senior budget and finance assignment. The purpose of this position is to enhance INCAP's financial capability in preparing and planning for the changing funding conditions. Administration reports they expect to make a final decision in June 1993. This delay has reduced the assignment to one year, unless the IISP is extended and funds can be reprogrammed to support a second year.

Recommendations

1) Marshall resources, both staff and consultants, to develop the computer software to permit an operational budget system in time for the 1994 budget exercise. This program should:

   - Reflect INCAP's reorganized structure;
   - Complement and be readily integrated into PAHO's budget system; and
   - Provide relevant budget and financial management tools for both planning and managing INCAP in the short- and long-term.

2) The Executive Director and the Internal Coordination Committee (CCI) should plan and follow up on activities to foster and encourage communication between Administration and the operational units to develop and implement an environment of mutual understanding of the duties, responsibilities, and contributions of all staff to INCAP's sustainability and continued capability to meet the needs of the region.

3) Develop and implement a continuing education program in financial management for non-financial managers.

4) Develop a multi-year financial forecasting and planning capability.

5) Develop and install software to support long range financial planning that provides and enhances strategic planning with informed estimates of available and anticipated revenue by source and amount, at least one to five years in the future.

6) Develop a practical and comprehensive budgeting system that enables staff to budget according the new structure and operational initiatives. When the operational budget is completed it can be blended into the PAHO budget as sub-programs assigned to the PAHO program it most closely matches.

7) Develop and implement a revolving fund policy.

3. SPM Sub-output (3): Information Management System meeting scientific/technical as well as management and financial needs for organizing, accessing, analyzing and communicating information

Findings

The development and support of information systems at INCAP is carried out by different units:

Administrative Services: The Computer Center, with a systems analyst and four programmers, is responsible for administrative systems, including financial system (budget, accounting, banks), personnel, purchasing, general services, and inventory. The systems are accessible to 50 terminals through the administrative LAN.

Technology Transfer Unit: The task group of two system analysts and two programmers are responsible for the scientific/technical information system and the new LAN, with 225 connections already installed and the pilot LAN in testing.

Technical Services Unit: The Microcenter with one systems analyst and two programmers supports the development and operation of statistical and epidemiologic packages.

Strategic Planning and Management Unit: One systems analyst is developing databases and systems for planning, programming and project monitoring.

The direction and coordination of these activities is the responsibility of the Institutional Information Systems Committee (IISC) presided by INCAP's Director and represented by all the units already mentioned.

One of the major achievements of the IISC is the recent integration of the two networks with a bridge allowing access to the two local area networks (LAN's) from either the 50 terminals of the Administrative LAN or the 225 connections of the new scientific/technical LAN. Although the two LANs are run by compatible software (Novell), the users of the new LAN will be operating under Windows environment. This will require the development of interface programs to make the Administrative System accessible through the windows environment.

To date the IISP has provided the hardware needs for the establishment of the integrated LAN with access for 50 administrative personnel and 46 professionals. Some one hundred additional microcomputers will be required to replace old ones (70) and to incorporate about 25 new professional users to the network.

41

A survey of 53 professionals and main users of information systems at headquarters and the GTBs was carried out in March 1993 to identify information needs of INCAP's managers for decision-making. The survey found that management and financial information systems are among INCAP's priorities to address the "key success factors" for decision-making.

The scientific/technical information component has provided a relevant contribution to the strengthening of the scientific/technical capacity of INCAP's professional staff. The component has provided access to microcomputers of high capacity, the use of scientific software, databases on publications, counterparts and human resources, linkage to BITNET for 21 professionals, and the systematization of the library. Headquarters and GTB staff have received training in the use of scientific and operational software.

Conclusions

The bridge between the administrative network and the scientific/technical network, already operational, will integrate the two microcomputer environments. However, software required to integrate the databases available in each LAN has not been provided.

The technical groups responsible for the development and support of the software, although coordinated by the Institutional Information System Committee, respond primarily to the demands and priorities assigned by their direct supervisors. This situation has prevented the support groups from concentrating resources to develop the software needed for management purposes, since their focus has been on software to support technical activities.

The IISC has not allocated the resources needed to support the development of information systems for decision-making, particularly those needed for financial management, planning, programming and project management. The formulation and development of management information systems, although identified as a priority in the survey, is not being addressed by the different work plans of the groups developing software. The administrative information group has plans to continue the support and expansion of the programs needed to process financial and administrative transactions; the scientific/technical group, occupied by the current activities to implement the new LAN, has not defined priorities for software development. Other units, like the SPM group, may address some of the needs at the management level, such as the development of databases for project monitoring, but lack the inputs from other subsystems to ensure compatibility in the integration of those subsystems.

The advanced development of the administrative information system would provide most of the programmatic and financial information required to support the

development of the financial management information system, as a first step toward the integration of management information systems at INCAP.

Recommendations

1) The IISC should nominate a Systems Development Coordinator with authority, resources and ability to direct a task force consisting of all INCAP's systems analysts and programmers. The task force would be responsible for the development of the software identified as a priority for supporting decision-making processes at the different decision centers of INCAP.

2) The program planning and control system (APB/PTC) proposed by the Strategic Planning and Management Component, should be systematized and accessible on line in the LAN to meet INCAP's management needs, providing as well the information and reports required by PAHO through the AMPES/APB/PTC system. In the design of such a system, the needs of the GTBs should be given special attention to improve the decentralization process by better integrating their programming, budgeting and monitoring with headquarters.

3) The information system for project and portfolio management and control should integrate the descriptive and programmatic databases with those for financial control. The system should include projects in execution and those in the pipeline for future years. This information will allow INCAP's managers to monitor current projects, as well as forecast expected income and expenditures in future years.

B. Technical and Technology Transfer (TTT) Component

1. TTT Sub-output (1): High quality technical capabilities in key areas

Findings

Objectives for this component as established in the project's logframe are strengthening of INCAP's ability to provide high quality and relevant technical services in the following areas: (1) planning, economics and nutrition surveillance; (2) operational research; (3) applied anthropology; (4) health and nutrition communication; and (5) breastfeeding and infant nutrition.

As a result of the institutional reorganization, INCAP's focus areas were redefined, as were those which would be supported by the IISP. Six[4] programs were established (see Figure 1) to addressing the priority problems of the region. Four of these are being supported by the project: (1) integrated systems of agriculture, food, nutrition and health (SIAANS); (2) prevention and control of micronutrient deficiencies; (3) food safety and consumer orientation; and (4) chronic diseases related to food and nutrition (a sub-program of the human nutrition program).

[4] The reorganization plan includes eight programs: six directed at key problem areas, plus the postgraduate program and the program of marketing and sales of services.

being supported by the project: (1) integrated systems of agriculture, food, nutrition and health (SIAANS); (2) prevention and control of micronutrient deficiencies; (3) food safety and consumer orientation; and (4) chronic diseases related to food and nutrition (a sub-program of the human nutrition program).

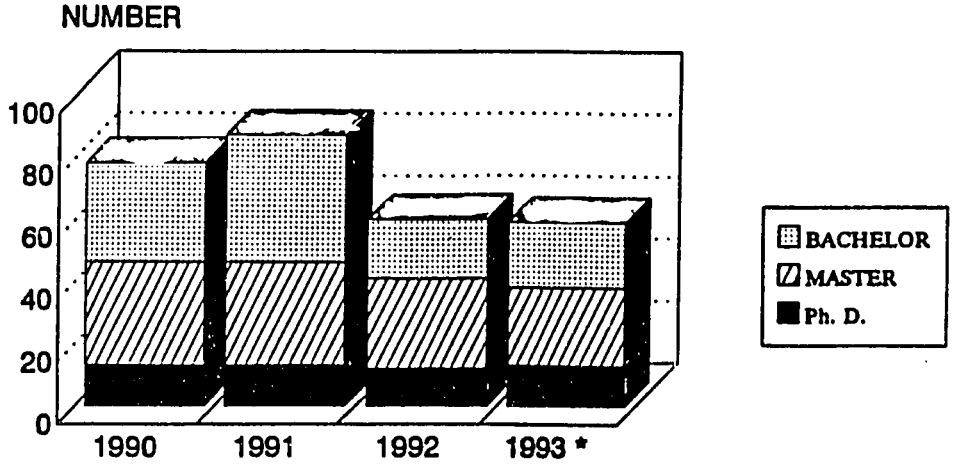
Each program has developed objectives and strategies for the medium term (3-4 years), and action plans for the next 12 to 18 months. It is worth noting that each program's strategies set priorities according to biological and social factors, comprehensiveness of the interventions, support for self-management, intra- and intersectoral coordination, and contribution toward self-sustainability. The recently created work areas of SIAANS and food safety and consumer orientation have developed ambitious action plans, despite their limited resources.

INCAP employs 214 people, fifty-nine (27%) of whom are professional (see Figure 5). The majority of professionals are between 35 and 45 years old, with a likely average of ten to twenty years of work experience. Sixty-six percent hold higher degrees: twelve have obtained doctoral degrees (20%), and 27 (46%), masters degrees.

Total scientific production, as measured by the total number of publications emanating from the Institute, grew from 69 to 137 between 1991 and 1992 (see Figure 6). The category "Others", which experienced the greatest rise, includes a myriad of documents published by INCAP, such as technical documents, project reports, student theses, monographs, official documents presented to Member Countries, as well as educational and audiovisual materials developed by INCAP and counterparts. Many of these latter publications are widely distributed to professionals in the region. In general, these publications are not subject to extensive peer review, although INCAP is planning to develop more explicit internal review processes for its technical documents.

If the relationship between the number of publications and the number of professional staff is calculated, the increase is even more significant: from 1.1 publications per professional per year in 1991, to 2.2 in 1992. The sharp increase in publications in 1992 is due in part to systematic effort to include a larger variety of INCAP written products in the classification scheme, including those produced at the country level by GTBs in conjunction with national counterparts. The increase in English scientific publications (from 10 to 25) is especially notable, since their preparation is more demanding; this increase was the result of a concerted effort to publish on INCAP work from the TRO and PROPAG projects and other research. In spite of these accomplishments, the number of publications in refereed journals is relatively low (0.37 per professional per year), given INCAP's large investment in research activities and the existence of 30 or more permanent projects. It should be remembered, though, that not all professionals participate in research.

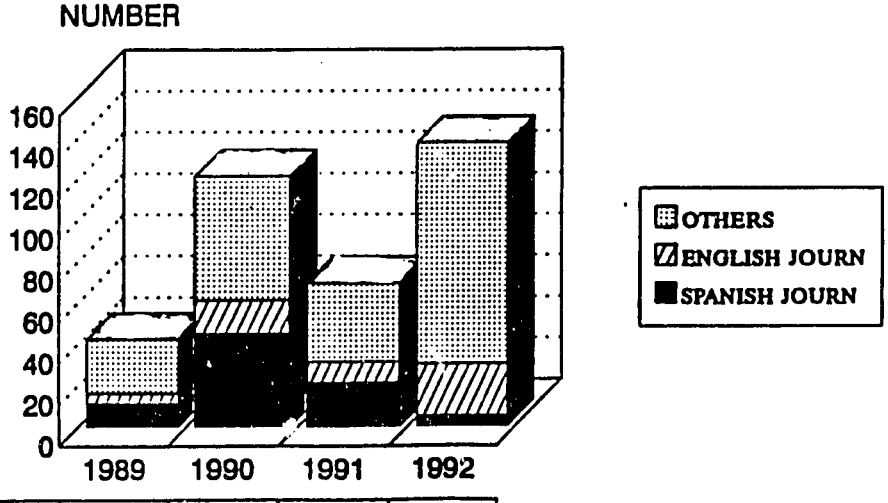
FIGURE 5
NUMBER OF PROFESSIONALS BY ACADEMIC LEVEL
IISP Mid-Term Evaluation- May 1993



BACHELOR	32	41	19	21
MASTER	33	33	29	25
Ph. D.	13	13	12	13

JUNE 1993

FIGURE 6
NUMBER OF PUBLICATIONS BY TYPE, 1989-1992
IISP Mid-Term Evaluation-May 1993

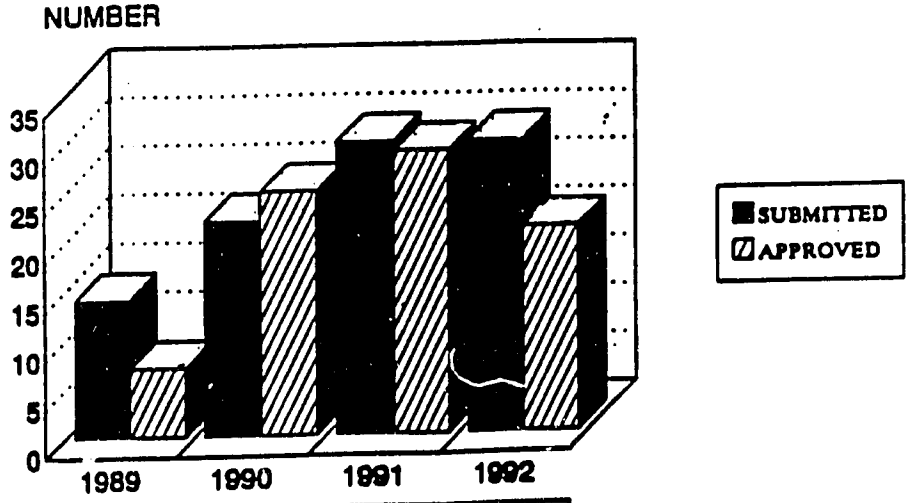


OTHERS	26	60	38	107
ENGLISH JOURN	5	16	10	25
SPANISH JOURN	11	45	21	5

During 1992, INCAP had thirty projects under implementation, doubling the annual average for the 1983-1990 period. Figure 7 shows the trend for proportion of proposed projects that obtained financing during the period 1989-1992. The proportion in recent years is more than 80%, a relatively high figure in relation to the majority of research institutions.

Diverse activities are being carried out under the IISP to improve the technical capacity of the staff: participation in postgraduate programs, strengthening of the information system, interaction with academic programs, and enrollment in courses and seminars. With IISP support, INCAP has increased its presence in international meetings, thereby contributing to increased technical capacity. The Institute has received several distinctions, such as an award at the meeting of the International Society of Quality Assurance in Mexico for the best operations research study, based on INCAP work carried out in Guatemala.

FIGURE 7
SUBMITTED AND APPROVED PROJECTS, 1989-1992
IISP Mid-Term Evaluation-May 1993



	1989	1990	1991	1992
SUBMITTED	14	22	30	30
APPROVED	7	25	29	21

Conclusions

Both the IISP and the new institutional structure are contributing in different ways to improving the staff's technical capacity and to strengthening their potential for technical assistance to member countries.

The process of defining priorities and developing action plans in order to support selected areas has generated profound institutional changes. This exercise was the result of a collective process which considered the magnitude and transcendence of the problems and the member countries' needs for technical cooperation in the region. All of the selected areas are considered relevant and respond effectively to the countries' interests. The same occurs in each program's guidelines, which have been well selected and are congruent with INCAP's overall strategies.

The existing programs are sufficiently broad to permit the development of activities spanning the entire field of food and nutrition. However, the nutrition surveillance component, which is a fundamental part of the definition of policies and strategies, does not appear to be clearly defined. Nor are significant efforts being made in relation to group feeding programs, an area in which considerable regional resources are invested. Maternal and child health activities are being carried out in various programs, but due to their high priority and the number of programs being supported by international agencies, this area should be more clearly delineated and reinforced, particularly with respect to diagnosis of nutritional status and specific nutritional interventions.

A critical consequence of the reorganization has been the grouping of professional and technical staff in multidisciplinary programmatic areas geared to problem-solving. This scheme permits a more integrated approach to the problems and favors interaction among professionals with varying backgrounds. However, it limits interactions between professionals with similar interests and experiences, perhaps forgoing professionally formative experiences.

The academic level of the professional staff is, in general, quite high. The staff reduction which occurred in 1991 and 1992 was concentrated mainly among professional staff without postgraduate degrees, resulting in an increase in the proportion of staff with doctoral and masters degrees from 46% to 66% between 1991 and 1993. This is a good strategy for maintaining the technical capacity of the Institute, despite budgetary restrictions.

Consistent with the Institute's policy of human resources development, six professionals are undertaking studies leading to masters or doctoral degrees in well-regarded universities, in fields identified as priority areas for institutional development.

The IISP's information system strengthening activities are contributing in a notable way to the technical and scientific capacity of the Institute's staff. Examples include access to computers with greater capacity, development and utilization of various software programs, connection to the BITNET network, automatization of the library, and the development of databases on publications, counterparts and human resources. GTBs have also received training and support in these areas, although at a somewhat less intense level than headquarters staff.

The linkages established between INCAP and other high level research groups are another important element. Various agreements permit active exchanges with leading U.S. academic groups, including those at Johns Hopkins, Cornell and University of California at Davis. INCAP is also developing several collaborative activities with scientists at the Centers for Disease Control. The professional development of the staff has also benefitted from INCAP's annual scientific meetings, where noted specialists and the entire staff of headquarters and the GTBs meet.

To improve or change the profile of human resources of an institution, sustained, long-term actions are required. It is thus difficult to observe significant changes over the short term. However, various factors suggest that progress is being made toward this objective.

Recommendations

1) INCAP's technical capacity and activities should be strengthened in areas in which INCAP has traditionally shown leadership: food and nutrition surveillance, group feeding programs, and maternal and child health (breastfeeding, weaning foods, growth monitoring, prevention and treatment of diarrhea, etc.). Although these areas are included within existing programs, by virtue of their importance they should be reinforced. INCAP should position itself to address issues affecting programs in these areas that are not being addressed by other institutions, such as nutritional surveillance in under fives and pregnant women and cost-effectiveness of group feeding programs. The technical assistance resources of the IISP can help in this respect. Some easy-to-apply software packages which are not available or are underutilized in the countries visited, can contribute to improving nutritional surveillance programs (for example Anthro and EPI5).

2) The advantages and limitations of the multidisciplinary groups in strengthening the technical capabilities of the Institute should be evaluated after a reasonable period of functioning. A workshop in which the entire INCAP staff participates could be held to evaluate this and other aspects of the new organization. The majority of people interviewed by the evaluators support the present organization in multidisciplinary groups, though some professionals voiced concerns.

3) INCAP's present institutional strategy emphasizes operations research and technology transfer. This means that a great deal is invested in certain limited local experiences, which necessarily affects the technical cooperation at the central and regional levels. The costs and benefits of these experiences should be evaluated in the future.

4) The development of human resources through long-term training is fundamental for strengthening INCAP's technical capacity in priority areas and is an important area of IISP assistance. Planning for long-term training should respond to the real needs of the institution, rather than to personal interests or opportunities. The participation of the CCI is important to define priorities and assure compliance.

5) The capacity to design and evaluate projects should be maintained and reinforced, since it will continue to be an important source of INCAP's financing. The six professionals currently in training should acquire skills in project preparation and evaluation. Agreements with universities and research centers are also crucial and should be maintained and strengthened. External technical assistance in specific areas, especially related to the preparation and evaluation of projects, should be accessed as a means for institutional strengthening.

6) Although important efforts have been made with the publication of numerous documents, INCAP needs to enhance its publication of scientific papers in international journals. This would not only accomplish the dissemination of scientific information but would also strengthen the analytical capacity of INCAP staff and reflect positively on the institute's reputation, all of which are important elements in attracting funding from diverse sources.

7) Another possible mechanism to maintain the high technical level of INCAP is to constitute an external advisory committee, which could review INCAP's policies, strategies, and action plans every two to three years. Such a high level external "sounding board" could be important in defining broad institutional guidelines. This idea, which was proposed in the IISP Project Paper, should be explored, as well as its possible sources of financing.

2. <u>TTT Sub-output (2): Trained and proficient staff in methods of technology transfer; all country teams trained in technology transfer by 1994</u>

<u>Findings</u>

The transfer of science and technology related to food and nutrition is identified by INCAP as one of its fundamental strategic purposes. INCAP defines "food and nutrition technologies" as "organized procedures based on available scientific

principles to modify the food and nutritional situation of individuals or populations", and "technology transfer" as "a process by which technologies are communicated and applied by an individual or population group". The "Technical and Technology Transfer" component of IISP is conceived of based on this broad concept of what is considered a technology, encompassing activities as diverse as continuing education and applied research.

Within the INCAP environment, the Basic Technical Groups (GTBs) and postgraduate education are the principal vehicles for technology transfer to the Central American countries. On-going technical assistance, training, social communications, operations research and information dissemination are, in turn, the principal processes of technology transfer.

Technology transfer activities implemented to date under IISP, including training which GTBs have received in skills needed for technology transfer, are shown in Table 4. Annex 5 shows the current and past constitution of the GTBs and the degree of staff stability in each country's GTB.

As part of its recent programmatic and functional reorganization, INCAP headquarters has established a Technology Transfer unit responsible for guiding the process of increasing the organization's technology transfer skills. The unit includes the personnel which were part of the research and social communications and information components under the former INCAP matrix structure. This unit meets once a month with the Liaison Officers of the GTBs, but has no official supervisory or decision-making authority in regards to GTB coordination.

Conclusions

The development of the GTBs has been catalogued as a great "political success". The Ministries of Health are delighted with the new arrangement. The sentiment was best expressed by one Director General of Health who voiced the opinion that INCAP, with the GTB arrangement, no longer seemed like it was addressing the interest of the whole region at once, but rather was focussing on each country individually. He also expressed the widely felt opinion that INCAP was no longer doing interesting but irrelevant research, but rather that its work was responding to the real needs of the country. Perhaps the most concrete expression of the member governments' satisfaction with the direction INCAP is taking is that a large portion of past dues has now been paid by the countries. As of 1990 some countries were as much as ten years behind in payments. At present, no country is more than three years behind, despite a severe financial crisis in the region.

The PAHO representatives greatly appreciate the quality of INCAP work and see it as fully integrated into the greater PAHO technical assistance effort. A concrete example of their appreciation is material support from their own budgets which they provide

to the GTBs in the form of vehicles, drivers, per diem and even training on an ad hoc and as needed basis.

USAID Missions and non-governmental organization's (NGO's) with whom INCAP has worked were less consistent although generally positive in their evaluation of INCAP. A.I.D., Ministry of Health and NGO sources identify the quality of INCAP technical assistance as being on par with that of other technical assistance organizations. USAID/Guatemala, which has supported both improved maternal care and improved management of cholera in Guatemala through INCAP, has been pleased with INCAP's performance. The Guatemala Mission has found the add-on mechanism to be quite efficient and administratively painless. USAID/Honduras has had a different experience. The evaluation of the food coupon program which USAID/Honduras contracted INCAP to perform was delivered eight months late and was 400 pages rather than the 25 required in the contract. This has left an image of incompetence.

There appears to be some relation between the perceived effectiveness of the GTB and the continuity of the staff. El Salvador is perceived as having one of the most effective GTBs, and as seen in Annex 5, has the GTB with the greatest degree of staff continuity.

The most high profile and immediately significant efforts at technology transfer have been the nutritionally improved cookie, now being produced in Honduras, Panama, El Salvador and Guatemala. In El Salvador, Guatemala, Honduras and Nicaragua, INCAP is successfully introducing changes to the whole area of Vitamin A and iodine fortification of sugar and salt, respectively.

At present, most technology transfer occurs through the daily interaction between the GTBs and their counterparts. The two important components of technology transfer, as defined by the GTBs, are the transmission of knowledge on the one hand and the experience of successfully applying that knowledge to a real life situation on the other. GTB projects in Huehuetenango, Guatemala; Madriz, Nicaragua; El Arco, El Salvador; and Atima, Honduras are examples of this process. The El Salvador example was particularly striking because the technology transfer was relevant, effective, of measurable impact and sustainable. This program included improved agricultural techniques, cultivation of soybeans, food preservation, and development of soybean-based recipes and involved coordination with the Ministries of Agriculture and Health. All families involved in the initial project are now using the technologies with no ongoing assistance, and there is great interest on the part of other families.

TABLE 4

TECHNICAL AND TECHNOLOGY TRANSFER ACTIVITIES IMPLEMENTED UNDER IISP

	HEADQUARTERS	GTBs
Training	- Approval of the post graduate Master's degree in Food and Nutrition - Training in: • educational methodologies and education for adults • use of software: WP 5.1, Epi-Info, SIMAP & Harvard Graphics • institutional programming • techniques of organizational development and SWOT (Strengths, weaknesses, opportunities and threats) analysis	- Training in: • operations research • project formulation • methodology of education at a distance • techniques of organizational development and team building • methodology for the development of case studies • clinical management of breastfeeding at Wellstart with participation of GTB members involved in maternal and child health.
Operations Research	- Preparation of proposals utilizing operations research for the identification of problems and the development of solutions. - Training of INCAP personnel in methodologies and data analysis. - Development of data collection instruments	- Development of the following operations research as part of multi-center studies: • Study on agriculture and food security in rural homes in Central America with the participation of CEPROD and FLACSO • Management of acute respiratory infections in Guatemala, Costa Rica and Honduras • Identification of maternal risk indicators in 12 hospitals
Social Communication	- Design of course on social communication as applied to food and nutrition as one of the postgraduate courses - Closer ties with the press through participation in the III Central American Seminar on Journalism and Health: Nutrition and Chronic Diseases - Development of formative research	- Design and validation of the Communication Manual prepared by the Guatemala GTB - Design, production and distribution of the ABC's of Nutrition prepared by the GTB of Honduras - Production of a library on nutrition (GTB)
Information Dissemination	- Promotion of ideal feeding practices for the prevention of Vitamin A - Educational material design, layout and printing - Development of proposal for the strengthening of social communication for breastfeeding being developed with Wellstart - Dissemination of information through the mailing of publications, monographs - Quarterly publication of Advances in Feeding and Nutrition	- Production of documents - Manual on decentralization - Development of two case studies which were present at the XLI and XLII Meetings of the INCAP Council

The recently formed headquarters Technology Transfer unit is assisting the GTBs in several ways. It has attempted to augment the GTBs technology transfer skills by training the GTBs and selected counterparts in operations research and providing funding for operations research projects. The unit is also developing a series of other activities in support of the GTBs which are listed in the output matrices in Annex 4. There is, however, still no clear "meeting of the minds" on what technology transfer skills are needed by the GTBs. The project paper identifies certain skills, such as operations research and social communications, but the GTBs do not necessarily identify those as being their highest priorities.

The Technology Transfer unit and the GTBs have never sat down together to develop a shared understanding of the processes and mechanisms by which to implement technology transfer and to agree on priorities and the concrete steps which should be taken to facilitate it. The operations research training is a case in point. Several of the GTBs felt this effort was "imposed" upon them by the central level and voiced two principal objections. The first was that the activity was not in their original work plan and was forced upon them. The second was that the funds for operations research were taken out of line items in their budget without consulting them, thereby negatively impacting their ability to manage their programs. Several GTBs felt that they did need training in areas which they were not getting -- English and specific computer programs like Harvard Graphics, Lotus123, etc.

The linkages between INCAP headquarters technical staff and the GTBs are direct. This is a change from last year where incoming and outgoing communication was channeled through a Technical Coordination Office which was eliminated in the overall institutional reorganization. There were complaints, especially from headquarters staff, that the office was a bottleneck and that information did not flow freely. The new situation has both its advantages and disadvantages. The advantage is that the GTBs can call upon whomsoever they need to deal with at headquarters with a minimum of difficulty. On the down side, the GTBs do sense a certain lack of control regarding requests from the central level and are, at times, bombarded with requests for information or assistance which have not been previously programmed and the response to which affects their already crammed work schedules. Some GTBs note that there is still a problem with rapid response from headquarters and with the "distribution of faxes" at the central level. The GTBs have to continually follow-up their requests by telephone, and even after that there are delays in response. The biggest problem, however, is in regard to the assignment of funds.

There is still a lack of clarity in regards to lines of communication between the GTB and the headquarters. The Manual for Decentralized Operations, worked out in a participatory fashion with the GTBs in 1991, has been made obsolete in many important ways by structural changes at the headquarters level. Lines of authority and communication between the GTBs and the headquarters have not been clarified since the restructuring changes. One place where the lack of effective communication

is acutely felt is in the budgeting process, as discussed above. The Liaison Officers seem to be well accepted and to work well to a certain point. There is not, however, any office at headquarters level which serves as the focal point of communication to the GTBs. Nor is there any formal mechanism for the GTB Liaison Officers to share GTB problems and opportunities and look for solutions.

The continuing maturation of the GTBs has enabled them to move away from being a collection of individuals responsible for projects, to a technical group with shared vision and shared responsibility. In this regard the GTBs are a reflection of a similar process occurring at the headquarters level. Nevertheless, the GTBs continue to try to do too much with too little resources. Most GTBs are working with a plethora of counterparts and projects with very limited human resources. Generally, at least one member of the GTB team is involved full-time in maternal and child health activities. The remaining team members attempt to assist Ministries of Planning, Agriculture and Health (Nutrition, Education and Food Protection Divisions) at the central level while at the same time conducting research-action programs at the local level. This is more than the smaller GTBs can reasonably handle.

Some excellent social communication materials for use at the local level have been developed by the GTBs in Guatemala, El Salvador and Honduras. For a summary of social communication activities see Table 4.

The postgraduate program has gone through a careful, comprehensive and thoughtful evaluation. It has been restructured based on the principles of linking training to the real needs of Central American countries and of being interdisciplinary and integrated in its approach. The new program has been approved by the San Carlos University, detailed teaching plans and assignments have been developed, and the first class will enter in January 1994.

INCAP is using several mechanisms to enhance its technical service delivery capabilities without expanding permanent staff. One is through the use of residents. Residents are young professionals who spend a year or more at INCAP receiving on-the-job-training. There are currently 16 residents. This strategy allows INCAP to supplement its staff without creating permanent staffing commitments. It also allows INCAP to identify particularly promising professionals to recruit for permanent positions when they become open. INCAP has also developed useful linkages with other technical assistance organizations. For instance, by tapping into the Quality Assurance Project, INCAP has had access to a top-notch epidemiologist from CDC and an operations research expert from University Research Corporation. INCAP has established a relationship with the College of Surgeons of Guatemala whereby they purchase journals and CD-ROMS that INCAP then manages.

The Costa Rican GTB has been on the cutting edge of INCAP's attempts to create a computer link between headquarters and the GTBs. The Costa Rican GTB is linked

to INCAP headquarters by electronic mail, which greatly facilitates the flow of information. Costa Rica is also linked with BITNET and Internet. The Technology Transfer unit is preparing several manuals which are designed to increase the GTBs technical effectiveness. These include an inventory of technologies developed at INCAP in the last ten years, an analysis and characterization of counterpart institutions by country, a manual on social communications, and a manual on technology transfer.

Recommendations

1) INCAP headquarters should have a meeting of the GTBs to conduct a technology transfer needs assessment. Headquarters staff should prepare background documents on the nature of technology transfer, case studies and useful technology transfer materials as inputs to the discussion. The meeting should aim at arriving at a common understanding of priorities and strategies for technology transfer within the INCAP context and identify both general and specific needs. Upon this basis a training and technical assistance program can be built for the GTBs as a group, for individual GTBs and for individuals within each GTB to increase their effectiveness. The provision of technical assistance from one GTB to another should be encouraged whenever feasible.

2) In order to address the problem of having too broad a focus, the GTBs should develop an effective system for prioritizing and focussing their activities. INCAP headquarters should assist the GTBs in strategic planning processes, similar in purpose to those which have been undertaken at the headquarters level.

3) INCAP headquarters should work closely with the GTBs to bring them into the process of program restructuring which has been occurring at the central level, but which also affects them. INCAP should schedule regular meetings with the GTB coordinators at headquarters or in one of the countries to facilitate this process. The Manual for Decentralized Operations should be re-done to reflect the new INCAP structure. The resolution of the issue of financial management and timely disbursement of funds to the GTBs is of paramount importance.

3. TTT Sub-output (3): Laboratory capabilities upgraded to meet basic institutional needs

Findings

INCAP has 5 laboratories (encompassing 16 laboratory units) which cover all fields related to food and nutrition: chemistry, biology, biotechnology, microbiology, physiology, food analysis, sensorial analysis, and a greenhouse and pilot laboratory for the development of new products.

The technological capacity of each laboratory varies greatly, as do the physical conditions. In the last fifteen years there has not been any systematic maintenance program for the physical plant or the equipment; this has resulted in significant deterioration and the accumulation of major needs in this area. In 1992, US $21,000 was allocated for the repair and maintenance of laboratories, which permitted minor adaptations to some of the physical facilities and relocation of other laboratories.

In February of 1993, the Committee of Unified Analytical Laboratories (LAU) was established, with the purpose of directing, supervising and coordinating the activities of the Institute's laboratories. The LAU Committee is comprised of representatives of the various laboratories and research groups and the head of the maintenance division.

Since its formation, the LAU Committee has held various meetings and has developed a work plan for reviewing activities undertaken in 1992, defining needs for maintenance and repair of equipment and physical plant, and defining procedures to improve the security of the laboratories.

Conclusions

In spite of the limitations described above, INCAP has unique analytical capacity in Central America in numerous areas, especially in vitamins, micronutrients, hormones, pharmaceutical quality control, and bacteriological, virological, biochemical, and toxicological analyses. Currently it serves as a regional reference center for measles and cholera, and has the capacity to produce valuable serums for the diagnosis of intestinal infections. This means that INCAP's sphere of action has grown into areas in which it has not traditionally been active.

The IISP has helped to diagnose the problems of the laboratories in a more comprehensive fashion, identifying needs in the "cornerstones" of the organization. Addressing these needs will permit the development of projects at a higher technical level and will enhance financing possibilities.

During 1992, and especially since the creation of the LAU Committee, there has been an improvement in the allocation of resources to meet the needs of INCAP's laboratories. A process of repair and preventive maintenance of equipment such as air conditioners, freezers, refrigerators, microscopes, etc. has been initiated. An in-depth diagnostic study of maintenance and repair needs of sophisticated laboratory equipment was carried out in late 1991, though the LAU Committee has yet to develop an action plan to address the problems identified. A development plan aimed at optimizing the availability of physical space has been prepared, and priorities for new equipment needs have been identified. A new spectrophotometer has been purchased, and high-value equipment (HPLC) which was acquired several years ago

has been put into operation. Better access to the computer system has been achieved, although to a lesser extent than that of other units in the Institute.

The LAU Committee has only partially completed its work plan, due to the work load of its participants, insufficient delegation of authority, and budget restrictions which limit its ability to implement its plans.

The sale of laboratory services is an alternative source of financing, and over the last year, a significant amount of income has been generated through this means. However, overly bureaucratic administrative procedures complicate this process and act as a disincentive for both laboratory professionals and users of their services.

Recommendations

1) The development plan which was recently initiated should continue. A budget should be assigned to the LAU Committee so that its members can effectively carry out their work. The studies identified in the committee's Action Plan should be completed; this would permit a better understanding of the priorities in this area.

2) The marketing of laboratory services should be improved, and formulas for the devolution of revenues to the laboratories themselves should be designated so as to create incentives for laboratory professionals to participate more actively in this process. A detailed marketing study of opportunities for INCAP to expand its sale of sophisticated laboratory services should be given high priority by the marketing and sales of services group. IISP technical assistance could be very helpful in this area.

3) Significant improvement of the laboratories' technical capacity requires large investments, which have been estimated at around US $ 500,000. Priorities for equipment to be acquired are: atomic absorption spectrophotometer, gamma counters, scintillation counters, conductimeters, centrifuges, physical infrastructure, etc. Even if currently resources are not available to cover all of these investments, it is important to establish a medium-range plan which will permit the gradual acquisition of some of this equipment, putting the Institute on the technical cutting edge. The acquisition of all new equipment should make plans and allocate adequate resources for preventive maintenance. The skills of existing equipment maintenance personnel will need to be upgraded as a short-term strategy; eventually, other alternatives for equipment maintenance (such as contracts with external specialized firms) should be sought.

4. TTT Sub-output (4): Regional Vitamin A strategy developed; studies completed; programmatic and lab capabilities upgraded; Vitamin A service provision increased

Findings

This subcomponent has been implemented in four countries (Guatemala, Honduras, Nicaragua and El Salvador) and has three basic activities: (a) to improve technologies for sugar fortification; (b) analysis of carotene content in foods commonly consumed; and (c) development of technologies to improve production and consumption of vegetable sources of Vitamin A.

Numerous activities are being developed within this program at both the central and GTB levels. A professional was trained in modern techniques for determining levels of Vitamin A and carotene, analyses which can be performed in only a few Latin American countries. Carotene levels have been determined in several commonly-used foods, and support has been provided to governments in the monitoring and supervision of fortification programs. Operations research is being conducted to improve fortification methods, and community-based studies are underway to improve the production and consumption of foods rich in carotene. Training has also been provided to GTB professional and technical staff in various activities to support this component.

Conclusions

The area of micronutrients in general, and Vitamin A in particular, is probably one of the most advanced in the achievement of its objectives. This is due to strong technical leadership, clearly defined objectives, and appropriate resource allocation. In all of the countries visited, there is a clear recognition of the usefulness of INCAP's technical cooperation in Vitamin A as well as salt iodination.

IISP achievements to date are remarkable, particularly in the fortification and community components. Most project activities are now at the peak of implementation and are expected to remain so for at least one more year. In Honduras, activities to strengthen sugar fortification have been facilitated by high government commitment and a high level of motivation on the part of the sugar industry. The work in Guatemala has required a lot of persistence and good human relations to overcome initially unfavorable conditions, despite industry's commitment to fortification. INCAP's actions in this area are right on target: technology development and transfer, and high quality technical assistance and training to strengthen the capabilities of the public and private sectors to ensure adequate and sustainable sugar fortification.

In spite of the strong technical capabilities and experience of this group, publications in scientific journals in the last two years have been limited.

Recommendations

1) Linkages should be established between the sugar fortification activities and efforts to improve salt iodination, as well as further work on potential multiple fortification of certain foods with Vitamin A and iron (e.g., panacrema, nutricereal, nutritional cookie). This would be a key step toward progressive broadening of the project's scope into a more integrated micronutrient initiative.

2) An additional area of work that has already been given some emphasis and which should be developed further is INCAP's assistance in preparation or updating of appropriate fortification legislation. Achievements in Guatemala are already significant with the passing of the new fortification legislation, and updating of legislation in Honduras is still pending.

3) Laboratory-based analytical work should be accelerated now that technical facilities are available. A concrete plan should be prepared to update the food composition tables. A review of recent data available from other food research centers may avoid duplication of efforts.

4) An additional effort should be made to document and publish experiences as a way of contributing to dissemination. This avoids duplication of efforts by other institutions and contributes to improving the technical capacity of the professionals.

C. Financial Resources Development (FRD) Component

1. FRD Sub-output 1: Plans and strategies developed to increase revenue through program funding, constituent support (PAHO and member countries), and cost recovery, including sales of products and services

Findings

Introduction of the reorganization in January 1993 provided a formal structure for staff to work on financial resources development through creation of the Marketing and Sales of Services program as one of INCAP's eight major programs.

INCAP staff has limited experience in working with financial resources development issues. This condition has been addressed by the use of consultants who are professionals in this area. An important activity for which INCAP has retained consultants is to work with Administration to develop an internal approach and

procedures for creating "benefit centers" and integrating them into the financial system.

A benefit center is a locus of human and material resources that produces certain types of activities, including revenue-generating ones. The purpose of the benefit center is to define operating units within the Institute to which part of the revenues generated from the sale of products and services can accrue back, in order to benefit the operating unit that performed the service or delivered the product, to compensate for the added effort required and to provide materials, upgrade equipment, etc. used to provide similar services. As noted above in section V.B.3. on experience with the sale of laboratory services, the current lack of such procedures acts as a disincentive to staff to engage in revenue-generating activities.

Work has begun on developing financial and accounting policies and procedures to introduce benefit centers into the INCAP organizational structure by the start of next fiscal year (January 1, 1994).

The financial resources development strategy encompasses a broad range of marketing and promotional activities; for example, the Institute's Annual Report is produced in Spanish and English; several promotional brochures have been developed in Spanish and English; a promotional video (Spanish/English versions) was being shot at the time of this evaluation; and promotional visits are conducted in the region as well as the U.S. INCAP has made overtures to regional journalists through a one-week workshop on social communication conducted in Honduras; preparations for another workshop for the press are almost completed.

Another aspect of the resources development strategy is the establishment of the Society of Friends of INCAP (Amigos del INCAP). The intention is to develop different types of memberships (i.e., domestic, Central America, other international) consistent with members' ability to pay. A formal work plan has been prepared and approved for the Friends of INCAP program, the implementation of which is under the direction of the principal author of the plan. To date, all objectives of the development plan for the Friends of INCAP plan have been met and in many cases exceeded. Implementation of certain aspects of the Friends of INCAP program, however, will require creativity and a sophisticated understanding of organizational promotion and fundraising techniques.

There is no evidence that there will be material changes in the PAHO/INCAP relationship as a result of the move to seek an expanded financial support base.

Over the past three years INCAP has made good progress in reducing the member countries' deficits (arrears) in their annual quota contributions. The 1992 audit report stated that "the collection rate...was sufficient to result in a lower residual balance of arrears at 31 December 1992 ($207,921) than in any of the previous five years".

Conclusions

Planning for the endowment had a catalytic effect on INCAP. It has provided a forum and institutional encouragement for thinking and acting about seeking new and expanded sources of income. The composition and activity of many of the working committees formed prior to the reorganization were influential in the reorganization planning process. Their influence will be even greater as the reorganization is implemented, particularly in the first year (1993). While there is not universal support for the reorganization and the move to increase the financial support base of INCAP, the degree of staff participation to date, while no guarantee of the future, leads one to believe that they will be successful.

Many of the ideas and activities of the Marketing and Sales of Services unit are new to the Institute. There are indications that at times the approaches being used are not well understood, leading to problems in getting needed internal support. This situation has delayed some of the planned activities and inhibited the Institute's ability to react to income-generating opportunities identified or created by this unit.

Part of the problem appears to be institutional growing pains as the concept of sustainability begins to be internalized. Another part of the problem is lack of clarity within the organization as to when an activity is approved and what constitutes approval. This has led to situations where arguments arise over whether required resources should or will be available or provided, such as the case of a document that INCAP was contracted to translate and produce by PAHO and MotherCare. The document has been translated but not yet printed because funds have not been released to pay for printing. The $10,000 payment to INCAP under the contract is contingent upon delivery of the printed material.

Recommendations

1) The consultants hired to work on the financial resources development plan have been working as planned for almost a year and have gained the confidence and respect of the staff; they constitute a valuable institutional memory and resource. Accordingly, INCAP should monitor the relationship to minimize the possibility of losing this resource.

2) Consistent with recommendation 1) above, INCAP should develop and implement a plan to expand and increase staff expertise in the area of financial resources development and management. This should be done in two ways: hire new staff with excellent credentials and develop an in-house training program for staff with potential to be work in this area. Consultant assistance is needed to develop INCAP staff capabilities to analyze market potential and costs of INCAP services and products and to conduct market studies.

3) The policies and procedures being developed to establish and support the benefit centers are of vital interest to the people who will be managing and staffing the centers. It is therefore recommended that these policies and procedures not be finalized without the participation of all managers of the benefit centers.

4) Develop mechanisms to inform and, to the extent possible, involve staff (including GTBs) in the planning of new projects. This would include soliciting ideas and participation from the staff in the development of new projects.

5) Develop transparent procedures for approving projects whereby all necessary resources are clearly authorized and approved before work on the project begins. Communicate these procedures to all staff.

2. FRD Sub-output 2: Staff upgraded in market/demand analysis and client-oriented needs assessments; promotion, communications and marketing; project development and negotiation; and fund-raising and communications

Findings

Since the creation of the Marketing and Sales of Services Program in January of this year, the group has concentrated its efforts on marketing INCAP products and services to the food industry in Guatemala and other member countries. The INCAP services marketed include: technology transfer of the fortified cookie to the food industry; product development through the Pilot Plant; training in quality control and sensorial analysis; and analytical laboratory services. The expected income to be generated in 1993 from these activities of about $326,000 exceeds initial expectations. Of particular significance is that fact that the promotion of technology transfer of the fortified cookie to other member countries (El Salvador, Honduras and Panama) will generate about $86,000 in additional royalties and technical assistance payments this year. In 1992, royalty income was received only from Guatemala's food industry market.

Thus far, most of INCAP's available professional resources in marketing, promotional and communication activities are responding to the immediate needs of the demand already identified in the food industry.

Conclusions

The integration of most of INCAP's product lines related to laboratory, technical services, product development and training in industrial food technology that was achieved at the beginning of this year under the Marketing and Sale of Services Program, has proven to be successful. The results already obtained are evidence of the availability of opportunities for the provision of INCAP's services to the food

industry in Guatemala and the other countries of Central America. This fact was confirmed by the evaluation team in the visit to one of the leading food industries in Honduras, which is also exporting to El Salvador and Nicaragua.

A limitation on the effectiveness of current marketing activities is that prices are being developed ad hoc, without the benefit of a cost accounting system that accurately attributes all costs associated with the production of a specific service or product. The identification and implementation of procedures to isolate cost/"benefit" centers centers underway through the SPM component will improve the efficiency and productivity of INCAP's marketing services.

Marketing studies carried out to date are primarily by product line and have not been incorporated in an integrated marketing plan considering all INCAP's donors and clients' needs by products and services, with defined pricing policies and promotional activities.

Although assigning the professionals with knowledge in marketing and sales to the Marketing and Sales of Services program has been effective in the short term, this concentration of all marketing resources in one unit could create an imbalance in the long term. This situation has been already identified by some of the committees, in particular the LAU group, where some of the members like the Biochemistry and Biology laboratories are generating income through laboratory analysis and diagnostic solutions and reagents. In their opinion, support to market their products has not materialized or has been insufficient to adequately meet their needs.

The contract signed with one of the food companies in Honduras to provide assistance in the transference of technology and to authorize the production of the fortified and improved cookie, gave exclusive rights to the firm for that country. The risks of exclusive licensing contracts to interested industries, although favorable to generate income through royalties, may be restrictive to government social initiatives.

Recommendations

1) INCAP's successful experiences in the marketing and sale of products and services to the food industry should be replicated for other laboratory, research and technical cooperation services. The marketing strategies, methodologies and direct assistance provided by the Marketing and Sales of Services group should be made available to other programs, through the implementation of the social strategic marketing activities included in the 1993-94 Annual Work Plan.

2) Marketing studies should evaluate the options available for licensing of the production of the fortified cookie in member countries. Such studies should determine alternatives to issuing exclusive rights to the food industry, allowing

for the charge of royalties for production rights without restricting government social initiatives.

3) The establishment of pricing policies and procedures including determination of overhead charges, should form part of the definition of policies and procedures for the revolving funds. These procedures should also include procedures for billing, cost recovery and reinvestment incentives by product or service line. Decisions made in these areas should be coordinated with and incorporated into the development of the financial management system under the SPM component.

4) INCAP must develop within its project management functions the capacity for early detection and tracking of technical assistance projects for which INCAP could be the executing agency in cooperation with member countries. The development of "client awareness" should be supported by the assignment of responsibility to capable staff with the skills needed to prepare proposals that meet funding agencies' requirements. Information about potential projects should be obtained from the GTBs, the numerous technical advisors that pass through INCAP, and contacts with donor and funding agencies. Prospects for major technical assistance agreements in food and nutrition include the World Bank, the IDB, and the agreement under negotiation with BCIE.

3. FRD Sub-output 3: Endowment fund feasibility analyses completed and endowment fund strategies developed

Findings

The feasibility study for an endowment fund provided for in the 1992 work plan was completed and submitted to INCAP by an independent consultant in July of that year. The chosen financial trustee of such a fund is the Central American Bank for Economic Integration (BCIE), with headquarters in Tegucigalpa, Honduras, which since 1961 has been the official development bank of the regional integration program of five of INCAP's member countries (excluding Panama and Belize).

Negotiations between INCAP and BCIE began in the first quarter of 1993, as provided for in the 1993-1994 work plan. At the suggestion of BCIE, and taking into account the rather small amount of endowment capital contributed so far (less than US$ 10,000), both these organizations developed the idea of a broader inter-institutional cooperation agreement, which among other important things contemplates a progressive accumulation of investment accounts until the formal creation of the endowment fund is deemed appropriate by both parties.

The final draft of the inter-institutional cooperation agreement (ICA) was presented by INCAP to BCIE on June 3, 1993, and is expected to be approved by BCIE's Board of

Directors by the end of June. The ICA may be signed and become operative in early July 1993, provided that PAHO agrees with the text. This development means that both INCAP and BCIE might have to agree on a specific and detailed work plan before the end of August 1993. This work plan should include implementation procedures for the endowment fund agreement (EFA), for which a draft prepared at the technical level already exists.

The important finding about the ICA is that its provisions considerably go beyond the initial idea of the endowment fund in a positive direction. For instance, the ICA stresses the joint development of investment, technical assistance, research and transfer of technology projects in the broad area of the social impact of health and nutrition in Central America. Through the appropriate combination of INCAP's scientific know-how and BCIE's financial capabilities, such joint ventures may add to INCAP's long-term sustainability in a way which had not been suspected before, and enable BCIE to fulfill its commitment to increase social sector financing.

On the negative side, it was found that however optimistic the scenarios on the development of the endowment fund may be, the financial sustainability of INCAP without substantial external support is questionable. This appears to be the main argument for a detailed analysis of the prospects of the EFA inside the broader financial expectations of the ICA as a source of INCAP's sustainability. This analysis has not been undertaken.

Conclusions

The proposed arrangement for the endowment fund has the great advantage of leaving the complex details of managing an endowment fund to finance professionals at BCIE, instead of attempting to develop such capability within INCAP. Key decisions about the use of funds would be made by INCAP's board or by an external advisor committee set up for this purpose. Once procedures governing the fund and the relationship between BCIE and INCAP are finalized, the ongoing management burden on INCAP should not be that significant.

Although INCAP has duly achieved its own targets contemplated in the annual work plans for the preparation of an endowment fund project, it must be understood that the actual implementation of such a fund takes time and requires some complex financial arrangements. The major obstacle is the fact that no donors or interested organizations have committed any contributions in order to assess the potential size of the fund. It is obvious that the initial amount of approximately US$ 10,000 is too small to start any relevant financial mechanism of economic sustainability for INCAP.

Since the creation of INCAP's endowment fund with a capability to replace present budget contributions by USAID/ROCAP may not render short-term results, as far as financial sustainability is concerned, the following alternatives should be considered:

(a) a direct extension of USAID/ROCAP's financial support program after 1995, or (b) an indirect approach by USAID/ROCAP to help rapidly increase the capital basis of the endowment fund.

The latter could be achieved through special arrangements such as: (a) contributions in local Central American currencies arising from the counterpart funds of P.L. 480 or balance-of-payments support loans granted by the U.S. Government in the past; (b) contributions arising from a fraction of the accrued interest of previous A.I.D. loans to the BCIE, or (c) A.I.D. contributions consisting of interest-earning securities issued by either the Central American governments or BCIE arising from A.I.D.'s lending to such borrowers.

It should not be construed, however, that A.I.D. funding is the only available source to increase the endowment fund. Central American governments must be persuaded to contribute to the endowment fund in a sort of pari-passu fashion together with USAID/ROCAP. This could be accomplished, for instance, by: (a) consolidating government payments in arrears (which now represent about US$ 500,000 in INCAP's account of uncollected contributions) into medium- or long-term securities, (b) making future government contributions in cash or interest-bearing securities automatically contribute to the endowment fund's capitalization, or (c) channeling the payment of interest on unpaid government contributions to the endowment fund.

In addition to the possibility of enhancing the capital endowment of the fund in the ways suggested above, there is the potential development of the ICA as a permanent source of capital contributions arising from BCIE's financial promotion of joint ventures with INCAP. Several opportunities may be considered in this respect: (a) the negotiation of lender's voluntary contributions to the endowment fund as a part of project financing, (b) the specific earmarking of INCAP's technical assistance revenues from such projects to endowment fund capitalization, or (c) the eventual conversion of borrowing linked to such joint ventures into direct grants to increase the fund's principal.

These options illustrate the range of opportunities created by linking INCAP's scientific experience with BCIE's long experience in international financial matters. There is, however, the limited readiness of INCAP's managerial capacity to deal with the challenge of long-term economic sustainability.

Recommendations

1) The first priority of INCAP as regards the creation and development of an endowment fund to ensure its long-term financial sustainability should be the prompt implementation of the inter-institutional cooperation agreement (ICA) with BCIE. In order to take advantage of the important benefits of such an agreement, it is recommended that: (a) INCAP seek immediate PAHO support

for the final approval of the ICA, (b) INCAP's Director instruct the appropriate internal committees and officials to identify eligible joint projects in investment, technical assistance, research and transfer of technology contemplated by the ICA and to prepare viable proposals to BCIE, and (c) INCAP's Director take the necessary steps in the internal organization to promote, negotiate and implement joint ventures with BCIE. As part of this last process, BCIE personnel will need to orient INCAP staff as to the implications of the EFA for INCAP's marketing activities, procedures governing fund contributions, etc.

2) In connection with the specific implementation of the endowment fund within the ICA, it appears that the promotion of voluntary contributions, grant and non-reimbursable loans should be a primary objective of INCAP's authorities. It is therefore recommended that: (a) INCAP hire special consultants to initiate and develop INCAP's internal capabilities needed to implement the ICA and to identify, promote and negotiate capital contributions to the EFA; and (b) INCAP as an institution pursue both multilateral and bilateral cooperation arrangements with the European Community and Nordic Group countries, Japan, Canada and Mexico.

3) Since both the endowment fund and the broader long-term financial sustainability of INCAP can be supported through a wide range of specific ways and means, it is also recommended that the professional consultants referred to above assist with: (a) the preparation of a consolidated financial projection of INCAP's sustainability in the period 1996-2000, on the basis of expected contributions to the endowment fund as of the end of 1993, (b) discussion of USAID/ROCAP counterpart-fund contributions to the endowment fund arising from the U.S. Government P.L. 480 and balance-of-payments support to INCAP's member countries, (c) the determination of possible contributions linked to BCIE's international borrowing for health and nutrition programs and projects, and (d) the identification of other regional and international sources of fund contributions through direct grants and non-reimbursable borrowing connected with INCAP's programs and activities.

4) It is also recommended that INCAP explore the possibility of similar financial arrangements with the World Bank and the Interamerican Development Bank. The financial consultants mentioned above should also assist INCAP in such an exploration.

ANNEXES:

Annex 1: List of Major Documents Reviewed
Annex 2: List of Persons/Organizations Interviewed
Annex 3: INCAP Mid-term Evaluation Chronology
Annex 4: Annual Work Plan Outcomes (Planned vs. Accomplished)
Annex 5: Stability Analysis of GTB Professional Personnel from August 1990 to May 1993

ANNEX 1

LIST OF MAJOR DOCUMENTS REVIEWED
IISP Mid-Term Evaluation - May 1993

GUATEMALA:

General:

INCAP/OPS. Plan estratégico institucional 1991-2000. Guatemala 1990.

AID. ROCAP. Project Paper. INCAP institutional strengthening project (IISP). June 1991.

INCAP/OPS. Proyecto de fortalecimiento institucional. Plan de acción 1993, Enero 1993-Junio 1994.

INCAP/OPS. Proyecto de fortalecimiento institucional. Plan de acción 1992, Diciembre de 1991.

INCAP/OPS. Informe Anual 1991.

INCAP/OPS. Evaluación del programa anual del INCAP, 1991.

AID/INCAP. Convenio de proyecto de donación entre INCAP y AID para el proyecto de fortalecimiento institucional del INCAP, Junio 1991.

AID/ROCAP. Project status reports for April-September 1991, October 1991-March 1992, April-September 1992 and October 1992-March 1993.

JSI/ROCAP. Evaluación de dos proyectos de INCAP/ROCAP: TRO, control del crecimiento y educación en atención primaria de salud y proyecto de asistencia técnica para programas de alimentación a grupos, Washington 1992.

INCAP. El quehacer del INCAP en la formación y capacitación de recursos humanos en alimentación y nutrición, 1990.

INCAP/OPS. Curso de nivelación sobre aspectos básicos de alimentación y nutrición, 1993.

AID. Economic assistance strategy for Central America 1991 to 2000. Washington D.C. 1991.

Strategic Planning and Management:

Manual de Inventarios.

Copia de Carta IN-AD-AC-93-053 dirigida a AID.

Acuerdo de servicios contractuales - Lic. Héctor Villagrán.

Alcance del trabajo - Lara & González.

Informes financieros (varios) al 31 Marzo 1993

Informe de ejecución de los Recursos por Actividad (Ejecución del APB).

Report of external auditor (INCAP) for year ended 12/31/91 to 12/31/92

Plan de Amigos del INCAP en Apoyo a la Sostenibilidad Institucional. OPS/INCAP. 27 de abril 1993.

Planificación y Gestión: Síntesis del Marco de Referencia, Objetivos, Funciones, Líneas de Trabajo y Actividades. OPS/INCAP. Planificación y Gestión. Documento No. 1. Marzo de 1993.

Una Proyección Global. OPS/INCAP. Planificación y Gestión. Documento No. 2. Marzo 1993.

La Programación en el Contexto de la Gestión y Planificación Institucional. OPS/INCAP. Planificación y Gestión. Documento No. 3. Abril 1993.

Desarrollo de los Recursos Financieros: Una Visión Institucional. OPS/INCAP. Planificación y Gestión. Documento No. 4. Abril 1993.

Comunicación Para el Desarrollo. OPS/INCAP. Planificación y Gestión. Documento No. 5. Abril 1993.

Convenio de Cooperación Interinstitucional entre el Banco Centroamericano de Integración Económica (BCIE) y el Instituto de Nutrición de Centro América y Panamá (INCAP). OPS/INCAP. Planificación y Gestión. Documento No. 7. Abril, 1993.

Proyecto de Convenio de Fideicomiso entre el Instituto de Nutrición de Centro América y Panamá (INCAP) y el Banco Centroamericano de

76

Integración Económica (BCIE). OPS/INCAP. Planificación y Gestión. Documento No. 8. Abril, 1993.

Lineamientos Generales para la Operacionalización de la Organización Funcional. Memorandum Interno MI-DI-DG-93-956.

Taller "Formulación de Propuestas en las Areas Prioritarias Científico-Técnicas. OPS/OMS-INCAP, 4 y 5 de noviembre de 1991.

Revisión al Plan para el Desarrollo del Sistema de Información Institucional. Abril de 1992.

Estudio de Necesidades de Información de los Funcionarios del INCAP. Mayo de 1993

INCAP/OPS. Programa del sistema de información, 1993.

Financial Resources Development:

Plan de Desarrollo de Recursos Financieros. OPS/INCAP. Octubre 1992.

Programa de Mercadeo y Ventas de Servicio. Plan General.

Estudio Financiero para la Creación de un Fondo en Fideicomiso para el Instituto de Nutrición de Centro América y Panamá y sus Potenciales Fuentes de Recursos Financieros.

Situación Actual del BCIE. Aspectos Financieros y Operativos. Al 30 de junio de 1992. (Con Addendum al 21/01/93). Banco Centroamericano de integración Económica.

Normas de Política del Programa de Desarrollo Social. Banco Centroamericano de Integración Económica (BCIE).

Reglamento Operativo del Programa de Desarrollo Social. Banco Centroamericano de Integración Económica. Aprobado por el Presidente y el Vicepresidente Ejecutivo, el 29 de junio de 1982.

Programa de Desarrollo Social. Banco Centroamericano de Integración Económica (BCIE).

Estudio sobre la Situación del Sector en la Región y Sobre Mecanismos Operativos y de Consecución de Recursos para el Financiamiento del Sub-programa. Sub-programa Regional de Preservación del Medio

Ambiente. Volúmenes I, II y III: Resúmenes. Banco Centroamericano de Integración Económica (BCIE).

Technical and Technology Transfer:

INCAP/OPS. Programa de transferencia de ciencia y tecnología, Mayo 1993.

INCAP/OPS. Proyecto "Apoyo al control de la hipovitaminosis A en Centro América, Diciembre 1991.

INCAP/OPS. Prevención y control de los desordenes por deficiencia de yodo, hierro y vitamina A en Centroamérica 1993-1997.

INCAP/OPS. Sistemas integrados de alimentación, nutrición y salud, 1993.

INCAP/OPS. Programa de protección de alimentos y orientación al consumidor. Situación en los países. 1993.

INCAP/OPS/Universidad de San Carlos. Maestría en alimentación y nutrición. 1993.

NICARAGUA:

GTB/INCAP/OPS. Annual Program and Budget 1993 and 1992. Asignación de recursos por actividad de cooperación técnica.

GTB/INCAP/OPS. Informes cuatrimestrales de progreso (Septiembre-Diciembre de 1992; Enero-Abril de 1993.

GTB/INCAP/OPS. Apertura programática. Plan y presupuesto de cooperación técnica en Nicaragua, 1993.

Largaespada C. Soy la última en comer. Crisis económica y familiar de las mujeres trabajadoras de Managua. INCAP/OPS, Managua, Marzo de 1993.

EL SALVADOR:

GTB/INCAP/OPS. Annual Program and Budget 1993 and 1992. Asignación de recursos por actividad de cooperación técnica.

GTB/INCAP/OPS. Prioridades nacionales, metas bienales y resultados esperados. 1993.

GTB/INCAP/OPS. Informes cuatrimestrales de progreso (Septiembre-Diciembre de 1992; Enero-Abril de 1993).

GTB/INCAP. Ejecución presupuestaria 1992.

GTB/INCAP/OPS. Proyecto sistemas integrados de agricultura, alimentación, nutrición y salud, 1993-1994.

Ramirez Y, Merino G. Efecto de la cocción en el contenido de carotenos en alimentos vegetales consumidos en el Salvador. GTB/INCAP/OPS 1993.

Merino JG. Beta carotenos en recursos alimentarios autóctonos. GTB/INCAP/OPS 1992.

Merino JG y Ramírez Y. Composición química de alimentos a base de soya preparados en comunidades rurales de El Salvador. GTB/ INCAP/ OPS 1992.

GTB/INCAP/OPS. Los sistemas integrados de producción, procesamiento y consumo de alimentos como una alternativa para mejorar el estado nutricional de la población. 1992.

OPS/INCAP/Universidad de El Salvador/CENTA. Amaranto: preparación de alimentos. El Salvador, 1992.

OPS/INCAP. Guía básica de nutrición y soya. El Salvador 1992.

HONDURAS:

GTB/INCAP. Asignación de recursos por actividades de cooperación técnica de la OPS/OMS con resultados esperados, 1993.

GTB/INCAP. Informe de la jornada de evaluación y programación del proceso de desarrollo comunitario de Atima, Santa Barbara, Mayo 1993.

Convenio de Transferencia de Tecnología, Fabricación, Asistencia Técnica y Control de Calidad. INCAP/LIDO - POZUELO. Marzo 16, 1993.

ANNEX 2

LIST OF PERSONS INTERVIEWED
IISP Mid-Term Evaluation - May 1993

USAID/ROCAP and USAID/Guatemala

Terrence Brown	Director
Lars Klassen	Deputy Director for Regional Affairs
Gary Cook	Chief, Office of Health and Education new Project Officer for IISP
Enrique Duarte	New Project Manager for IISP
Sandra Callier	Current Project Manager for IISP
Jeffrey Goodson	Former Chief ROCAP Program and Project Development Office; PDO for IISP design
Nancy Hooff	Program Officer; ROCAP Evaluation Officer
Ramiro Eduardo	Project Development Officer with backstopping responsibilities for IISP
Liliana Gil	Program Assistant for IISP

INCAP, Headquarters

Hernán L. Delgado	Director
Erik Díaz	Postgraduate in Food and Nutrition Program Head
Arnulfo Noguera	Micronutrients Program Head
Maria Teresa Menchú	Social Economy Food Program
Luiz G. Elías	Marketing and Sales of Technical Services Head
José Ramiro Cruz	Infectious Diseases Program Head
Concepción de Bosque	Food Safety and Consumer Orientation Program Head
Marie Ruel	Human Nutrition Program Head
Rafael Flores	Transfer of Science and Technology Program Head
Hedi Deman	SIAANS Program
Maggie Fischer	Transfer of Science and Technology Program
Norma de Larrea	Administration Chief
Ernestina Ardón	Strategic Planning and Management Program Head
Enrique Rodríguez	Strategic Planning and Management Program
Juan José Narciso	Financial Resources Development
Sara Aparicio	Project Monitoring
Juan Caviedes	Communication for Development
Juan Carlos Jocop	Systems Analyst

INCAP, Headquarters, continued

Leiser Silva	Information System
Juan Carlos Cabrera	Systems Analyst
David Galindo	Systems Analyst
Javier Azurdia	Social Communicator
Junio Robles	Operations Research
Freddy Clark	Information System Head
Carlos Argueta	Marketing and Sales of Technical Services
Jorge Zúniga	Marketing and Sales of Technical Services
Arturo Palmieri	Marketing and Sales of Technical Services
Edgar Barrera	Marketing and Sales of Technical Services
Mario E. Hurtado	Management Information System
Humberto Méndez	Management Information System
Omar Dary	Unified Analytical Laboratories (LAU) Coordinator
Patricia Cáceres	Laboratory of Virology Supervisor
Olga Torres	Micromolecular Laboratory Supervisor
Carlos Garrido	Maintenance (Management)
Leonardo F. De León	Food Technologist (Industry Technical Assistance)
Floridalma Cano	Unified Analytical Laboratories
Jorge Zúñiga	Chemistry Laboratory
Benjamín Torún	Infectious Diseases Program Head
Myriam Ruiz	Training of Human Resources
Héctor Villagrán	Advisor

GUATEMALA GTB

Mara de Galindo	GTB Coordinator
Alexandra Praun	Food and Nutrition Teaching Consultant
Arnoldo García	Food Science Consultant
Mario Lacayo	Maternal Child Health Consultant
Rebeca Arrivillaga	Maternal Child Health Consultant, Regions VI & VII
Billy Estrada	Food Science Consultant, Quiché

NICARAGUA

Carlos Linger	PAHO/WHO Representative
Janeth Alonso	Health Promotion General Director, Ministry of Health
Freddy Cárdenas	Mother & Child Director, Ministry of Health
Gloria Elena Navas	Food Director, Ministry of Health
Mireya Palmieri	GTB Coordinator

NICARAGUA continued

Nubia Herrera	GTB Consultant
Ilka Esquivel	GTB Consultant
Liliana Ayalde	USAID/Nicaragua
Kevin Armstrong	USAID/Nicaragua
Dagoberto Bermúdez	SILAIS Director, Somoto SILAIS
Roger Montes	Health Management, Somoto SILAIS
Norman Herrera	Epidemiologist, Somoto SILAIS
Héctor Olivas	Municipal Health Director, Somoto
Salvador López	Municipal Health Director, Cusmapa
Andrea Valle	Health Center Telpaneca
Flor de María Olivas	Health Center Nurse, Telpaneca
Avnen Hernández	Municipal Health Director, Palacaguina
Francisco Fiallos	Health Center, San Juan de Río Coco
René Duarte	Subdirector, Somoto Hospital
Luis Alberto González	San Lucas School Director
Lucio Guerrero	Health Brigadist, Telpaneca
Adrián Huete	Nursery Head, Somoto SILAIS
Aida Valle	Training Center Director, INPRHU
Ena María Lazo	Maternal and Child Health Head, Somoto SILAIS
Gilma Méndez	Municipal Director, Palaquina
Hortensia Sandoval	TBC Head, Somoto SILAIS

EL SALVADOR

Hugo Villegas	PAHO/WHO Representative
Paul Hartenberger	Health, Food and Population Director, USAID
José Adán Montes	GTB Coordinator
José Gerardo Merino	Food Technologist, GTB
María Elena Claros	Instructor, GTB
Elizabeth Burley	PROSAMI Project Director
Federico Hernández	Health General Director, Ministry of Health
Jorge Cruz	Mother & Child Department Chief, Ministry of Health
Haydée Rosa de Orellana	Nutrition Department Chief
Nayaneth de Baira	Epidemiology Unit
Ana Estela Pardo	Health Education Unit
Vilma Portillo	Health Education Unit
Community El Arco Leaders	TECOLUCA
Ing. Castro	Minist[illegible]f Agriculture and Cattle, Paracentral Regior
María del Carmen Escobar	Nutrit[illegible]st, Paracentral Region

HONDURAS

Gonzalo Ordóñez	PAHO/WHO Acting Representative
Marco Tulio Carranza	Vice-Minister of Health
Carlos Alirio Cruz	Health General Director, Ministry of Health
Olivia Matute	Food and Nutrition Director, Ministry of Health
Georgina Nazar	Division of Food Control Director
Hilda Fanny Mejía	GTB Coordinator
José Ochoa	Maternal and Child Health Consultant, GTB
Doris Chinchilla	Food Technology Consultant, GTB
Elsa Victoria López	GTB Assistant
Raúl Gómez	School Feeding Program, PRAF
Carlos Pérez	Maternal and Child Bonus Program, PRAF
Sergio Reyes	No. 4 Health Area Chief, Region No. 3
Hardy Rodríguez	Teacher (Primary), Atima
Jeser Ordóñez	Natural Resources Agency Chief, Atima
Nelson Cortés	Social Promotor, Atima
Edwin Sarastume	Public Health Promotor, Atima
Gilberto Luzana	LIDO POZUELO

BCIE

Carlos Arturo Sánchez Rendón	Chief, Strategic Planning Division & External Relations
Jose Miguel Gastain	Executive Vice President
Fernando E. García	Department External Relations & International Cooperation
Eugenio Sánchez	Department External Relations & International Cooperation
Rodolfo García	Department Social Development/Health, Nutrition and Housing Sub-Program

ANNEX 3

IISP Mid-term Evaluation Chronology

May 20, 1993	Team planning meeting at LAC HNS
May 24, 1993	Evaluation team briefing by ROCAP
May 25, 1993	Meeting with INCAP Internal Coordination Committee
May 26, 1993	Meeting with INCAP Strategic Planning and Management Program
May 27, 1993	Meetings with INCAP Transfer of Science and Technology, Information Systems, Marketing and Technical Services, Financial Resource Development Travel to Nicaragua (Atalah), Somoto SILAIS
May 28, 1993	Meeting with INCAP Management Information System
May 30, 1993	Travel to El Salvador (Atalah)
June 1, 1993	Travel to Tegucigalpa (Woodring, Gonima, Smith, Atalah, and Gonzalez)
June 2, 1993	Meetings with BCIE, PAHO, INCAP's GTB and PRAF/Honduras
June 3, 1993	Meetings with BCIE, LIDO-POZUELO Travel to Guatemala (Woodring, Gonima, Smith, Atalah and Gonzalez)
June 4, 1993	Meetings with Unified Analytical Laboratories Committee, Infectious Diseases, Postgraduate Program
June 10, 1993	Presentation of draft report to INCAP
June 11, 1993	Presentation of draft report to USAID and ROCAP
July 13, 1993	Presentation of draft report to LAC/DR/HPN

ANNEX 4

ANNUAL WORK PLAN OUTCOMES (PLANNED vs. ACCOMPLISHED)

INCAP Institutional Strengthening Project (IISP)
Mid-Term Evaluation - May 1993

OUTPUT: I. Strengthened Strategic Planning and Management Capabilities.

SUB-OUTPUT: (1.) Effective Strategic Planning and Management System (SPM) in place.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(1.) SPM system designed, institutionalized and implemented, including annual work plans and monitoring and evaluation system.	1. Recruitment and hiring of strategic planning staff person.	SPM unit created and staffed with a coordinator and four professionals.
	2. Development of the strategic planning action plan.	SPM action plan 1993-1994 formulated and under implementation.
	3. Development of the management information system action plan.	Work plan limited to creation of databases to support SPM action plan and GTBs' four months programming and control (Programa de Trabajo Cuatrimestral/PTC).
	4. Institutional strategic plan operationalized.	a. Financial resources development plan formulated with rudimentary financial scenarios, and endowment fund feasibility study completed (FRD component).
		b. Survey completed with 207 responses to analyze (in process) and improve INCAP's "organizational climate".
		c. Methodology developed and under implementation for the programming and control of technical cooperation (APB & PTC) within the institutional planning process.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
	5. Analysis of the socio-political environment of member countries and their institutions. Variables affecting INCAP's short and mid-range actions.	a. Database developed and information gathered relative to main public policies of INCAP's member countries.
		b. Database developed to gather with GTBs (July 1993) information from counterpart groups and programs in member countries.
		c. INCAP's integration in the Central American System (SICA).
		d. Database developed and updated with the resolutions of INCAP's Directing Bodies (Consultative and Directive Council).
		e. INCAP-PAHO/PWRs Technical and operational linkages: revision of GTB manual and norms (in process).
	6. Periodic adjustment of policies and strategies of INCAP's four basic functions.	a. SPM meeting held Nov. 4-5, 1991, reformulated the four basic functions in 12 scientific-technical priority areas and generated 91-95 action plan.
		b. SPM meeting held in Nov. 27, 1992, provided basis for functional reorganization of INCAP adopted January 1993.
	7. INCAP's programmatic and strategic guidelines reviewed and adjusted according to health, food and nutrition status in each one of member countries.	SPM meeting held Nov. 4-5, 1991, adjusted INCAP's basic functions in 12 scientific-technical priority areas according to Central America and Panama food and nutrition problems, and member countries' needs.
	8. INCAP's staff trained in planning techniques to enable strategic planning systems institutionalization.	55 professionals and 20 administrative staff trained in the APB/PTC programming process (April 1993).

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
	9. Monitoring and evaluation methodology developed.	Methodology for short term (four months) evaluation of the APB/PTC programs developed and under implementation.
	10. Establishment of project programmatic and financial control system.	Databases for the monitoring of programmatic elements of projects developed and under implementation.

OUTPUT: I. Strengthened Strategic Planning and Management Capabilities.

SUB-OUTPUT: (2.) Effective Financial Management System (FMS) in place.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(2.) FMS designed, institutionalized and implemented, including annual work plans and a monitoring and evaluation system.	1. Revise and modify INCAP's financial system.	a. The external auditors confirm that an accounting system will separate accounts by funds (fund accounting) is in place. b. Consultant retained to work with Administration to establish procedures to account for overhead and recording time worked on counterpart contributions. c. Accounting system can report on and analyze cashflow by project on a monthly basis. d. Accounting system can account for income and expenditures on sales of technical services and assistance. Authority received to establish special funds for this Institutional policies and procedures for this are in the process of development. e. System can identify income from royalties by tracking funds by source and transferring them to general income. f. Six revolving funds have been established to provide funds for benefit centers. Procedures for establishing the ratio of funds that are allotted to the benefit centers revolving fund or transferred to the general fund are under development. Two consultants have been retained to assist in this work.
	2. Determine and define the overhead rate.	Consulting firm retained to work with Administration to develop policies and procedures. Work is in progress.
	3. Record and value fixed assets of INCAP.	External auditor reports that the fixed assets are properly valued and recorded.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
	4. Modify/revise the financial rules of INCAP. Current procedures last revised 27 August 1982.	Work on modifying the financial rules of INCAP is in process. Approval requires consistency with PAHO procedures and approval by PAHO and the INCAP Council.
	5. Conduct a study on the reorganization of Administration.	a. A consultant is assisting Administration in this task; an accounting manual is being developed, with some sections in draft. b. Internal consideration of reorganizing Administration is underway. INCAP expects to fill a new position, Budget and Finance Officer, by the end of June 1993. This person will contribute substantially to the process.
	6. Design a computer system supporting Administration in its financial management responsibilities.	Basic system completed. Budget section needs to be expanded to provide detailed information for financial forecasting and multiple year projections.

OUTPUT: I. Strengthened Strategic Planning and Management Capabilities.

SUB-OUTPUT: (3.) Effective Information Management System (IMS).

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(3.) IMS meeting scientific/technical as well as management and financial needs for organizing, accessing, analyzing and communicating infon ation.	1. Recruitment and hiring of information management system staff person.	IMS manager hired and working with the Institutional Information System Committee (IISC).
	2. Development of the information management system action plan.	Institutional Information System development plan formulated and in implementation.
	3. Information requirements defined to develop the institutional information system.	Interviews with 53 staff members to identify "Key success factors". Survey processed and analyzed.
	4. Scientific/technical information LAN installed.	a. Local Area Network cables and 250 connections installed and bridged with the administrative LAN.
		b. Pilot LAN installed and operating with server and 3 working stations.
		c. Extension of pilot LAN to 36 professionals with access to Windows environment and compatible software (in process/expected date: July 1993).
	5. Software applications in compliance with information requirements.	a. GTBs programming and budget control system (APB).
		b. Food/nutritional status database (SIMAP database).
		c. Inventory of methodologies.
		d. 21 professionals with access to BITNET.
		e. Library automatization (in process).

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
		f. 20% of INCAP's 3,000 publications abstracted and in database.
		g. Mailing list data base operating.
		h. Project development and monitoring (in process with the SPM component).
	6. Users and programmers' manuals in operation for electronic mail, subsystems and LAN.	a. Hardware and software standards formulated including security and norms for users, programmers and LAN administrator.
		b. 444 INCAP staff and member countries' participants trained in: Map Information System (SIMAP)(171), Map Constructor (TMM)(35), Harvard Graphics (50), MS-DOS (78), Virus detection (55), Word Processor (55), Microisis, EPI-INFO.

OUTPUT: II. Strengthened Technical and Technology Transfer Capabilities.

SUB-OUTPUT: (1.) High quality technical capabilities in key areas.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
A. High quality technical capabilities in feeding programs, nutrition and health services for marginalized groups.	1. Development of technical documents that identify principal technologies, methodologies and experiences transferrable to member countries.	Technologies to be incorporated in the inventory defined. Data collection and processing completed for 90% of the information. First draft of inventory is available.
	2. Development of proposals for interventions in group feeding, nutrition and health.	Three proposals developed and presented for financing to international organizations.
	3. Development of technical reports on the technology transfer experience of headquarters and the GTBs.	Methodology defined for information collection. Coordination with GTBs. 50% of information collected. Final document by October 1993.
	4. Implementation and evaluation of field experiences of headquarters and GTBs in El Salvador, Guatemala, Honduras, and Nicaragua.	Assessment underway in the four countries. Initial definition of monitoring and evaluation systems.
	5. Development and implementation of surveillance system for local programming, monitoring and evaluation of activities.	First draft of a monitoring and evaluation system to be analyzed by the GTBs.
	6. Development of technical cooperation project in this area and search for financing.	To be carried out.
	7. Development and testing of clinical-epidemiological, biochemical, diet and food analysis evaluation methodologies.	Methodologies conceptualized and objectives defined.
	8. Technical manuals of norms and procedures for methodologies developed.	To be carried out.
	9. Training of nine professionals in science an and technology transfer.	Participation of ten GTB and 6 headquarters professionals in course on operations research and technology transfer. Periodic training meetings.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
B. High quality technical capabilities in control of micronutrient deficiencies.	1. Preparation of six technical documents on the prevention and control of Vitamin A, iron and iodine deficiencies.	Documents developed on 1) fortification of sugar with Vitamin A; 2) control of iodine programs; 3) epidemiological surveillance of iodine deficiencies.
	2. Development and evaluation of alternatives for the control of iron deficiencies.	Two research protocols developed. Communities selected and coordination begun with community leaders and health authorities.
	3. Development at local and national levels of interventions for the prevention and control of micronutrient deficiencies.	Legislation implemented or approved in four countries. Fortification programs partially executed, especially iodine and Vitamin A. Local experiments underway in five countries.
	4. Development and testing of a community monitoring system for micronutrient deficiencies.	Model designed which utilizes previous experiences of community nutrition monitoring. Testing of model underway.
	5. Development and submission to funding agencies of four technical cooperation proposals in micronutrient deficiencies.	Proposal developed for control of micronutrient deficiencies in entire region (October 1992). Other proposals have been developed on iron deficiencies.
	6. Installation of laboratory equipment to support Vitamin A program.	Equipment installed for determination of Vitamin A (HPLC) and spectrophotometer acquired.
	7. Training in micronutrients for 15 headquarters and GTB staff members.	Training in laboratory techniques to measure iodine and Vitamin A for 8 staff members of 4 GTB's. Training for detection of goiter for 30 staff.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
C. High quality capabilities in food safety and consumer orientation.	1. Training of 15 headquarters and GTB staff in management and development of quality control programs, regulation, normalization, food inspection and quality control systems.	Food quality control course programmed for July 1993 (12 headquarters staff). Course on consumer safety programmed with PAHO for August 1993 (5 GTB staff).
	2. Development of four proposals in areas of food safety and consumer orientation.	Two proposals in development: street vendors and consumer protection.
	3. Search for financing for four technical cooperation proposals in the areas of food safety and consumer orientation.	To be carried out.
	4. Development and testing of two manuals on analysis, sanitary, chemical and nutritional control of foods.	Development of manual on chemical control of food begun. Objectives and content of manual have been defined.
	5. Development and testing of materials for consumer orientation.	Educational material developed and tested with journalists. Educational manual for children was developed, which should be tested.
	6. Implementation of food composition tables, including traditional foods.	Coordination with other regional institutions was initiated to utilize their experience and information in this area.
	7. Development and testing of software to analyze food consumption and development of regional feeding guides.	To be carried out.

OUTPUT: III. Strengthen Financial Resources Development Capabilities.

SUB-OUTPUT: (1.) Develop and implement Financial Resources Development Plan and Strategies.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(1.) Financial Resources Development and cost recovery plans completed and implementation begun.	1. Conduct a financial resources study and introduce Endowment Fund concept to INCAP.	a. Consultants retained to conduct study. Study completed September 1992. b. Work plan developed to implement study's recommendations. Plan completed October 1992. c. Endowment Fund plan developed and presented to PAHO. Plan approved, November 1992. d. Endowment Fund plan also presented to World Bank, IDB, and UNDP.
	2. Develop and implement plans for establishing the Endowment Fund for sales of services.	a. Consultants retained to work on Endowment Plan, January 1993. b. Endowment Fund proposal submitted to BCIE, February 1993.
	3. Develop plan for developing and the financial management of benefit centers.	Consultants retained April 1993 and are working with Administration on developing procedures. The goal is to have the benefit center concept fully in place starting January 1994.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
	4. Design and implement promotional activities to support financial resources development.	a. Promotional material supporting the plan - Annual Report (English and Spanish versions; Promotional presentation material - handout folder and pamphlet (both in Spanish and English), press releases, video (being shot at time of evaluation). One week workshop in Honduras on Social Communication and a one week workshop for the Press in progress. b. Promotional visits - Eight visits to Washington DC, New York, Michigan and Central American countries. c. Society of Friends of INCAP established - Work Plan for establishing Friends of INCAP completed. Defining the structure in process. d. Other - El Salvador and Panama will present special national awards to INCAP.
	5. Organize and conduct donors meeting.	Planning in process for donor meeting to be held in November 1993.
	6. Organized and conduct INCAP's annual scientific meeting	Meeting scheduled for September 1993.

OUTPUT: III. Strengthen Financial Resources Development Capabilities.

SUB-OUTPUT: (2.) Staff Financial Resources Development capabilities improved.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(2.) Staff upgraded in market/demand analysis and client-oriented needs assessments; promotion, communications and marketing; project development and negotiation; and fund raising and communications.	1. INCAP's marketing of services report.	a. Preliminary market and cost analysis of products and services in process.
		b. Study and analysis of sale of services, production and installed capacity in process.
		c. Implementation of sale of laboratory, training and technical assistance services to food industries in Guatemala in progress.
		d. Fortified cookie technology transfer in Honduras and El Salvador.
		e. Central American course in food sensorial analysis implemented.
	2. Social strategic marketing plan developed.	Communication plan formulated and 5 brochures on INCAP's institutional development profile in printing.
	3. Refurbishing and maintenance of installations and equipment.	a. Pilot plant refurbishing contract in bidding process.
		b. Sensorial analysis laboratory operating and refurbishing of analytic laboratory services in process.

ANNEX 4: Annual Work Plan Outcomes, Continued

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
	4. Technical and economic feasibility of projects identified for "sales of services".	Database of technologies developed by INCAP in process.
	5. Quality seal creation and approval.	In process
	6. Institutional policy on registered trade marks and patents.	Not initiated
	7. Patents developed by INCAP registered at country level.	Study on current status of patents, trademarks and contracts at country level in process.
	8. Institutional portfolio of projects developed and updated to support the negotiation and obtainment of funds.	Technology inventory in process.

OUTPUT: III. Strengthened Financial Resources Development Capabilities.

SUB-OUTPUT: (3.) Need for and feasibility of establishing an INCAP endowment fund fully analyzed.

Objectively Verifiable Indicators	Annual Work Plan Outcomes	
	Planned	Accomplished
(3.) Endowment fund feasibility analysis completed and endowment fund strategies developed.	1. Review and discussion of potential trustee institutions.	Draft agreement presented to BCIE in February 1993.
	2. Establishment of the endowment trust fund with the initial contribution.	Draft agreement expected to be approved by BCIE at the end of June 1993.
	3. Monitoring of the trust fund's operation.	To be done.

ANNEX 5

STABILITY ANALYSIS OF GTB PROFESSIONAL PERSONNEL FROM AUGUST 1990 TO MAY 1993

IISP Mid-term Evaluation - May 1993

BELIZE

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Reneau, Lilian					July-December 92

COSTA RICA

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Bejarano, Julio					
02	García, Pedro					April-December 92
03	Gross, Socorro					October-December 92
04	Martorell, René Sebastián					
05	Rojas, Zyllyham					May-December 90 Jan-November 91

EL SALVADOR

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Cerón, Vilma					
02	Claros, María Elena					
03	Merino, José Gerardo					
04	Montes, José Adán					
05	Rivera, Tito					

GUATEMALA

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Arrivillaga, Rebeca					
02	Artunduaga, Luz Angela					
03	Galindo, Mara de					
04	García, Arnoldo					
05	García, Clara Aurora					
06	Hidalgo, Edgar					to June 30, 1991
07	Ibáñez, Eduardo					
08	Pineda, José Francisco					to June 30, 1991
09	Praun, Alexandra					
10	Puac, Víctor Oswaldo					to January 30, 1991
11	Quintana, Germán					to November 30, 1991

HONDURAS

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Dávila, Miguel					
02	Elvir, Julia					
03	Gallardo, Leonel					to March 1993
04	Hernández, Adriana					Nov - Dec 1992
05	Mejía, Hilda Fanny					October-December 1992

NICARAGUA

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	Arrivillaga, Rebeca					
02	Esquivel, Ilka					From May 1, 1993
03	Herrera, Nubia					
04	Palmieri, Mireya					May - December 1992

PANAMA

#	NAME	1990	1991	1992	1993	OBSERVATIONS
01	De Gracia, Manuel					
02	Esquivel, Ilka					to April 30, 1993
03	Ramírez, Max					
04	Valdez, Victoria					August 30, 1992