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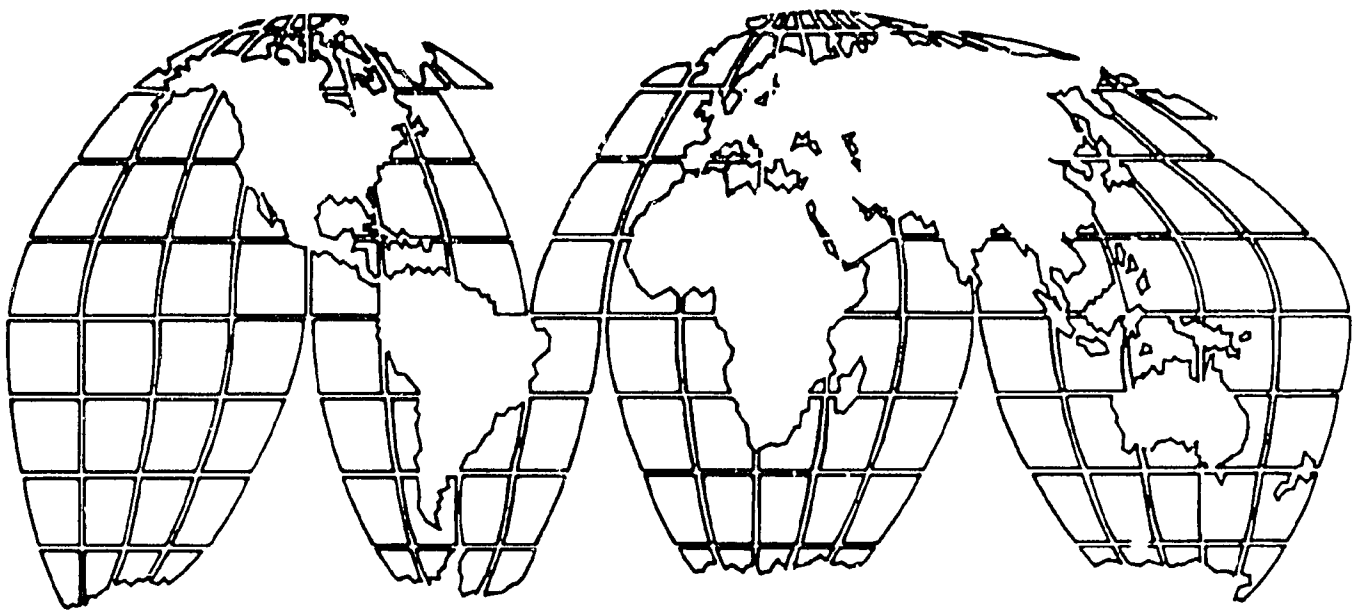
# Sustainability of U.S.-Supported Health, Population, and Nutrition Programs in Guatemala: A Review of Nutrition Projects (1967-1987)



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Sustainability of U.S.-Supported Health, Population, and Nutrition Programs in Guatemala: A Review of Nutrition Projects (1967-1987)

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## 1. OVERVIEW

Malnutrition is a significant health problem in Guatemala. National nutrition surveys since 1965 have found that over half the population suffers some degree of malnutrition. Protein-calorie malnutrition, vitamin A deficiency, iodine deficiency, and iron and folate-related anemias have been identified as the major nutrition problems (INCAP 1969, Arroyave 1979, Westinghouse 1987). Although reliable national data are not yet available on current levels of malnutrition, most studies suggest a deteriorating trend in the 1980s. In particular, anthropometric indicators suggest that during the 1970s increasing numbers of children had low weight for height and that during the 1980s vitamin A deficiency and endemic goiter have been on the rise. (Sazo and Leopoldo 1987).

One of the major institutions concerned with nutrition in Guatemala is the Nutrition Institute of Central America and Panama (INCAP). With the exception of the PL 480 program, A.I.D. has supported nutrition projects primarily through INCAP. However, many other projects, in both health and other sectors, have nutrition components or are likely to have an impact on nutrition. This study focuses only on projects implemented by INCAP and whose objectives were to bring nutrition benefits directly to the Guatemalan population. Also excluded from this study is an analysis of the indirect impact of the many research projects whose published results have had significant influence on general knowledge in the nutrition field and have shaped thinking about nutrition projects throughout the world.

INCAP was founded in 1949 through an agreement of the Central American nations and Panama, with support from the Kellogg Foundation and the Pan American Health Organization (PAHO). With an original focus on research and training, INCAP was a center for internationally recognized studies on the relationship between nutrition and infection. INCAP was also the major training center for professional nutritionists in the region, affiliated in recent years with the United Nations University.

Beginning in the late 1960s a growing interest in more direct activities led to the strengthening of the Division of Applied Nutrition and increasing INCAP involvement in promoting nutrition planning and specific programs to improve nutrition levels in member countries. First Kellogg and later A I.D., through the

Regional Office for Central American and Panama (ROCAP), provided additional grants to expand the division, which by 1976 had eight professionals. This process of shifting institutional priorities from support of research and training activities to direct involvement in applied nutrition activities continued throughout the 1970s and was given a major push in the early 1980s with additional A.I.D. support.

After the initial Kellogg grants, INCAP relied on PAHO/World Health Organization(WHO) funding for most of its core institutional support, until recently when A.I.D. assumed increasing financial responsibility in this area. In 1983, PAHO provided 38 percent of INCAP's $3.3 million budget; member countries provided 9 percent; and specific projects, including A.I.D., UNICEF and several European bilateral projects, provided 47 percent of the yearly budget (Project Paper, Project No. 596-0104).

As a regional institution, INCAP provides services and studies for all its member countries. Its efforts, until recently, have been focused primarily on Guatemala, Honduras, and El Salvador. However, under the current PAHO Central American regional initiatives and supported by significant A.I.D. and UNICEF funding, INCAP has assumed new regional responsibilities, providing permanent technical assistance to the member countries, including coordination of the child survival projects of PAHO, UNICEF, AND A.I.D.

Past major INCAP projects supported by A.I.D. in Guatemala have included three central research projects (Growth and Development, Solola, and Patulul); three fortification projects (Salt Iodinization, Vitamin A Fortification of Sugar, and Corn Fortification); a major Ministry of Health pilot project, the Integrated System of Nutrition and Primary Health Care (SINAPS), implemented in selected communities in the ladino eastern provinces; and support for nutrition planning efforts in the Planning Commission and the Ministry of Health. A recipient of many grants from the National Institutes of Health, National Science Foundation, and Rockefeller and Ford Foundations, INCAP has also implemented many research projects in microbiology and human development.

## 2. PRIOR CONDITIONS AND PROJECT INPUTS

As a regional institution, INCAP initially became involved in several project activities in Guatemala prior to receiving direct A.I.D. funding. Two significant and enduring contributions of

INCAP before A.I.D. began providing direct institutional support in the 1980s are its prolific technical research projects in nutrition and the professional training of nutritionists. These nutritionists have been employed in hospitals, schools, research institutions, and other health and nutrition services and some occupy important policy and planningposts in government services. Many INCAP-trained professionals served as resources for later A.I.D. projects. Although INCAP continues to provide some professional training, many of the member countries have incorporated nutrition training in their health professional schools. In Guatemala, the University of San Carlos now offers the bachelor's degree in nutrition.

A.I.D. has provided support for a series of small projects (see Table F-1), including vitamin A fortification of sugar, soy bean oil fortification of corn, demonstration trials of a highly nutritious corn hybrid, and development of a functional nutrition classification system. (Arroyave 1979, INCAP 1976). These projects provided financial support to INCAP professionals for research and promotion of fortification policies and utilization of hybrid corn.

Another major type of A.I.D. project support was that provided through the Regional Nutrition project, which financed INCAP technical assistance to support nutrition planning programs in each country in Central America. In Guatemala, this project resulted in the establishment of a two-person nutrition planning unit (with professionals salaries initially funded by A.I.D.) in the National Planning Commission. The project also provided technical assistance in support of this unit's efforts to design a national nutrition plan.

During the 1980s, A.I.D. began providing core institutional support for INCAP through the Regional Nutrition Technical Outreach project, an $8 million regional child survival project that began in 1985, and a project to provide technical assistance to food aid programs (a $5.6 million project with PL480 funds). These projects were responsible for strengthening INCAP's capacity to provide permanent technical assistance to each of the countries in the region. Based on this new capability, INCAP has been able to coordinate additional regional projects of A.I.D., PAHO, and UNICEF, in particular the major child survival project initiatives in oral rehydration, growth monitoring, immunizable diseases, health and nutrition education, and breast-feeding. These regional projects have had specific Guatemalan components, especially in oral rehydration therapy, breast feeding and immunization programs of the Ministry of Health's Division of Maternal and Child Health. INCAP has provided technical assistance and has assessed the institutional needs and in-service training required for these activities. A reasonable estimate of expenditures of the these projects in Guatemala is $3.72 million.

Table F-1. Major A.I.D.-Supported INCAP Nutrition Projects With an Impact in Guatemala

| Project Number | Title | Dates | Amount[a] ($ millions) |
|---|---|---|---|
| **Past Projects** | | | |
| CA-C-1225 | Sugar Fortification | 1967-1968<br>1975-1979 | .5+ |
| CSD-3357 | Corn Fortification | 1971-1976 | .6 |
| 596-0065 | Regional Nutrition Project | 1976-1981 | 3.5 |
| 932-0631 | SINAPS | 1979-1982 | 1.1 |
| TA-C-1342 | Corn Hybrid Project | 1981-1982 | 2.8 |
| 596-0104 | Regional Outreach Project | 1981-1985 | 1.8 |
| | Nineteen Misc. Small Projects | 1973-1986 | 2.9 |
| | Total | 1967-1986 | 13.2 |
| **Current Projects** | | | |
| 596-0115 | Oral Rehydration Therapy, Growth Monitoring, and Education | 1984-1989 | 8.0 |
| 596-0116 | Technical Support for Food Aid Programs | 1985-1990 | 5.6 |
| | Six Misc. Small Projects | 1985-1990 | 1.0 |
| | Total | 1984-1990 | 14.6 |
| **Estimates of INCAP Expenditure of A.I.D. Funds in Guatemala** | | | |
| | Past Projects in Guatemala Only | 1967-1986 | 7.85 |
| | One-fifth of Past Regional Projects | 1976-1986 | 1.06 |
| | Total | 1967-1986 | 8.91 |
| | Current Projects in Guatemala Only | 1985-1990 | 1.0 |
| | One-fifth of Current Regional Projects | 1985-1990 | 2.72 |
| | Total | 1985-1990 | 3.72 |

[a]Amount includes only the nutrition component of projects.

## 3. SUSTAINABILITY

In the past, A.I.D.'s support of INCAP projects was more for technical assistance, short-term training, and dissemination of technical information on project-related activities and less for research and training of nutrition professionals. Before A.I.D. began providing core institutional support, INCAP was primarily a research and professional training center. A.I.D. can take some responsibility for shifting INCAP's orientation toward applied nutrition and the provision of continuous technical assistance to each member country.

The nutrition benefits of these projects to Guatemala, however, are hard to measure. Nutrition levels have actually worsened since the 1970s. INCAP's contribution may have been in preventing the situation from becoming even worse.

The direct impacts of the major nutrition planning efforts of the 1970s are also very difficult to measure. Guatemala's National Nutrition Plan, supported by A.I.D.'s Regional Nutrition project, was successfully prepared and approved. A small team of nutrition planners continues to operate in the National Planning Commission. There is, however, a general consensus among informants that the plan and the planning unit have had little impact on nutrition activities and programs (Grueso 1985). These nutrition planning activities, therefore, can be considered not to have been sustained because there is little evidence that the planning activities, although they are continuing, are producing desired benefits.

The SINAPS demonstration project, which was a primary health care delivery project with reinforced nutrition components, was not sufficiently sustained after the life of the project (Leichtig 1982). SINAP's methodology and some of its training materials were incorporated into a follow-on Rural Health Promoter Training Research project (PRINAPS) which was implemented by the Ministry of Health with some technical assistance from INCAP. However, INCAP informants indicate that very little of the project was actually sustained. The pilot project never became a model for Ministry of Health extension of its primary care services. Even in the areas where the project was implemented, interviewees commented that MOH officials have generally failed to continue SINAPS activities following the end of the project.

Two of the A.I.D.-supported fortification projects were somewhat more successful: the sugar and corn fortification projects. The vitamin A sugar fortification project supported

the development, management, and evaluation of sugar fortification in the country. The project was relatively successful in increasing the levels of vitamin A in the population in the 1970s. Nevertheless, according to interviews, shortly after the funding stopped and the Government assumed responsibility for monitoring compliance, the sugar companies evaded the regulations requiring fortification for several years. However, under the current Government, the regulations are being enforced, and the benefits of the project are likely to continue. Although this project is now being sustained, its suspension for several years following the termination of A.I.D. funding suggests a significant vulnerability that is consistent with the nonsustainability of the other INCAP nutrition projects.

The corn fortification project was also largely part unsustained. The tortillas made with the soy-fortified corn were unacceptable to the population for a variety of reasons, and the project's fortification activities were abandoned following termination of the research project. Nevertheless, the methodology developed to fortify the corn was later adopted by the Ministry of Education and used to fortify cookies in the school lunch programs.

The demonstration project that utilized Nutricta, a high-lysine corn hybrid, developed from an INCAP research project on child development. The hybrid project was a joint endeavor with the Center for the Improvement of Corn and Wheat (CIMMYT) in Mexico and the Institute for Agricultural Sciences and Technologies (ISTA). Use of this hybrid significantly improved nutrition levels on large commercial farms of the south coast, and since the project was terminated, the corn has been promoted by ISTA for use throughout Guatemala.

It should be noted that the sustainability of INCAP as an institution was itself under question during the late 1970s. Sources of funding for its traditional activities in research and training were becoming scarcer, and PAHO and A.I.D. required shifts in INCAP priorities as a condition for further assistance. An evaluation of INCAP conducted during the late 1970s found that four of the five member countries believed that little would be lost if INCAP had to close.

In conclusion, very few of the A.I.D.-supported INCAP nutrition programs, except the modestly sustained sugar and corn fortification and corn demonstration projects, have had enduring activities and benefits after project funding ended.

# 4. CONTEXTUAL FACTORS

## 4.1 Natural Disasters

Although the earthquake occurred during implementation of the sugar fortification project and at the end of the corn fortification and hybrid projects, its impact on the continuation of these projects does not appear to have been significant.

## 4.2 Political Environment

Political changes have had considerable effect on the sustainability of most of the nutrition programs in Guatemala. Although nutrition is generally an issue with low political priority, some specific interventions such as the sugar fortification program did have high visibility for important political forces in Guatemala.

Sugar companies are a major political force in Guatemala. During the 1980's they appear to have been successful in convincing the military governments to suspend enforcement of fortification regulations. Under the current democratic government, the sugar companies may have less direct access to policymakers. However, it is premature to suggest that this change implies that democratic governments are more likely to sustain nutrition programs than are military governments. It was, after all, during the rule of a military government that the fortification project was initiated.

The SINAPS project was also affected by political changes. In many respects, SINAPS reflects characteristics found in other projects to favor project sustainability. In particular, the project involved intensive negotiation at several levels in the Ministry, involving many individuals who would have been important in implementing the expansion of the pilot project. However, almost all these technical officials were removed after the Rios Montt coup in 1982, thus severely inhibiting the potential for the project's continuation.

In addition, there may have been a nationalistic element in the Guatemalan Government's response to INCAP. INCAP has been viewed as primarily a foreign-oriented research organization, a perspective that has reportedly led to friction between INCAP and Government agencies. However, INCAP is also viewed with pride as a prestigious Guatemalan institution. This prestige

and the shift in orientation from research toward technical assistance are likely to have moderated the current effect of this nationalistic response.

## 4.3 U.S.-Guatemalan Relations

INCAP's position as a regional institution is likely to have buffered it from the effects of the general cooling of relations between the United States and Guatemala in the late 1970s. It is now likely, however, that INCAP enjoys significant A.I.D. support because of the current U.S. interest in the entire region.

## 4.4 Socio-cultural Context

Sociocultural factors such as ethnic inequality and low levels of education were unlikely to have been an important barrier to acceptance of nutritional changes. Sugar fortification did not change the taste of the sugar andtherefore did not elicit a negative response among any particular ethnic or class group. The rejection of the taste of the soy-fortified corn appears to have been universal and not to have been related to ethnic preferences.

Finally, there is no reason to believe that the SINAPS methodology that was applied in the ladino communities would not also be generally effective in the indian communities. Indeed, INCAP provided technical assistance for a similar project, PRINAPS, a current A.I.D.-funded Ministry of Health pilot project being implemented in the highland indian communities.

## 4.5 Economic Context

Economic changes that have brought greater commercialization of agriculture and an increasing emphasis on production for export rather than production of basic foods, as well as the general deterioration of the economy during the 1980s, are likely to have contributed to the increases in malnutrition observed in recent years.

The severe recession of the early 1980s might have had an effect on the continuation of two of the nutrition projects. The suspension of sugar fortification and the end of the SINAPS project both occurred during this recession. The sugar companies suffered a significant blow because of the decline

in the price of sugar during this period (one major company had to close). At the time, to make up for the loss in domestic production, unfortified sugar was imported from El Salvador, undermining the effort to control the market and to impose the sugar fortification regulation on national producers.

The end of SINAPS also coincided with the recession and the concomitant decline in Ministry of Health budgets. This budgetary restriction might explain the Ministry's reluctance to expand the pilot project into other areas.

It is not clear whether the failure of nutrition planning was related to the decline in the economy or to problems of the National Planning Commission. Although project activities continued to be funded, they also continued to be ineffective.

## 4.6 Private Sector

The vitamin A sugar fortification project depended greatly on private sector involvement because the sugar companies were responsible for the sugar fortification. Although sugar companies were initially cooperative, resistance to the program grew as a result of changes in their economic condition. Their resistance at a political level led to suspension of enforcement of project activities during the 1980s.

Private sector adoption of the Nutricta hybrid corn appears to have been a positive contribution to continuing project benefits.

The private sector has had little contact with the national nutrition planning process.

## 4.7 Implementing Institutions

Most of the projects examined here were implemented by private sector organizations (sugar companies), the Ministry of Health (SINAPS), or the National Planning Commission (nutrition planning), using INCAP as a technical assistance intermediary.

As noted above, INCAP began as a research and training institution, and the legacy of this orientation has inhibited its effectiveness in applied nutrition projects while also generating some nationalistic resistance to what is perceived to be foreign institution producing more benefits for foreigners than for Guatemalans. This situation may be changing, however, as INCAP engages more in providing technical assistance.

The private sugar companies that implemented the vitamin A fortification program are a diverse group of enterprises. Their centralization in a small but powerful association facilitatedimplementation of the project, but it also facilitated the companies' political opposition to the fortification regulation.

The Ministry of Health has not been particularly supportive of general nutrition projects. There are some clearly conflicting goals within the Ministry. Physicians are not particularly interested in nutrition issues or activities, which they seldom perceived to be a part of their health responsibilities. The Department of Nutrition, which was once under the Division of Maternal and Child Health (when that division was strong and the recipient of major donor support), has been moved several times within the Ministry of Health. It is currently attached to the Director General's office and has few responsibilities.

SINAPS, however, because it was a primary health care project, gained some support within the Ministry of Health. SINAPS worked through the existing Ministry of Health infrastructure in the three areas in which it was implemented. This infrastructure and the other levels within the Ministry that approved and supervised the project all suffered from the same debilities that characterize the Ministry as an institution: overcentralization, fragmentation, low personnel skill levels, and complex, conflicting goals that tend to overwhelm primary health care programs.

The SINAPS project was particularly affected by the turnover of officials that occurred following the 1982 Rios Montt Coup. Most of the officials at the top and even the technical levels who were involved in the project design and early implementation were removed. These changes left SINAPS without major institutional support at the end of the project.

The National Planning Commission has supported nutrition planning, but it has not been particularly effective in imposing its plans on the health sector. As a multisectoral activity, nutrition programs further suffer from the inability of the National Planning Commission to enforce multisectoral coordination among several ministries. The nutrition planning unit has had stable leadership since its establishment; however, this stability does not appear to have enabled the unit's leaders to develop nutrition plans that would serve as effective guides to implementable nutrition programs.

### 4.8 Other Donors

PAHO support, which has been crucial for core INCAP activities, has been declining since 1979. A.I.D. has now become the largest single funding source for INCAP, although INCAP still has access to other sources of grant funding, albeit at lower levels than during the 1970s. It may be that A.I.D. funding, by coming as other donor funding was declining, has contributed to the sustainability of other INCAP activities; however, it is not clear from our cases that the sequencing of follow-on support from other donors would have an effect on the sustainability of A.I.D.-supported projects.

### 4.9 National Commitment to Project Goals

Nutrition has generally had low Government priority, particularly in the Ministry of Health. Even when incorporated in a primary health care program such as SINAPS, nutrition activities did not receive significant national commitment. This lack of national commitment may be a critical element explaining the lack of sustainability of these projects.

The fact that sugar producers successfully opposed the sugar fortification project suggests that a lack of consensus on this issue had a particularly adverse effect on the sustainability of the project.

## 5. PROJECT CHARACTERISTICS

### 5.1 Project Negotiation Process

Project negotiations with the Guatemalan Government were conducted with INCAP in the role of the major counterpart organization which has tended to avoid any appearance that the projects were imposed by A.I.D. However, INCAP has also been perceived as a foreign-oriented institution, and some observers have felt that INCAP tecnical assistants tended to impose their own views as technical experts.

Nevertheless, the negotiation process for the A.I.D.-supported INCAP projects was largely one of mutual respect. The negotiation for the sugar projects was a carefully designed process involving INCAP promotion of the project with the President, the Guatemalan Congress (which approved the

regulations), and the private sugar companies. The different interests of these important actors were taken into account during the process.

The SINAPS project was well designed, with ample participation by the director and subdirector of health services, the chief of human resources, and the INCAP director and project manager, although higher levels in the Ministry may have been somewhat negelected.

The corn fortification and hybrid projects were an exception to this tendency. They were designed as research projects and did not involve a positive negotiating process with the Government.

## 5.2 Institutional Organization and Management

### 5.2.1 Vertical versus Horizontal Design

Generally, INCAP project in Guatemala have been implemented as vertically organized projects. Even SINAPS, which was integrated into Ministry of Health facilities, was integrated only at local and regional levels and was targeted to a limited population. The sugar fortification project, however, was well integrated into the sugar production process, and the sugar fortification requirement was incorporated into the legal structure of the country.

### 5.2.2 Administrative

The sugar fortification project had stable INCAP management, general support from the sugar companies until the 1980s, and Ministry of Health support through the Department of Human Resources, which provided trained inspectors to enforce the sugar fortification regulation. Following the end of the project, management of sugar fortification program changed, however.

INCAP leadership in applied nutrition was quite stable during the period of the Regional Nutrition project and may have been responsible for the establishment of planning units and nutrition plans in most of the member countries.

Although the project management and the Ministry of Health counterparts for SINAPS were stable during most of the implementation period, Government managerial support declined

significantly when the Ministry officials were removed after the Rios Montt coup. It is likely that this management instability was a major reason for the lack of sustainability of SINAPS.

Current INCAP leadership provides institutional stability since the leadership has been drawn from long-term INCAP professionals. ROCAP counterparts are also long-term participants in INCAP programs.

### 5.2.3 Administrative Systems and Training

No formal subcomponent of A.I.D. nutrition related projects in Guatemala, at least until the recent child survival projects, addressed administrative issues. Had more attention been given to administrative systems and training in the nutrition planning projects and in SINAPS, their prospects for sustainability might have been improved.

## 5.3 Financing

### 5.3.1 National Absorption of Project Costs

The recurrent costs of nutrition planning activities (i.e., the salaries of nutrition planners) were initially funded by A.I.D. and were absorbed by the National Planning Commission during the life of the project.

SINAPS was designed to be implemented entirely by the existing Ministry of Health infrastructure; therefore, the system established under the project was not expected to require an increase in Ministry of Health financing after A.I.D. funding ended. INCAP was to provide technical assistance and fully fund the research aspect of the project. In some cases, this additional technical assistance might have had an impact on the project that would have required additional funding in order for the activity to be continued. In addition, small salary incentives were given to the area chiefs in the three areas of the project. Although these incentives were not continued after the project ended, the participants in the project do not think that this small incentive had much effect on project sustainability.

### 5.3.2 Foreign Exchange Requirements

Most of the INCAP nutrition projects had few foreign exchange requirements. However, the sugar fortification project required imported vitamin A supplies. During part of the period of nonenforcement, foreign exchange for the purchase of Vitamin A was denied by the Government. This constraint, however, is not believed to have been crucial to project sustainability, however. Had the sugar companies exerted their considerable pressure, the Government probably would have made foreign exchange available.

### 5.3.3 Trade-Offs Among Government Priorities

Nutrition projects never gained enough support to require the government to make any trade-offs with other national programs in order to support nutrition projects.

### 5.3.4 Cost Recovery

Only the sugar fortification project had a cost-recovery component. It was designed so that sugar companies could pass on the costs of fortifying the sugar to the consumer without significantly raising the cost of sugar (Arroyave 1979). According to information derived from interviews, however, companies used the additional cost as an argument for suspending the regulation.

### 5.3.5 Cost-Effectiveness

Although it is extremely difficult to measure the cost-effectiveness of these nutrition projects, it is generally believed that the vitamin A project and the corn fortification and hybrid projects provided cost-effective technologies that significantly improved the targeted nutrition deficiencies of the population. The nutrition planning activity, however, did not produce appreciable benefits and therefore is not considered to have been cost-effective. Implementation of the SINAPS project was considered cost-effective as long as the research component was excluded from the calculations.

Many observers have their doubts about the overall benefits that derived from INCAP projects. One high-level INCAP

official, after presenting a review of these projects, concluded that a lot of money had gone into INCAP with very little to show for it.

## 5.4 Project Content Aspects

### 5.4.1 Project Design

The goals and activities of nutrition planning projects have generally tended to be vague. However, the goals and objectives and the project designs of the sugar fortification, SINAPS, and the current regional outreach and child survival projects have been well defined. The more clearly defined projects appear to have been more successfully implemented and, in the case of the sugar fortification project, better sustained.

### 5.4.2 Training

Training of nutrition professionals was not supported by A.I.D. until the recent projects, which have some professional training components. The SINAPS project did have a significant training component for its intended beneficiaries and provided some training for the Ministry of Health implementing staff.

### 5.4.3 Personnel Incentives

Personnel incentives provided under the SINAPS project were not continued after the end of A.I.D. funding; however, these incentives, which were quite small, were granted only to three area chiefs, so their effect on project sustainability was likely to have been small.

### 5.4.4 Technical Assistance

Technical assistance is the major activity of all INCAP projects. Most technical assistance has been long term, but short-term technical assistance was also provided periodically in support of various planning activities.

### 5.4.5 Appropriate Technology

In most cases, it appears that the technology for applied nutrition projects was appropriate; however, it may be that the emphasis on nutrition planning was inappropriate since plans were produced but never implemented.

## 5.5 Community Participation

Few nutrition projects have involved community participation. The SINAPS project, which included considerable community participation, was not sustained.

## 5.6 Project Effectiveness

The sugar fortification project and SINAPS were considered to have been very effective during implementation. Despite their effectiveness, however, the vitamin A fortification activity was suspended for a significant period and SINAPS was not sustained. Although the national planning projects did produce planning documents, they were never effectively implemented. It appears, therefore, that even if effective nutrition projects may not be sustained.

# 6. SUMMARY

Nutrition projects that were implemented through INCAP seem to have been particularly vulnerable. Visibility of the INCAP nutrition projects among beneficiaries was not very high, and therefore projects did not generate the same demand for services as did water and curative health service projects. Nor have nutrition projects gained significant national commitment, which has made them vulnerable to political attack and to changes in Ministry of Health personnel involved in the projects. These contextual factors seem to have been particularly crucial in inhibiting the continuation of nutrition project despite other positive characteristics of these projects which have been associated with project sustainability in other cases, such as effectiveness, national absorption of costs, and good implementing organization.

INCAP nutrition projects have also been characterized by several controllable, project-related factors that may have contributed to their failure and could be changed in future

projects. Projects tended to be vertically organized and not well integrated into the institutional life of the health sector. Several projects did not have clearly defined goals. A lack of appropriateness of the technology may also have contributed to the lack of sustainability of the nutrition planning project.

It should be noted, however, that some of the current projects have taken these factors into account in ways that may contribute to their future sustainability.