# AGRICULTURAL INPUT DELIVERY PROJECTS

---

## A REVIEW OF A.I.D., OTHER DONOR AND P.V.O EXPERIENCE IN NON-SUBSIDIZED, PRIVATE SECTOR SYSTEMS.

---

ALEXANDER J. EUCARE, JR

---

UNITED STATES
AGENCY FOR INTERNATIONAL DEVELOPMENT

DECEMBER 11, 1986

TABLE OF CONTENTS

## BACKGROUND

This report is the summary of research, interviews and analysis concerning private sector initiatives as regards A.I.D. agricultural programs. Preliminary efforts centered upon documentation held by A.I.D. and World Bank libraries and the Industrial Development Bank data base. Primary efforts focused on approximately fifteen interviews with federal and private sector professional representatives who held a private sector perspective and orientation in their positions. The interviews provided substantive leads to articles, reports, and organizations which, in the final analysis, form the basis of this report. See Appendix A - Interviews.

The interviews confirmed early discussions with the Project Officer, which surmised that pattern analysis of documentation on selected projects would not be as productive as proceeding with the interviews. The basis for this shift in source material results from the following experience. Using the A.I.D. Development Information System, 307 projects were initially identified (as fulfilling the "private enterpise criteria) using three descriptors (agricultural enterprise, private enterprise, and agribusiness enterprise). Comparison of the three for presence of the private sector descriptor in each of the 307 projects reduced the aggregate to 41. This smaller group was further refined to 20 based on availability of microfiche files. However, illegible hard copy or unavailability of documentation for the selected projects made this approach untenable.
See Appendix B - A.I.D Projects Documentation.

# BENEFITS OF AND IMPEDIMENTS TO PPOVIDING ASSISTANCE THROUGH NON-GOVEPNMENTAL OPGANIZATIONS: A PEPOPT TO CONGPESS.

U.S. AGENCY FOP INTEPNATIONAL DEVELOPMENT

SEPTEMBEP 1986

## PUPPOSE OF THIS PEPORT

This report demonstrates the efficiency of using the private sector to achieve economic growth in Less Developed Countries (LDCs) and discusses additional ways in which U.S. development assistance might be provided abroad through the use of PVOs, cooperative, and private for-profit organizations.

## INTPODUCTION

Since the onset of U.S. assistance efforts abroad, non-governmental organizations have played a pivotal role in carrying out development programs and projects in the Third World. Non-governmental organizations have been, and continue to be, used to execute development projects. In virtually every area of assistance activities, the Agency for International Development (A.I.D.) has drawn, and is drawing, on private sector institutions (such as private enterprises, cooperatives, and private and voluntary organizations (PVOs)) to execute its economic assistance programs (ranging from providing technical assistance to credit to economic policy advice). (And, of course, most of the commodities and equipment finance by A.I.D. funds have come from U.S. private firms.)

Despite that reality, throughout most of A.I.D. and predecessor agency history, the assistance effort in developing countries has been focused on or through government institutions. The basic bilateral agreements governing the provision of U.S. assistance have established a government-to-government framework that has shaped the program. Working relationships typically have been between U.S. government officials in A.I.D. and working with counterparts in host country ministries.

A.I.D. instituted a "Private Sector Initiative" in 1981 based on the belief that greater reliance on private enterprise, individual initiative and entrepreneurship, the encouragement of competition, and a reliance on market forces to guide economic program is essential for sustained, equitable growth in the Third World. A.I.D. delineated its policy framework for dealing with and developing the Less Developed Countries (LDC) private sector in the Agency's Policy Papers on Private and Voluntary Organizations (September 1982), Private Enterprise Development (revised, March 1985), and Cooperative Development (April 1985).

Effective use of private for-profit organizations for delivery of assistance obviously requires host government attitudes and policies that permit these organizations to functions effectively. The private sector, as discussed in this report, refers to non-governmental institutions such as private, for-profit enterprises (including intermediate financial institutions); cooperative; PVOs; and other non-governmental organizations (such as business associations and foundations).

## MAJOR CONCLUSIONS

A.I.D. has made substantial progress in the past six years in demonstrating it is serious and committed to the notion that a vigorous private sector is key to development by redirecting many of its resources, programs, and personnel toward market-oriented, private sector activities.

A.I.D.'s private sector program has registered many real and lasting successes, and has laid a foundation that positions the Agency for additional gains in LDC economic growth. Based upon A.I.D.'s experience with the Private Sector Initiative over the past six years, the conclusions developed are as follows.

1. The private sector is a powerful and efficient vehicle for provision of assistance in many situations.

2. Comparisons made in a wide range of fields in both developing and developed countries demonstrate that the private sector is more efficient that the public sector in producing and delivering goods and services.

3. In recent years, A.I.D. has attempted in major ways to break out of the government-to-government mode of delivering economic assistance. Its efforts are distinguished from prior private sector initiatives by:

   a) greater emphasis on creating an appropriate "climate" in recipient countries;

   b) greater use of U.S. non-governmental organizations; and

   c) greater use of indigenous non-governmental organizations as vehicles for development.

4. The A.I.D. emphasis is reflected in measurable expenditures allocable to efforts at promoting private enterprise in beneficiary countries, accounting for almost half of fiscal year 1985 expenditures.

5. Structural impediments to the increased provision of U.S. assistance through non-govenmental organizations and programs are both "external" ((host country) and "internal" (U.S. Government).

6. External structural impediments include weakness of the LDC private sector, and the absence of a policy environment favorable to private enterprise, problems of privatization, constraints of sovereignty risks associated with currency exchange, and perceptions of aid as a subsidy.

7. Internal structural impediments stem from U.S. foreign policy, Executive and Congressional dictates, organizational imperatives, and bureaucratic realities. They include: protracted program design and implementation procedures, legislative restrictions, cargo preference requirements, and procurement regulations.

8. Project design should be formulated on the basis of the host country's market conditions, not from the donor country's policy requirements.

## MEASURING PRIVATE VERSUS PUBLIC SECTOR BENEFITS AND EFFICIENCY

The appropriateness of the public versus the private sector should be determined on the basis of which sector is more likely to produce a higher level of economic efficiency, innovation, and incentive, and, therefore, the greater economic benefit. Experience has demonstrated that a private enterprise (rather than a wholly or partially state-owned enterprise or parastatal), operating in truly open and competitive environment, is usually the more likely to meet goals of economic efficiency and growth.

## ADVANTAGES OF THE PRIVATE SECTOR

Developing country situations vary greatly. Nevertheless, certain generic advantages may be stated. The principal reasons for providing assistance through non-governmental rather than governmental organizations are:

- Greater efficiency because of need and ability to compete in both quality and costs.
- In some cases, payment of part of the costs by users.
- Reductions in host governments' fiscal burdens as a result of greater efficiency and/or partial payment of costs by consumers.
- Less exposure to short-term political pressures and conflicts of interests.
- Greater ability to determine and respond to local end-user needs by private for-profit organizations with widespread local branches and by locally-based cooperatives and other locally-based organizations.
- Greater flexibility with regard to both initiations and termination than is the case with government bureaucracies.
- Strengthening of the private sector as a whole as a by-product of the use of private intermediaries for the provision of assistance.

## PRIVATE SECTOR BENEFITS AND EFFICIENCY IN DEVELOPING COUNTRIES

Contrasts between market-oriented, private sector and centrally-controlled, public sector approaches to development also support the efficiency of private sector as a promoter of economic growth. These contrasts are most apparent and startling when comparing the performance of Africa and East Asia.

In the 1950s, the stage of economic development in many African countries was comparable to that of Asian countries. Over the intervening years, however, most Asian countries adopted policies that encouraged domestic savings and investment and reliance upon the private sector, which led to growth rates among the highest in the world.

In contrast, many African countries leaned toward centrally-controlled economies following their independence in the 1960s. Poor management, excessive debt, government-determined prices, massive misallocation of resources, and other negative factors accompanied public sector interventions in the African economies. The socialist approach, coupled with the collapse of their commodity markets and agricultural productivity, lead to the collapse of many African economies.

As a result, many African countries are now considering moving away from socialism and toward a more capitalist economic system, and allowing the private sector to take its proper place in the development process. The actual adoption of policies that encourage private savings and investment (domestic and foreign) and the economic growth derived from the new policies will take time to occur.

PRIVATE FOR-PROFIT INSTITUTIONS

Development-related activities are found to be more productive and provide greater benefits when performed by the private sector. The prospect for enhanced profits is essential to the use of private for-profit organizations as channels for assistance.

Experience thus far indicates that prospect may be more widely applicable than has been assumed. Examples of A.I.D. experience include:

- A hybrid maize seed project in Kenya has succeeded in part because a private company, the Kenya Seed Company, reproduced, distributed and promoted the improved seed developed by A.I.D. throughout the country. In this manner, A.I...-sponsored research achieved exceptional effect in terms of increased food production. The private seed company utilized a network of private shopkeeper distributors who had sales that were unavailable to the government.

- No public service is given a more critical role in the development process than agricultural extension. The agricultural extension agent is supposed to be the transmitter of new technology and the instrument of agricultural transformation. Yet the virtually universal reality in developing countries is that public agricultural extension agencies function extremely poorly. It is especially difficult to recruit and retain trained and motivated staff for these agencies.

-The deficiencies of budgeting and the cumbersome financial administration, as well as the scarcity of non-salary budgets, mean that most extension services are poorly provided with equipment, especially vehicles. They are often short of fuel and spare parts, so that services are often impossible to perform. Moreover, long distances, bad roads, and poor communication make supervision and control of agents especially difficult.

- In Zimbabwe, private firms are promoting agricultural extension to small farmers with no fees, in the expectation of resulting increased fertilizer, seed, and other input sales, as well as increased product marketing opportunities. Similarly, in the Phillipines, 11 private firms are providing extension, processing, and marketing services to small farmers. The services include soil testing to assist in proper fertilizer application, farmer training classes, field demonstrations, radio programs, and a market information magazine. The result is useful services to producers without cost to the government beyond catalytic inputs. Initially, A.I.D. may usefully and at low cost stimulate such activities

- A.I.D. seed capital provided to core agribusinesses can lead to catalytic infusions of credit, technology, management skills, and marketing know-how to surrounding farmers from the business in its self-interest that will be dynamic forces for increased production at little cost to governments.

- In Bangaladesh, an A.I.D. fertilizer distribution project through the private sector has substantially increased both the use of fertilizer and food production with reduced costs to governments. Under the previous system, fertilizer distribution was managed by the government. The focus of the new system was to mitigate fertilizer market restraints so that anyone could be a fertilizer dealer, and to free prices to provide an incentive to private dealers. Under the new system, fertilizer use increased almost 50 percent in five years and tonnage of food grain production increased by almost 20 percent.

## COOPERATIVES

A.I.D. historically has been the major moving force behind, and financier of, U.S. cooperatives' international programs. These programs support the goal of the Foreign Assistance Act under Section III to increase "the participation of the rural and urban poor people in their countries' development".

An October 1984 study commissioned by A.I.D. reached the conclusions quoted below regarding the advantages of cooperatives, in certain circumstances, compared with both public sector programs and other private sector programs. A principal point is that cooperatives are able to reach poorer sectors of the population at the local level more effectively than public sector and other private sector programs, even though a basic requirement of a successful cooperative is that it must become financially self-sustaining.

- COMPARED WITH PUBLIC SECTOR PROGRAMS. Cooperatives offer lower costs to the member, compared with public sector programs, a result of a general absence of interest rate and operating subsidies, and the ability to reach populations that cannot be effectively reached by a centralized bureaucracy.

- COMPARED WITH OTHER PRIVATE SECTOR ALTERNATIVES. The major differences between cooperatives and non-cooperatives concern the population served, the direction of benefits, and the development of additional capabilities:

- Cooperatives generally serve a different population from that served by formal private sector alternatives. It is precisely because profit-oriented private institutions do not find it profitable to engage in the provision of services to individual poor farmers, small saving and lending programs, low-volume electrical hookup, and low-income housing that cooperatives are established.

- Private sector alternatives to cooperatives have few incentives to invest capital in human resource development among the client population.

The 1984 study also contains an extensive review of experience abroad with agricultural cooperatives, credit unions, housing cooperatives and rural electric cooperatives. This review shows that agricultural cooperatives and credit unions have been generally more dynamic and successful thus far than housing cooperatives and rural electical cooperatives. Housing cooperatives have encountered difficulties in generating sufficient fianacing at advantageous terms. Rural electrical cooperatives in poor areas typically have too low internal rates of return to assure financial independence, often due to a government supported judgement that electrification is as much a social as an economic good.

## Private and Voluntary Organizations

U.S. PVOs have worked overseas for many years, and their activities have increased markedly since World War II. One hundred and fifty six PVOs were registered with A.I.D. at the time of the writing of the A.I.D. Policy Paper on private and voluntary organizations in September 1982. This number has increased to 189 at present. To reflect the diversity of the private non-profit organizations, A.I.D. categorizes these organizations as cooperatives and credit unions, labor institutes, family planning organizations, non-profit consulting firms, traditional voluntary organizations (Volags), and other non-profit intemediaries.

## PVO Strengths

- Reach Rural Poor in Unserved, Inaccessible Areas. PVOs focus on small project areas which are often remote and hard to reach. They tend to concentrate on poorer communities, having few basic resources or existing infrastructure, where government programs either do not exist or are ineffective. The PVOs play a critical role in filling such service gaps.

- Promote Local Participation. PVOs work with community groups as partners, emphasizing local self-help initiatives and local control of programs. They tend to have long-term relationships with the people they serve, forging close bonds that engender support for their services.

- Low Cost. PVOs tend to use low-cost technology and streamlined services which, combined with low staff costs, and operate efficiently on low budgets.

- Adaptive and Innovative. PVOs adapt simple, often innovative, labor-intensive technology to local conditions. Because of their long-term relations with the communities in which they work and their flexibility, PVOs have become skilled in identifying the actual needs of project participants. They have tried a variety of approaches to credit, health delivery, agroforestry, training, and technical assistance and as a result have identified effective approaches to service and technical assistance delivery.

- Independent. PVOs frequently enjoy a special, non-partisan status locally. Being apolitical, they tend to have great acceptability to both local communities and the national government. This allows them to operate often in countries or in areas where bilateral aid programs cannot.

PVO Weaknesses

- Limited Peplicability. Many PVO projects are considered too small and localized to have important regional or national impact. It must be demonstrated that these small projects, which are cost-effective on a limited scale, can be scaled-up and expanded to new areas and different cultural settings.

- Lack of Broad Programming Context. PVO projects are often implemented individually, not as part of a broader programming strategy. For example, although PVOs play a significant role in the small enterprise, water and sanitation, agro-forestry, and animal agriculture sectors in many countries, their generally low visibility and desire to work independently hinder the establishment of country-wide programs.

- Planning and Management. Plans for many PVO projects are drawn with limited technical analysis, baseline studies, or definition of objective.

- Weak Data Base and Evaluation. PVO programming is generally handicapped by a lack of information and evaluation of results. Too few PVOs collect baseline data before their work, or measure effectiveness upon completion. Too few "lessons learned" are shared with professional colleagues. Because of their unusual ability to work closely with and win the trust and support of communities traditionally wary of both outsiders and innovations, PVOs are uniquely able to test solutions changing traditional practices and behavior and to introduce new practices into the agriculture, nutrition, health, or small enterprise systems. But without better information flow about PVO projects, these valuable lessons are too often lost.

The evidence on hand indicates that PVOs are effective in conducting low-cost, rural-based, innovative development programs which complement official development programs. In particular, they tend to serve the poorest, neediest and most difficult-to-reach populations in the Third World. By concentrating on this group, PVOs reach those least able to help themselves and least likely to be served by their own governments or international donor agencies.

A.I.D. assistance through U.S. PVOs has its counterpart in A.I.D. policy to provide direct and indirect support to private, as well as public, local organizations within recipient countries. In many cases, these organizations provide the local vehicle for U.S. PVO projects and programs.

They can also be the direct recipients of A.I.D. assistance. Systematic records and studies of the amounts and results of assistance to indigenous PVOs are not available. The A.I.D. Policy Paper entitled "Local Organizations in Development" of March 1984 has the following to say with regard to local voluntary associations and indigenous informal organizations.

- Voluntary Associations Voluntary associatons are extremely common and extremely important intermediary organizations, often present in many different forms, and often very active in local development. Local organizations of the type indicated below, which are fundamentally action-oriented and private in nature, became increasingly important in the Agency's program during the 1970s, but remain relatively poorly understood. These organizations or various combinations of them may recruit members:

  - On the basis of residence (village development committees),
  - Economic function (coffee marketing cooperatively),
  - Age (youth associations),
  - Sex (women's groups,
  - Ethnicity (tribal unions),
  - Belief (church community development groups).

- Informa Indigenous Organizations There are other other local organizations, more informal in nature, that are grounded in aspects of the social order and which play important development roles. These may be termed "informal indigenous organizations" and often serve as an iterface between individuals and the more formal local organizations discussed above. Informal indigenous organizations include kin groups (clans, families), work groups based on festive or exchange labor, dance societies, age-grades, neighborhood associations, and other similar social units.

## STRUCTURAL IMPEDIMENTS TO ADDITIONAL USE OF NON-GOVERNMENTAL ORGANIZATIONS AND PROGRAMS FOR THE PROVISION OF A.I.D. DEVELOPMENT ASSISTANCE.

Although the trend appears to favor the spread of private enterprise and free markets, A.I.D. still encounters a number of structural impediments to the utilization of private enterprise and non-governmental channels in LDCs and within the U.S. government itself. Certain legislative restrictions and procurement regulations are only two such impediments.

## STRUCTURAL IMPEDIMENTS IN LDCs

The topics below lists the various impediments. The impediments are not necessarily in the order of importance as a constraining factor. A prioritization along these lines would not be fruitful for the Third World as a whole, since the relative importance of the various factors differs from one country to another.

- Absence of Policy Environment Favorable to Private Enterprise Over the years, developed countries like the United States established bodies of laws and regulations which basically facilitate or favor business operations and the growth of private enterprises. Such favorable environment does not exist in many LDCs.

- Weakness of the LDC Private Sector Where an advance vital core or mass of private enterprise exists, further expansion is relatively easy. When the private sector is weak however, the ability of A.I.D. to promote development is significantly constrained.

- Constraints of Sovereignty The attitudes of LDC governments vary. A.I.D. is free to conclude agreement with the private sector in Kenya, but such case are exceptional. Also, a distinction must be made between efforts of A.I.D. to expand indigenous private enterprise and U.S. private enterprise investment in LDCs. In the latter, some LDC governments are concerned about the domination of their economies by foreign business and impose limitations on foreign investment for that reason.

- Risks Associated with Currency Exchange Fluctuations in currency exchange and the risks associated with these fluctuations impose distinct constraints on A.I.D.'s ability to expand direct relationships with private enterprise in LDCs. Usually, A.I.D. loans to financial intermediaries are denominated in dollars and A.I.D. requires repayment in dollars. In some instances the governments have been willing to assume the risks of loans made through intermediaries to private enterprise. Also, in many LDCs the local currency loses value over a period of time in relation to the dollar.

- Perception of Aid as Subsidy Accustomed over the years to foreign assistance, LDC governments tend to view it as a form of subsidy to their budgets. Therefore, a diversion of aid from public to private channels encounters a degree of resistance, although such a diversion is usually beneficial to economic development.

- Problems of Privatization Even in those instances where the host government recognizes the State Ownership Enterprises (SOEs) impose an important burden on economic growth and agree that it would prefer to see the economy in private hands, it is still difficult to persuade the authorities to privatize. In a number of LDCs, the principal groups capable of purchasing SOEs, (even with excessive debts and overstaffing) are frequently either foreign investors or indigenous groups often considered "unacceptable " by the government.

## STRUCTURAL IMPEDIMENTS IN THE U.S. GOVEPNMENT

- Legislative Impediments The legislative priority and earmarks on assistance reduce A.I.D.s ability to pursue coherent development strategies effectively responsive to individual country's needs, in economic growth and all other areas of A.I.D. activity.

- Program Design and Implementation Processes The lack of agility and flexibility inherent in U.S. Government operations creates an impediment in expanding use of the private sector as an avenue for development.

- Staff Constraints Acquainting Agency personnel with the many ways the private sector can carry out A.I.D. assistance objectives will take time, and the process of training and orientation is compounded by the dispersed worldwide employment pattern, operating expense limitations, and continual hiring limitations.

- Cargo Preference Requirements Such requirements reduces the extent to which the LDC private sector can be utilized to achieve development objectives.

- Procurement Regulations U.S. Government system for procuring goods and services for making grants to non-government organizations are complex and in certain aspects impose impediments to private sector activities. There are two major procurement rules and practices that pose varying degrees of problems or impediments for the use of non-governmental organizations. These are the types of project agreements that are available to A.I.D. and A.I.D.'s procedures for entering into direct contracts or making grants and cooperative agreements.

# STRATEGIES FOP SMALL FAPMER DEVELOPMENT

An Empirical Study of Pural Development Projects In

The Gambia,

Kenya,

Lestho,

Nigeria,

Bolivia,

Columbia,

Mexico,

Paraguay and

Peru

Elliott P. Morss

John K. Hatch

Donald P. Mickelwait

Charles F. Sweet

Volume 1 - Westview Special Studies in Social, Political, and Economic Development

Volume 2 - Case Studies (See Appendix C)

The purpose of this study is to identify the key components for successful small farmer development projects and the implications for A.I.D. and other major donors. These four elements provided below are

1. Key determinants of project success.

2. Key determinants of local action.

3. A process for project design and implementation and.

4. Implications for A.I.D. and other major donors.

KEY DETERMINANTS OF PROJECT SUCCESS

The four dimensions of primary importance for success are:

1. An increase in the small farmer's income and its attendant costs;

2. An increase in the small farmer's agricultural knowledge;

3. An increase in the small farmer's self-help capability; and

4. A high probability that the benefits of the project will become self-sustaining.

The overall success rating of projects were affected by:

The local action taken by small farmers to complement outside development management and resources. Two components of local action which proved to be the most important in promoting overall project success are:

1. Small farmer involvement in decision-making in the implementation phase of a development; and

2. Small farmer resource commitment (labor and cash) to a development project.

## KEY DETERMINANTS OF LOCAL ACTION

Three variables are positively associated with the level of local action:

1. The specificity of the agricultural information offered by the extension service;

2. The importance of local organization in the project; and

3. An effective two-way communication flow between project participants and project management and staff.

When the involvement components of local action were examined, the most important variable were the existence of effective two-way communications system and functioning local organizations or groups. The analysis showed that poor smallholders with less security over th land they farmed are more likely to become involved in decision-making during project design and implementation than are wealthier, larger farmers. This finding should signal the policymaker that smal farmers will contribute if given an opportunity.

A review of the variables which influenced small farmer resource commitments of additional labor and money revealed that poor small farmers are more likely to make greater relative resource commitments than are larger, wealthier farmers. The review suggests further the small farmer resource commitments would be higher if project planners focused on increasing rural functional literacy, improving land tenur security, offering crop-specific extension instruction and promoting small farmer involvement in project decision-making at the local level.

While the determinants of local action discussed above are important, detailed examination uncovered the most vital facets underlying small farmer behavior. These included:

### Small farmer perceptions and behavior

A key to predicting small farmer behavior is an understanding of his perception of and the risk involved in adopting a new technology. Both the probability and the size of loss enter into the small farmer's risk consideration, and these farmers have very strong and rational requirements for their crops to come in each year at or abov the subsistence level. While new technology may significantly increase output and net income, the risks inevitably go up - not only because of increase cash and labor commitments, but also because of the small farmer's increased dependence on alien institutions or individuals (input suppliers, extensionists, marketers) over which he or she has no control.

## Local involvement in development projects

Before a project gets underway small farmers can play a critical role in tailoring ideas to fit local conditions, act as experimenters by testing new technological packages and participating in decision-making at the subproject level regarding activities, priorities and mechanisms for implementation.

During project implementation, small farmers can contribute to a dialogue on project activities and results, assume responsibility and control for subproject decision-making, continue to test new technology and share in the management of the project. Sharing of responsibilities between project and farmer was a superior arrangemen to domination by either in achieving project success. The use of small farmers as paraprofessionals was one cost-effective way to spread new technology. Training and other programs to meet local needs and effective communication systems were helpful in eliciting involvement, while accountability systems which allow local leadershi to form, coalesce and change improved the provision of farmer (client services and helped insure continued farmer involvement.

## Small farmer resource commitment

Small farmer involvement in decisions increased his willingness to make a commitment of increased labor or money to complement the projects's activities; i.e., a "shared" decision-structure between farmer and project staff increased farmer commitment. Other factors were also important. The provision of the "necessary" services of a development project - technology, exteniomn of argicultural knowledge agricultural inputs, credit and marketing - had to be there for the farmer to make a resource commitment and for a project to succeed. I circumstances of high risk, various risksharing plans such as crop insurance and input-provision/output-sharing arrangements were explored.

## Local organizations

Small farmer-directed local organizations contributed significantly t the level of local action and project success. These organizations performed the five following functions:

1. Provision of a vehicle through which farmers can share in decision-making.

2. Assistance in developing a two-way communications system between project staff and farmers as well as among farmer participants themselves.

3. Promotion and reinforcement of behavioral changes such as the adoption of new agricultural production practices.

4. Facilitating the provision, integration, and administration of farmer services; and

5. Mobilizing local resources for local infrastructure creation and maintenance.

## A PROCESS FOR PROJECT DESIGN AND IMPLEMENTATION

The foregoing demonstrated the need for small farmer involvement and resource commitment to a development project. Clearly, involvement and the willingness to make a resource commitment are only necessary conditions for project success. Sufficient conditions require that th follo ing objectives be met, either by the project or other institutions:

1. An adequate technological package;

2. Needed agricultural inputs are delivered on time;

3. Extension services are adequate; and

4. Existence of favorable markets for the agricultural produce and a means of getting it to market.

All of these factors are important and interrelated. However, it is impossible to specify precisely what is needed, when it should be provided and by whom without a detailed knowledge of local conditions.

The purpose of this section is to specify a process which, if followed, will properly allow for the particular circumstances of every location. The process will maximize the chances that the proper amount of local action will be attained and the project will succeed.

### Determining the design requirements

The most successful projects are those which have attempted to gain a knowledge of the local area prior to project initiation or have structured the project in such a way as to start with a simple idea to develop this required knowledge base during the initial project stages. Essential data requirements include the following three:

1. Data to understand and overcome the constraints imposed on small farmers by the local environment.

2. Data to insure that project components are adequate or to determine alternative ways of providing the needed services and knowledge; and

3. Data to determine project focus and organizational capabilities within an area so that small farmers receive the benefits of project activities.

These essential data requirements are discussed below, along with conclusions regarding their significance in project design.

Understanding small farmer constraints

First, an understanding of small farmer constraints will enable project designers to determine whether a new technology is suited to small farmers and what it will take to gain its adoption. To make these determinations, designers must first examine the farmer's existing projection patterns and identify the physical, social/cultural and political factors that influence his decision-making. After ascertaining the farmer's current activities and the pressures on him, the designer or planner must determine the changes required in behavior and resource commitment by small farmers if project activities are to be successful.

The gap between present small farmer behavior and what is required by the project may be significant, entailing changes in agricultural practices, in the commitment of family labor, funds and land, and in patterns of cooperation and accountability.

Whether a farmer will make these changes will depend on his perception of risk - which should be the primary consideration when planners study how to bridge the gap between present and anticipated behavior. Through an active dialogue with local participants, it should be possible to identify the major impediments in making the changes called for by new technology. Once identified, it is the responsibility of designers to insure that the project is designed in a way to provide the farmer with the motivation necessary to overcome the constraints to change.

This discussion identifies one of the basic shortcomings of much of the past design work: the failure of planners to define the behavior changes required by small farmers. Instead, it has been assumed that these changes will be forthcoming if all other project components are in place. In lieu of this "assumption", it is claimed that the starting point in building a project design should be the determination of the requirements for small farmer behavioral change and the development - with farmer involvement - of the elements necessary to effect these changes.

## Determining project components

A second set of data needed to determine what services and knowledge must be provided, either by the project or by other institutions in the area. A study should be made as to the adequacy of the following:

1. Agricultural research and the development of technological packages suitable for small farmers.

2. Mechanism for transferring agricultural knowledge to small farmers;

3. Provision of agricultural inputs (land, labor and supplies);

4. Small farmer credit; and

5. Marketing services.

## Determining project focus and capabilities of local organizations.

Third, data are needed to determine the size and location of the population to be covered (focus) and the local mechanism through which the project can most effectively be implemented. Project focus assumes particular significance if the objective is to reach small farmers. In areas with a relatively equitable distribution of land, income and power, broadly-based development efforts are possible. On the other hand, if there is a high degree of disparity among landholdings, wealth and power; a telescoping (narrowing) of project activities or focus on a defined portion of the population is necessary to limit participation to small farmers. Because distributional patterns are not always readily apparent, project designers must research the local environment.

In either case, local organization can assist in the implementation of the project. The presence of a local organization structure contributes significantly to generating local action and to improving chances for project success. Many successful projects either created new organizations or worked through existing groups in an intensive attempt to involve all farmers in a specific locality. This effort was most effective in areas where land and wealth were relatively distributed. In areas where this was not the case, projects generally attracted the larger, more progressive farmers unless special efforts were made to get smaller farmers as project participants.

A design team must first identify the existing patterns of organization in the project area. Except in very unusual circumstances, there will be leadership, communications and combined efforts in some undertakings. Even if not formally recognized, these groupings may serve as a useful vehicle for project cooperation. The distribution of power within the local area is most important as a determinant of whether existing local organizations can be incorporated into development projects, or whether new organizations can be formed without special provisions. Special measures are necessary to insure that project benefits are not channeled directly or indirectly to the already wealthy. Examples of such measures include:

1. Restricting membership to a landholding size which excludes the larger farmer;

2. Increasing the cost of services (including credit) until large farmers find lower cost alternatives; and

3. Putting an upper limit on the levels of services (including credit) to be drawn so they are appropriate only for the amount of land a small farmer could maintain.

If a project area has a local organization which meets or can be convinced to meet the above requirements, then the project can use positive incentives to help strengthen project beneficiaries. This can take place through training, temporary subsidies, the use of the organization for distribution of inputs, marketing assistance and extension services. Local organizations may also be able to perform certain added functions; i.e., credit and extension services to small farmers. This approach has been successful in the Directed Agricultural Production Credit Program in Latin America.

It is clear from the cases examined that ideally the local organization should be locally controlled and that most of its members should know one another personally. If there is need for an affiliation with higher-level groupings, these should be accountable to local organizations through direct or indirect contacts with local purchasing and marketing units, not only for income benefits, but to increase the bargaining and self-help capabilities of small farmers. For project success, however, it is the local organization, at the lowest geographic level of the project, which is most important in generating local involvement and resources commitment to a development project.

## A PROCESS FOR PROJECT DESIGN

### Collecting the necessary data

Much of the knowledge necessary for meeting the three sets of data requirements described above resides with the local population. A systematic and cost-effective method of extracting this knowledge and making it available to project planners is a requirement, particularly for large, multidimensional projects. Experience with various collection systems suggests that professional rural development specialists, assisted by local staff members, can effectively collect data from small farmers. Working through one crop cycle or agricultural seasons, they can obtain the necessary information on social/cultural and agricultural production patterns.

This type of data collection may entail nine months of field work. However, it is more efficient and yields more operational insights than the common use census-like surveys.

### Using Data Collection to Ease Project Implementation

While data collectors are tracking the agricultural production cycle and determining the local social/cultural dynamics, they can simultaneously identify local leaders and organizations which would be most useful during project implementation. By establishing a good system of contacts with these leaders and groups, data collectors can begin to build a two-way communications system for channeling information from the project to participants as well as channeling participant reaction and ideas on project activities to the project.

Data collectors must pay particular attention to existing patterns of landholdings, income and power distribution if the project is to focus successfully on small farmers and be effectively integrated into the local institutional setting. As noted earlier, information should be gathered on the existing organizational arrangements at the local level to assess the need for special mechanisms for restricting project benefits to the intended project participants.

### Alternative Design Processes

Not all projects require nine months of data collection effort before implementation can commence. Various projects have successfully started with a base of one simple activity; e.g., the distribution of fertilizer - when there was reason to believe that the activity would benefit small farmers.

## A PROCESS FOR PROJECT IMPLEMENTATION

### The Need for Flexibility

Few projects can survive a rigid blueprint which fixes, at the time of implementation, the development approaches, priorities, and mechanisms for achieving success. Most projects scoring high on success experienced at least one major revision after the project determined that the original plan was not working. This flexibility is critical, particularly if the technology is uncertain or if the local constraints facing small farmers are not well known. This first requirement for an implementation process is the recognition that revisions in project planning are desirable and can constitute attempts to increase the chances of project success.

### Obtaining Small Farmer Involvement and Resource Commitment

Small farmer involvement and resource commitment are key determinants for project success. This local action can be significantly advanced if project staff view small farmers as a vital and knowledgeable resource to be tapped, and share with them information collection and decision-making responsibilities in project implementation. To this end, communication links should be established in the design stage between data collectors and local leadership and organizations.

As small farmer perceptions and priorities relating to the project activities are being fed into the project staff through such an information network, project activities must simultaneously be monitored. Data should indicate progress on all component parts of the project, including the "proving" of the recommended technology and its adaptation to local circumstances, use of extension methods to spread new agricultural knowledge, adequate provision of agricultural inputs, credit and credit repayment programs and marketing outlets. This data collection requirement and the data necessary to determine if the project is accomplishing its goals calls for an ongoing information system.

### Ongoing Information System in Support of Rural Development Projects

An information system to provide ongoing data should be a part of the project beginning with the implementation phase. Such a system should include monitoring, evaluation and diagnostic services to improve project performance. It is particularly important to determine the incidence of project benefits. This can be accomplished through the development and use of an indicator system with low-level staff collectors and project participants as primary data sources. Indicator systems require customization for each project; they should be cooperatively designed by project staff, participants and professional information specialists.

Because they may not fully understand the reasons for an information system or how the results will be used, project staff and participants may not enthusiastically support data collection requests or promote the utilization of the data to influence policy decisions. The key is to convince potential collectors and users of the system that it will provide benefits rather than pose a threat. While no easy task, it is easier to accomplish if the information system is developed in the early stage of the project design process.

### Making Projects Benefits Self-Sustaining

A special concern during the project implementation phase should be making the benefit-generating activities of the project self-sustaining. There are two avenues to making project benefits self-sustaining that should be pursued jointly.

First, it may be possible to gradually reduce the cost of providing services by substituting local participants for expensive "outsiders". This calls for a training component so that at some specified time local leadership and capabilities can be developed and employed by the project. The time fram may be longer than one generation, as small farmers do overnight turn into expert business managers. However, there are cases where gradual substitution of newly-trained and educated farmers, or members of their families, has significantly reduced the requirement for development assistance.

The second component in the move to self-sufficiency is a vehicle through which the project can recapture some of the income benefits of the project. This generally is handled by a local organization which provides services to its constituents and charges for those services as the participants receive income benefits. Although a local organization may require subsidies in early years, at some point in time it should be able to meet the expenses involved in providing extension, credit, inputs and marketing services, and charge participants for benefits received.

## IMPLICATIONS FOR A.I.D. AND OTHER MAJOR DONORS

The previous sections identified critical factors and delineated a process which, if followed, maximize the chances for project success. The purpose of this section is to be more specific in terms of how this process related to current A.I.D. (and other major foreign donors) approaches to project development and implementation. As an introduction, excerpts from tabular material presented below provide an overview of the role of foreign donors in the projects reviewed.

As demonstrated, the projects receiving considerable foreign public funding in the early years of operations are compared with other "private" projects. For all three measures, the average scores of the projects receiving large amounts of foreign funding in early years were significantly lower than the average scores of the other "private" projects.

TABLE V-2 - A COMPARISON OF AVERAGE PROJECT SCORES

| | Overall Success Score | Overall Local Action Score | Prospects of Becoming Self-Sustaining Score |
|---|---|---|---|
| Government projects receiving more than $1 million in grants or loans from foreign public donors in first few years of operations | -1.115 | -2.222 | -1.066 |
| "Private" projects * | .076 | .364 | .112 |
| Avg. of projects included in the above. | -.043 | -.028 | -.066 |

*Private Projects (Commercial, Charitable, Foundation)

TABLE V-1 - SELECTED MEASURES FOR RURAL DEVELOPMENT PROJECTS WITH SOURCE AND TYPE OF FOREIGN DONOR ASSISTANCE **

** Excerpts ("Private" projects - Commercial, Charitable, Foundation)

| | | | | | |
|---|---|---|---|---|---|
| B-31 | MVS/The Gambia (Chari.) | -.471 | | .064 | -.924 |
| C-2 | CSC/Ghana (Chari.) | -.299 | | -.478 | -.688 |
| D-20 | Lirhembe/Kenya (Chari. | .306 | | 3.527 | .727 |
| D-43 | MPTC/Kenya (Chari.) | -.258 | | -.614 | .020 |
| F-13 | NTC/Nigeria (Comm.) | .969 | ** | 2.601 | 1.671 |
| F-23 | ZTPP/Nigeria (Comm.) | -.050 | ** | -1.730 | .727 |
| F-42 | Uboma/Nigeria (Comm.) | 1.854 | ** | 1.650 | 1.435 |
| G-2 | DESEC/Bolivia (Comm.) | 1.034 | | 3.011 | .963 |
| G-15 | ASAP/Bolivia (Comm.) | .277 | | 4.165 | .256 |
| J-2 | Puebla/Mexico (Found.) | .299 | | .270 | -.216 |
| L-2 | Vicos/Peru (Found.) | -.769 | | -.234 | -1.160 |

See Appendix C for excerpts of above case studies.

In short, the government projects reviewed received considerable funding in the early years of operations did not appear to have turned out well. One possibility is that serious deficiencies exist in the design and implementation processes of A.I.D. and other large donors. In the following, some thoughts on these deficiencies and suggestions for improvement are given.

## The Time Constraint

Past behavior of A.I.D. and other large donor agencies suggests that "time" is a more serious constraint than lack of funds. As has been demonstrated, good project design calls for a considerable knowledge of local circumstances, both technological and social, both static and dynamic. It has also been demonstrated that in successful projects, the small farmer is involved and local organizations are either brought in or developed at various project stages. All of this, the acquisition of knowledge on local circumstances, takes time. A.I.D. appears constrained as regards "time" for at least two reasons.

The first is the pressure to get annually appropriated funds committed to projects and spent. The second time pressure, as counterproductive as the first, is the apparently felt need to demonstrate quick and broadly significant results. The need for quick results can cause the demise of local institutions that cannot compete with heavily subsidized project activities. It often leads to ultimate project failure because implementation often must impose a new system on a local area rather than go through time-consuming process of working with local people and their leaders.

## The Knowledge Constraint

A second reason why the large national and international donors score poorly on success in the types of development projects examined, is the belief of foreign and host government staff members that they know what is best for small farmers. Even more serious is their unwillingness to enter into a meaningful dialogue with small farmers concerning their problems and how the project might assist them. Particularly in Africa, where the foreign degree and foreign expert are treated with undeserved reverence, it is time to blow the whistle on the fiction that "educated" people know all the answers to problems of low rural productivity. This attitude is reinforced when short-term consultants are brought in to provide project design or implementation assistance. While these people can be helpful in certain cicumstances, it has been shown that they are not a substitute for an information exchange between small farmers and project staff that truly operates in both directions. When such exchanges have occurred, outside experts have usually admitted that they learned as much or more as did the farmers.

## Assumptions Regarding Small Farmer Behavior Changes

Directly related to the knowledge constraint is the failure of projects to define clearly what behavioral changes by small farmers are required if project activities are to succeed. Desired behavior changes must be defined at the start of project design, rather than "assumed" in design work. Some projects funded by private commercial firms carefully spelled out behavior change requirements and entered into a dialogue with farmers to determine barriers to making changes and how to overcome them. Specifications of what types of farmer involvement and resource commitment are needed is fundamental if a project is to achieve its objectives.

## Restrictive Benefit Measures

Most large rural development projects relied on highly restrictive benefit measures: some used cost/benefit ratios exclusively, others focused on cost per participant, and still others measured aggregate output for the area as a whole or assessed factors such as the repayment rates on loans extended. Frequently, such limited benefit measures become ends in themselves. They limit the project staff to seeking results prescribed by these indicators. More broadly defined success measures could provide the incentives needed to prod the project staff into thinking in terms of how a project might build self-help capabilities, increase agricultural knowledge and promote self-sufficiency as external funds are withdrawn. When these measures are introduced into project analysis, there is the possibility that more projects might begin to deliberately involve the local population in decision-making and resource commitment. Use of the success measures defined and evaluation of A.I.D. projects by these measures would constitute an improvement over present evaluation procedures.

## The Need for Ongoing Information Systems

Assuming that a project is committed to monitoring, evaluating and re-adjusting project approaches to improve results, there is also a need for a continuous flow of specified information, a system of analysis and a method of moving from recommendations of the planning and evaluation units into project revision.

## The Need for Flexibility

Information, good intentions and local action will not save a project locked into a rigid and poorly designed format. Flexibility is required, not to change overall objectives but to change approaches, organizational vehicles, methods of extension and adaptive research until solutions to problems are found which are proven and accepted by small farmers in the area. Because of the manner in which projects are funded, or perhaps more because of an internal dynamic which overtakes large projects with many foreign experts, it it difficult to change directions, even in failing projects. If post-mortems were conducted, the inability to listen, to involve, to obtain resource commitments and to change project design would explain the lack of success among development projects.

## The Most Valuable Message

One point which evolved from this analysis is of such importance as to warrant frequent repetition. The most valuable assistance a foreigner can give small farmers will rarely be large amounts of money for machinery or infrastructure development. Father, it is a plan, based on the realities of the small farmer's own situation, whereby he can move himself ahead without becoming dependent on outside foreign assistance.

## General Conclusion

Getting the benefits of development to the small rural producer in a manner which can become self-sustaining will require fundamental changes in the project identification, design and implementation procedures of A.I.D. and other external assistance agencies. Projects have failed frequently in the past because of mistaken conceptions or inadequate information on the small farmer's priorities and the alternative mechanisms by which they might be realized. Regretable, they are not things an outsider can uncover in the short time frame during which external assistance projects are usually generated. It calls for a detailed knowledge of the thinking processes and behavior of the small farmer and it requires the small farmer's trust. Of paramount importance is the need for a healthy appreciation for the perceptions, interests and risk considerations of the small farmers. These things take time to develop and it is no easy task.

In recognition of the time, knowledge and procedural constraints facing large donor agencies, several possible approaches are offered that are consistent with the process outlined. The first is an "organic" approach which identifies a simple activity that would clearly be of assistance to small farmers. The second, focuses on identifying or creating and supporting smaller institutions operating (as intermediaries) in developing countries that are in a better position to follow the process outlined directly. A combination of the two approaches would also be entirely feasible.

Under the "organic approach, the first year or two of the project (during implementation of the initial project objective) would be used to determine what might further be done to involve and benefit the small farmer. Although the approach calls for individual attention to the need of each local area (to assure that relevant local constraints to the adoption of new technology are overcome) it does not prevent national or regional programs from being developed and implemented. It is the complexity, speed and design of project activities at the local level which are critical to success, not the number of localities being assisted by a small farmer development program.

The "intermediaries" approach, assumes that large donor agencies, because of constraints imposed by operating procedures and external pressures, are unable to be effective directly in the design and implementation of projects in accordance with the patterns described in the process. Hence, the attention of the donor agencies might better be focused on identifying or creating and supporting smaller "intermediary" institutions operating in developing countries; any of which are in a better position to follow the process outlined.

APPENDIX A - INTERVIEWS

MR. WILLIAM ROGERS - 202/647-8078; A.I.D.: (LAC/DR/RD) BUREAU FOR LATIN AMERICA AND THE CARIBBEAN (LAC), OFFICE OF DEVELOPMENT RESOURCES (DR), RURAL DEVELOPMENT DIVISION (RD)

Discussions with Mr. Rogers dwelt upon A.I.D. efforts to develop and implement private enterprise projects affecting the agricultural sector of host countries in Latin America. Three salient efforts were addressed; two were A.I.D. supported projects and one is in the U.S. private sector. The three are: initiation of the first Private Investment Fund (PIF) in Peru about 1967-68; role of the Latin American Agribusiness Development (LAAD) Corporation ; and development of the United States Agricultural Development Corporation (USADC).

PERU - PRIVATE INVESTMENT FUND (PIF)
A.I.D. loaned funds to the Industrial Bank of Peru which reloaned the funds to the Government of Peru for deposit in the Central Reserve Bank. The Central Reserve Bank created and initially administered a Private Investment Fund (PIF) consisting of the A.I.D. loan and Central Reserve Bank matching funds. PIF was subsequently administered by the Development Finance Corporation (COFIDE). State development banks, investment companies and commercial banks acting as intermediaries were utilized to achieve the desired distribution of PIF funds.

Objectives of the A.I.D. program were, first, to support Peru's efforts to create improved economic and social opportunities for the disadvantaged half of the population living in a subsistence economy, and secondly, to establish an institutional base - private and public - for sustained economic and social growth in Peru.

Accordingly, the A.I.D. loan was directed towards the expansion of the agri-industrial (agribusiness) sector of the Peruvian industry. Loans were made via intermediary credit institutions to private industrial enterprises engaged in processing, packaging, or preserving agricultural commodities. In addition, projects or services which provided major inputs to the agribusiness field were eligible when they clearly demonstrated that such projects were of sufficient scale to be efficient.

However, achievement of A.I.D.'s objectives were not possible due to an abrupt change in the Government of Peru (GOP) from a democratic to a military regime. Under the new GOP economic development via the private sector channel as not viewed with favor. The perception was that economic power was held by a few rather than many. This concentration of economic power was considered by the military regime as a fundamental cause of the decline in the economy of Peru.

In summary, the major factors contributing to the project's lack of success:

- Were changing government priorities away from the private sector;
- Administrative reogranization and changes in agency roles and responsibilities;
- Overly complex operating criteria;
- Processing bottlenecks;
- And unanticipated excessive bureaucratic delays.

MR. ANTHONY VELASQUEZ, 202/647-8669; A.I.D: (LAC/DP) BUREAU FOR LATIN AMERICA AND THE CARIBBEAN (LAC), OFFICE OF DEVELOPMENT RESOURCES (DR)

Discussions with Mr. Velasquez evolved around two salient points. First, there is a need for an adequate management information system establishing baseline data at the field level to provide a basis for comparative analysis with project design criteria measuring accomplishments. Second, A.I.D. project designers must consider indigenous cultural value systems and the potentially adverse impact of project design criteria during implementation and accomplishment of the project upon such value systems and society.

Mr. Velasquez suggested a search of agricultural projects in the A.I.D. Document Information System (DIS) using descriptor phrases such as "capital markets" and "financial markets". These terms were used in DIC prior to 1980 and are synonyms for the descriptor "private enterprise". Project design should also include systematic analyses from several perspectives such as, financial analysis, risk analysis, system analysis, and impact (social and environmental) analysis.

MR. ALEX BEHLER AND MR. ARTHUR QUINN, 202/347-0984, UNITED STATES AGRICULTURAL DEVELOPMENT CORPORATION (USADC), 1015 15TH STREET, NW, SUITE 200.

Mr. Arthur Quinn was a referral by Mr. William Rogers of A.I.D. LAC/DP/PD. Mr. Alex Behler responded when Mr. Quinn was out of the office for the day. Mr. Quinn was a major participant in development of the President's Task Force on International Private Enterprise Development which issued its two volume report January 1985.

Development of USADC drew upon A.I.D. successes with the LAAD Corporation. USADC is a for-profit corporation operating as a venture capitalist world-wide. This will enable USADC, unlike LAAD, to take an equity position in projects should it desire to do so. In addition to providing funds and technical assistance USADC may also serve in a management role using local nationals if it is deemed appropriate.

Fund sources include U.S. private sector investors (corporations and individuals) as well as similar private investors of the host countries. A.I.D. grant funds of $150,000 may also be utilized as appropriate. USADC financing for proposed projects will range from $100,000 up to $2,000,000.

MR. JERRY GLEN, CHERYL LASSEN, 202/483-0067:
PARTNERSHIP-FOR-PRODUCTIVITY (PfP) INTERNATIONAL; 2001 S STREET, NW; WASHINGTON, DC.

Partnership for Productivity (PfP) International's approach to problems in Third World countries is based on two perceptions: RELIEF (keeping people alive) and DEVELOPMENT (putting in place the systems and support for self- sustaining human and economic growth). Productivity, for PfP, goes beyond the usual goals of production, and implies also the creation of social value and individual empowerment. PfP International is a private, non-profit organization founded on the assumption that helping small business and providing management education increases productivity and generates economic development. It is dedicated to increasing productivity and economic opportunity in the developing world by strengthening small and medium enterprises in agriculture, manufacturing and trade. It works with allied organizations to strengthen their management and improve their skills. PfP also engages in a dialog with governments, donors, and beneficiaries to create a policy context which increases the effectiveness and efficiency of development programs.

In all its programs, PfP works to identify gaps in local economies and systems which can be filled through careful planning and appropriate intervention. In its rural development programs, field staff extend out into rural villages by bicycle or motorcycle to offer small loans, techinical training in agriculture and manufacturing, and basic business management assistance to groups or individuals. PfP stresses client learning, personal investment of labor and savings, sound management and planning, and responsibility for results.

PfP also makes specialist consultants available to strengthen local development agencies, both private and public, through management assistance and training. PfP is funded by contracts, grants and contributions from international donor organizations, governments, corporations, foundations, churches and individuals.

Each of PfP/I's programs and consultancies differs according to the needs addressed and the particular context. However, similar principles of design and field methodology provide the basis from which the services are delivered. These common elements are:

- Coordinated Systems Approach
- Introduction of innovations
- Insistence that people work and think for themselves
- A hard-nosed approach to credit (use of business plans including repayment expectations)
- Flexibility in adapting to individual and local circumstances
- Establishing financial viability and sustainability on the program as well as the indivdual enterprise level

The following describes the various services PfP provides,including services to private and public organizations. There are a variety of tools (services) to assist entrepreneurs and stimulate enterprise growth.

- Services to Enterprises/Service tc Organizations
- Management Assistance
- Financial Assistance
- Technical Assistance
- Marketing Services
- Trade and Investment
- Business Start-Up Assistance
- Training (800 volume library)

The PfP experience with the systems approach considers an integrated economic development plan based on operations research techniques. The design of the plan also utilizes a multiple level approach which considers and, whenever appropriate, involves the governmental structure(s) and the indigenous social, economic, and political systems. PfP is also selective in establishing the design criteria of the target group. Emphasis is on building upon the present, self-help and responsibility, and to introduce appropriate change(s) and resources to bring about self-sustaining rewards and improvements.

MOLLY HAGEBOECK: 202/395-6890, U.S. TRADE REPRESENTATIVE OFFICE, 1500 17TH STREET, NW, SUITE 215, WASHINGTON, DC

IN RE. PRIVATE SECTOR: IDEAS AND OPPORTUNITIES, A REVIEW OF BASIC CONCEPTS AND SELECTED EXPERIENCE - A.I.D. Program Evaluation Discussion Paper No. 14, 6/82, PN-AAJ-618

Contacts provided: Charley Greely, Gordon Hunt, Peter Johnson, Malcom "Mal" Novens, Bill Rogers, Bob Otto, Theriot

References provided:

Strategies for Small Farmer Development, Vol I, II

Robert Nathan Report for Private Sector Bureau

Private Sector Task Force Report, Vol I, II, III

Review LAAD Subprojects

International Basic Economy Corp (IBEC)

DISCUSSION:

Suggest projects be directed to solving problems vs visible projects.
Look at successes in the world vs A.I.D. projects
See how are projects developed.

DR. MICHAEL FARBMAN: 202/235-8881, A.I.D., RURAL AND URBAN DEVELOPMENT

CONTACTS: KENNETH SWANBURG, A.I.D., AGRICULTURE

REFERENCES:

AID TO ENTREPRENEURS: AN EVALUATION OF THE PARTNERSHIP FOR PRODUCTIVITY PROJECT IN UPPER VOLTA (BURKINA FASO), DATED JUNE 1982, PREPARED BY DEVELOPMENT ALTERNATIVES, INC.

RURAL NON-FARM EMPLOYMENT: A REVIEW OF THE STATE OF THE ART. DATED 1979 MSU RURAL DEVELOPMENT PAPER NO. 4, PREPARED FOR A.I.D. BY MICHIGAN STATE UNIVERSITY

AID AGRIBUSINESS PROJECTS IN LATIN AMERICA 1970-1986, DATED NOVEMBER 1984, PREPARED BY IDI FOR A.I.D. BUREAU OF SCIENCE AND TECHNOLOGY (ST/RD/ESE)

AID AGRIBUSINESS ACTIVITIES IN AFRICA, 1970-1986, DATED NOVEMBER 1985, PREPARED BY TIMOTHY J. MOONEY FOR A.I.D. BUREAU OF SCIENCE AND TECHNOLOGY

THE DEVELOPMENT OF THE IVORY COAST'S NATIONAL SEED INDUSTRY, DATED OCTOBER 1983, PREPARED FOR A.I.D. BY INDUSTRY COUNCIL FOR DEVELOPMENT

AGRO-INDUSTRIAL DEVELOPMENT IN SOMALIA, DATED AUGUST 1985, PREPARED FOR A.I.D. BY INDUSTRY COUNCIL FOR DEVELOPMENT.

THE PISCES II EXPERIENCE: VOLUME I, LOCAL EFFORTS IN MICRO-ENTERPRISE DEVELOPMENT, DATED APRIL 1985, PREPARED FOR A.I.D. BY JEFFREY ASHE, ACCION INTERNATIONAL/AITEC

THE PISCES II EXPERIENCE: VOLUME II, CASE STUDIES FROM DOMINICAN REPUBLIC, COSTA RICA, KENYA AND EGYPT, DATED DECEMBER 1985, PREPARED FOR A.I.D. BY BUREAU OF SCIENCE AND TECHNOLOGY

DISCUSSION

Dr. Farbman spoke of the successes of the Commerical Seed Industry Development Program (CSIDP) and recommends review of the above publications which he provided. He also recommended Mr. Kenneth Swanburg of A.I.D. as an important contact for agricultural projects. He pointed out the Upper Volta projects operated by PfP as instructive in the development of initiatives among small farms, especially in regard to credit availability. Design of projects sought to include consideration of activities which were "scale neutral", i.e., could be implemented without regard to the size of the target group. He also recognized the need for establishment of a data base for project evaluation and a management information system to gauge progress and accomplishment. Emphasis was on ad hoc decision making for success of the plan and not rigid or blind adherance to "the plan". The A.I.D. Manual for Evaluation was useful as a frame of reference but "success" could and should be gauged by means other than economic; i.e., institutional success, human capital improvement. Also recommended comparative analysis (by such means) of agribusiness in terms of input versus output.

MR. KENNETH SWANBURG, 202/235-8910, A.I.D. AGRICULTURE

CONTACTS: MALCOM NOVENS, ROOM 1400A, 1100 WILSON BLVD; MR CY WILLIAMS, MR. ORVILLE FREEMAN.

Mr. Swanburg when speaking of agricultural enterprise projects, said that project design was always guided by market need and indigenous conditions with emphasis on agricultural production growth. He recommended that search for representative projects be conducted using descriptors such as "market or marketing production". He commented on the adverse impact of the "Bumpers amendment" on A.I.D. agricultural projects. The amendment prohibits initiation of agricultural projects if the products are also grown in the United States. Although this will adversely impact some potential projects it will add emphasis to development of those farm products not grown in the United States. It would also place a premium on private enterprise initiatives between the host countries, their trade partners and potential trade partners.

MP. MALCOM NOVENS: 202/875-1551, A.I.D. BUREAU FOP PPIVATE ENTEPPPISE

CONTACTS: MIKE CUMMINGS (S AND T), CY WILLIAMS, PUTH KAREN CO-AUTHOPED "APGIBUSINESS AND THE SMALL FARMEP", WHICH ALSO FEATUPED AN "EMPLOYEE STOCK OWNEPSHIP PLAN" IN MEXICO. PAY GOLDBEPG OF HAPVAPD. A GAO STUDY. ANDPEA MCHN BAUMANN "PVO". HEPB WEGNEP IN PEGAPD TO CPEATION OF OVEP 380 STATE CPEDIT UNIONS (CAMEPOON). ETHOPIA PRIVATE INVESTMENT COPPORATION.

Suggested determination of the "optimum" farm size in the design of A.I.D. agricultural projects. Pecommended review of an indigenous experiment in Panama which used an ESOP to create an economically viable agricultural farm and stable rural employment (EJENIO LA VICTOPIA). Also recommended search for representatives using descriptors such as microbanks, seed industry, credit unions, cooperatives.

APPENDIX B. PROJECT DOCUMENTS REQUESTED FOR SURVEY *
(A.I.D. Document and Information Facility)

1. 50140181/COLUMBIA: PD-AAA-627*, 628*, 629, G-951*

2. 5270139/PERU: PD-AAB-393*, G-302*, P-112*

3. 5960068/POCAP: PD-AAA-601*, PD-AAB-628, C-119, C-200, S-276

4. 6860219/BUPKINA FASO: PD-AAS-036*, 038, 039, 040, C-487*, 489

5. 3880024/BANGLADESH: *

6. 5170106/DOMINICAN REPUBLIC: NONE ON FICHE

7. 5960069/POCAP: PD-AAF-567, 645, J-940, M-920*, N-601*

8. 5380057/OTHER WEST INDIES-EASTERN CARIBBEAN: PD-AAG-969*

9. 4970329/INDONESIA: PD-AAP-634, L-685

10. 517K039/DOMINICAN: NONE ON FICHE

11. 5320081/JAMAICA: PD-AAM-014, N-674

12. 5960097/POCAP: PD-AAI-060, N-590*, S-545*

13. 5050005/BELIZE: PD-AAM-814*

14. 5150204/COSTA RICA: PD-AAP-545

15. 6570011/GUINEA-BISSAU: PD-BAT-280

16. 9314053/TECHNICAL ASSISTANCE

17. 4930343/THAILAND*

18. 6210085/TANZIN: PD-AAB-250

19. 5190197/EL SALVADOR: PD-AAG-312, 467, 468, I-224

20. 5110543/BOLIVIA: NONE ON FICHE

* Documents received

APPENDIX C - CASE STUDIES, Morass, Hatch, Mickelwait, and Sweet (Vol. 2, Strategies for Small Farmer Development)

## B-31 MIXED VEGETABLE SCHEME, WESTERN DIVISION, THE GAMBIA

### I PROJECT BACKGROUND

The Mixed Vegetable Scheme in The Gambia was launched with a pilot project in Western Division in 1971. The purpose was to introduce improved varieties of onions and expand production, thereby reducing reliance on imports (30,000 pounds on onions were being imported each year). Moreover, the project was designed to create an income-generating role for women and to open up as opportunity for women to form cooperatives and become part of the Gambia Cooperative Union. The project was designed and supported by the Ministry of Agriculture and Natural Resources, the Gambia Cooperative Union, and Freedom from Hunger (which provided a small revolving fund).

The idea for the project came from a British expatriate at the Yandua national agricultural research station. After the initial trials, the Ministry of Argicultural and Natural Resources decided to test the technological package in one village, and an organizational approach was developed with the Gambia Cooperative Union. It involved having the village chief call the women together and explain the program and to identify 30 participants who would form a local women's society (pre-cooperative).

Trained by a demonstrator (who then worked with the women on an almost daily basis), each woman cultivated about ten beds (24 by three feet). The Ministry of Agriculture and Gambia Cooperative Union delivered the fertilizer and improved seed and purchased the onion crop, deducting the costs of the inputs. From 1971 to 1973, the number of participants grew from 30 to about 960, or to about five percent of the women farmers in Western Division. In addition, the men assisted with the fencing and well-digging, making it a community endeavor.

### V. PROJECT SUCCESS

Growing ten beds of improved onions meant an increase in family income of seven percent. The requirements of the project were minimal in terms of labor, land, (provided by the village chief) and other family resource commitments. However, in an area where the average farm is about US$299, the additional funds were helpful, and were used for clothing and school fees.

In addition to having direct income benefits, the project has begun to institutionalize the role of women as innovators. Gradually, the pre-cooperatives are building management and leadership skills and have the potential for conducting other income-producing schemes. Moreover, the improved techniques, particularly in the case of Busumbala, have been applied to growing other vegetables.

The project expanded rapidly because there is little risk and the profitability of onion growing has been demonstrated. The limitations to the spread of the scheme are the ability of the Banjul market to absorb more onions, the level of funds in the Freedom from Hunger revolving fund, and the availability of trained demonstrators. There are now 32 schemes in Western Division, with about 960 participants. Also, the scheme is catching on in the other divisions.

Since the costs of the agricultural inputs and transportation are being deducted from the profits of the Gambia Cooperative Union, the only direct operating costs are those of the Ministry of Agriculture and Natural Resources and of the British Overseas Development Agency for the horticulturalist. An estimated combined cost was about US$13,000 for 1973. Total return to the women farmers in Western Division was about US$18,000. There are no plans to attempt to recover the cost of providing extension assistance.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

The project illustrates the effective introduction of a simple technology, and some basic points which can be applied in other schemes. First, the project was directed at women, a human resource that was underutilized in the area; moreover, it recognized and began to institutionalize the traditional role of women as innovators in The Gambia. Second, the technological package was tested on a small portion of village land by the women farmers themselves; they and other women from nearby village saw the results and were willing to adopt the package. Third, the value of a crop-specific, low-cost demonstrator has been shown; his almost daily presence helped insure that the new practices were being learned and applied and further, his work freed the regular agricultural extension workers for other tasks. Also, the Kembuje subproject shows that valuable assistance can come from a progressive farmer in a village. However, it is unlikely that many villages will have an individual like the Kembuje Chief who will take the time to help get a scheme launched and provide continuing assistance. Fourth, even though poor planning resulted in the loss of the first major crop through spoilage, the farmer was protected by the guaranteed purchase price.

## C-2 CHRISTIAN SERVICE COMMITTEE'S AGRICULTURAL PROGRAM, NORTHERN GHANA

### I PROJECT BACKGROUND

The Christian Service Committee's Agricultural Program in the Northern and Upper Regions of Ghana evolved out of the work of missionaries in these areas. The missionaries saw a need to help people improve their physical well-being. In the mid-1950's they set up farm schools which for one year taught young men reading skills, improved agricultural practices and religion. However, after this experience, the young men were unwilling to return to their family farms and sought employment in urban areas. In 1963, ministers in the two regions decided to import three trained agriculturalists, and gradually the approach shifted to the development of agricultural stations for testing and for assisting farmers to adopt new techniques for inputs.

Today, the Christian Service Committee (CSC) has ten agricultural stations located in remote areas of the Northern and Upper Regions. They are staffed by 21 agriculturalists, primarily from foreign voluntary services, assisted by Ghanians who have been recruited and trained locally.

The main purpose of the project is to assist the poorest of the small farmers in the area. Approximately 7000 farmers are helped by the project through the provision of extension assistance, the introduction of improved (and simple) agricultural production techniques and the delivery of inputs for the farmers to purchase. CSC is directly assisting only a small portion of the 18,000 farmers living on the 774,000 acres of land in the two regions.

Part of the operating expenses of the ten stations is covered by the sale of fertilizer, seeds and implements to farmers. The remaining part, plus the support for the foreign agriculturalists, comes from different church groups in Ghana, Europe and the United States. A rough estimate of the current yearly external support is about US$300,000.

## V. PROJECT SUCCESS

One serious shortcoming of CSC's work in Northern and Upper Regions is the lack of data on who the project is reaching and with what effect. It has been found that fertilizer doubles the yields of maize and groundnuts. However, the data do not allow CSC to determine the difference this makes in overall family income. This is true for other innovations as well. Moreover, it is unclear how many farmers the ten stations are actually helping. The estimate of 7000 farmers comes from the number of bags of fertilizer sold by CSC; this assumes that each farmer has brought one bag. According to CSC leaders, this would be a conservative estimate of the number helped. In terms of direct extension assistance in the villages, however, a rough average per station would be 300 farmers.

The simple technological innovations developed by CSC appear to be well-received by the farmers. Again, because of data inadequacies, it is not possible to measure the spread of these innovations in individual villages. This problem is particularly important when assessing CSC;s "preferred farmer" approach. To what extent do other farmers follow the lead of "preferred farmers"? CSC would say that the spread has been qualitatively significant, this impression has been backed up by the increases in CSC sales over the past five years.

There are limitations to the number of farmers the project can reach. As is evident in the case studies, strict extension follow-up is required. To provide increased coverage will require the training of more Ghanian agricultural extension workers. This is being done by CSC, though the number trained so far is only 12. Another limiting factor is the supply of agricultural inputs available in the area. While the German government has improved the distribution system, there have been times when stations have not been able to get the needed amounts of fertilizer.

Originally, CSC believed that the Ministry of Agriculture would be the primary means of spreading the innovations developed and tested by the agricultural stations. Because of the emphasis on mechanization and support to the larger farmers in increasing aggregate output, the Ministry does not appear to be ready now to perform this role.

An attempt has been made to cover the local currency costs of the CSC project through the sale of inputs to farmers. The chart below shows the amount of sales and the yearly program expenses (in dollars):

| | 1969 | 1970 | 1971 | 1972 | 1973 |
|---|---|---|---|---|---|
| Expenses | 32,174 | 52,174 | 81,739 | 177,773 | 432,172 |
| Sales | - | - | 49,435 | 110,885 | 321,739 |

In the most recent year (1973), sales covered about 65 percent of expenses. The remaining group was covered by donations from foreign and domestic church groups. In addition to these costs, there was the support for foreign staff members. A rough estimate of those costs not covered by sales would be US$326,000, or about US$47 per farmer (assuming 7000 farmers assisted). If a farmer uses fertilizer on an acre of maize and one of groundnuts, he stands to net an additional US$63 per acre.

In addition to the sale of inputs to help cover operational expenses, CSC is attempting to gradually turn the project over to the Ghanians. The training of the agricultural extension workers is continuing. However, one need will be to replace the college-educated, foreign agriculturalists; this will require additional local funding to attract experts of comparable quality. Foreign churches (as well as some foreign donors) are reluctant to pay high salary costs for qualified host country nationals, and it is questionable whether the sales of agricultural inputs or other income-generating activities can cover the replacement costs for the foreign experts.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

There are several lessons which can be drawn from the work of CSC in northern Ghana.

First, the missionaries, with their many years of experience in the area, have gained an understanding of farmer needs and the tribal differences which affect the manner in which innovations can be introduced most effectively. In most cases, it would be difficult to replicate this experience; rather, their experience represents a knowledge base to be tapped in project identification and design, and signals the type of information an external agent should have before intervening in a village.

Second, the innovations developed by CSC are simple and can be easily understood by farmers. Moreover, they are within the financial capabilities of the farmers if they perceive innovations as profitable.

Third, the CSS experience illustrates a process by which innovations may be effectively introduced. An improved input is first tested at the station, and then farmers are asked to test it on a small portion of their land. The major indicator of an innovation's success is farmers' willingness to pay for it in cash.

Fourth, CSC has been making attempts to insure the self-sufficiency of the project by covering a portion of costs by sales to farmers and developing the capabilities of Ghanians to take over the administration and operation of the project.

## D-20 LIPHEMBE MULTI-SEPVICE COOPERATIVE, WESTEPN PPOVINCE, KENYA

### I. PPOJECT BACKGPOUND

The Lirhembe Multi-Service Cooperative was launched in early 1972, primarily through the efforts of the local Member of Parliment (MP) who wanted to improve the welfare of his poorest constituents. The MP conceived the idea of the cooperative and refined it in discussions with his brother (a Planning Officer in the Ministry of Agriculture) and a Dutch professor at the University of Nairobi. The MP held two meeting to discuss the idea with local leaders and farmers and with their approval successfully sought the cooperation of Kenyan government officials. Working with the MP and his brother, the Dutch professor helped secure a grant of US$140,000 to finance the project from NOVIB, a private Dutch charity organization.

The objective of the project was twofold: first, to increase agricultural production through the introduction of grade cattle, hybrid maize, passion fruit, and vegetable growing; and second, to improve social services through the construction and use of a social center which contains offices, a workshop, classrooms, a canteen, and a film or social hall. The social center was to be the focal point for the activities of the cooperative and community.

Lirhembe is a very small geographic area (part of a sublocation) situated in Central Division, Kakamega District, Western Province, Kenya. The project area covers about 1000 acres, of which 900 are suitable for agriculture. There are 400 households in the area which formed the cooperative. Formally, Lirhembe is organized as a registered multi-service cooperative society and is run by an elected board of seven local leaders, primarily school teachers, with the MP as chairman.

### V. PPOJECT SUCCESS

While many of the farmers are deficient in one or more aspects of husbandry, the project has brought about a high rate of adoption for new practices (hybrid maize and fertilizer use, grade cattle and pasture preparation, dipping, and vegetable production). This has been done successfully in an area where previous government attempts have basically failed. In part the adoption was due to the personal efforts of the MP and members of the cooperative committee to persuade the farmers; also, it was due to farmer involvement in the project from the outset, first through discussion at social gatherings and later through the testing of the various technological packages.

Using rough calculations, the average family earned about US$142 a year from its land prior to the project; currently a family earns US$172 (or approximately a 21 percent increase in net annual income). These calculations, however, do not include the increased milk from local cattle because of dipping, nor the potential gain when the passion fruit becomes ripe.

Beyond the direct income benefits, the level and quality of services in the area has improved through the activities of the social center. There has been an increase in government extension services (probably at a cost to other areas), encouraged further by the cooperative's provision of a lunch allowance for government officials who visit their area. One indicator of the value that members place on the cooperative is that yearly dues and subscribed capital are fully paid (though there are credit arrears.)

Within the project area, it is estimated that at a minimum 70 percent of the families have adopted one or more of the new practices. This number is expanding as the number of grade cattle increases and the administrative capabilities of the cooperative grow. About 600 farmers from outside the project area have joined to take advantage of the hybrid maize package. However, the expansion of the project beyond its defined geographic area may reduce its effectiveness for the target population. Recognizing this, the MP is setting up similar schemes in three other areas.

The cooperative will probably not be able to pay off the initial capital provided by NOVIB, nor is this expected. However, the question at this point is whether the cooperative operations can be run at a profit. It is too early to tell whether the society's income will cover its expenses, though the arrears in maize loan repayment and the increasing administrative costs suggest that problems will be encountered. However, the society's budgetary projections indicate that running expenses can be covered. The cost of the project for NOVIB per farm family has been about US$180, and the yearly increase in income for an average family has been about US$30.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

Lirhembe was conceived, planned, and carried out by local individuals, private and government, without much direct donor involvement (though it should be noted that funds would not have been available without Professor Koopman's quiet intervention). The plan which evolved was straightforward and had limited objectives which contributed to the projects initial success.

First, Lirhembe is a very small geographic area with a cohesive population; it is doubtful that the project could be replicated in areas which have different ethnic groupings and political factions.

Second, the leadership of the MP (and of the teachers) was instrumental in getting people to participate and adopt new practices; it is questionable whether such leadership without monetary renumeration would emerge in other areas.

Third, Kenyan government officials provided intensive extension assistance, probably at the cost of aid to other areas. The combination of these elements contributed to the successful launching of Lirhembe and now to the three similar projects being initiated by the MP in other localities. However, it should be noted that replication of this type of effort is difficult unless the local leadership, initiative, and economic base for the cooperative are already in existence.

While these local circumstances contributed to project success, there are some basic lessons for future design and implementation. The project shows the importance of local involvement from the outset; one strength of the project was the communication channels, formal and informal, between the people and leaders (and government officials). Of particular importance was that the process included both consultation with the farmers and information dissemination at each phase of project development. The project also shows how a social center can assist in bringing about community endeavors, especially in areas where individuals are inclined to pursue their private interests in isolation. It is unlikely that the agricultural program would have gotten off the ground without the initiation of the social center program. Another element in encouraging the agricultural program was that new practices were demonstrated in the local area, and most cases, on the farmers' own land.

The NOVIB grant made the project possible. Control of the funding was in the hands of the local people, which appears to have made them more conscientious about its use. The inspections helped to insure that it was being used properly. This type of funding approach requires flexibility on the part of donors, but in the implementation of programs with limited objectives it may be a way to build local management, leadership, and organizational capabilities.

## D43 MAASAI PURAL TPAINING CENTPE, ISINYA, KENYA

### I. PPOJECT BACKGPOUND

The Maasai Pural Training Centre is a church-initiated project engaged in education and income-generating activities primarily on behalf of the Maasai people (roughly 410,000) located in the Kajiado District.

The area covers, 462,486 acres or 8,535 square miles. Following droughts in 1961, the project started as a famine relief center, when it took over the buildings and ground of what had been a detention camp during the emergency of the 1950's.

The project covers its annual operating budget of roughly US$85,000 from private foreign grants (most of which are channeled through the National Christian Council of Kenya), payments by the government of Kenya, and its own income-generating activities.

Organizationally, the Centre is an extension of the Diocese of Nairobi which has established a Board of Governors consisting of both private and public citizens to set policy. Each major activity has its own subcommittee. A project director and treasurer (both from England) and Ministry of Agriculture official seconded to the Centre are in charge of daily operations.

It is probable that 1000 Maasai, living within a 50-mile radius of Isinya, are involved in one or another of the Centre's activities each year. Two outposts, one in Kalma and one at Olkirmatial, together involve perhaps another Maasai. In addition, roughly 100 Kenyans who are not Maasai attend courses at the Centre each year.

### V. PPOJECT SUCCESS

Because of its many activities, many of which do not generate easily measured benefits, it is extremely difficult to measure the success of this project in quantitative terms. However, if it is assumed that the government-sponsored training activities are provided on a quid-pro-quo basis, then external grants of about US$23,000 per year are involved. Earlier, it was estimated that the tannery operations above was generating a net income to the Maasai of US$20,000.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

The Maasai Rural Training Centre is an example of a project that has evolved gradually through time with very modest doses of outside funding. Much of its success has depended on the willingness of the foreign project manager to work closely with local committees to develop new direction and overcome existing problems.

The project management is concerned about the effects of the project being limited to the Isinya area and has consequently set up two substations 100 miles inland.

The project has demonstrated an ability to work with government in constructive fashion. A Kenyan national is scheduled to take over the management of the project this year, and many will observe with interest whether the project continues on its successful course.

The project manager believes the Centre has been constrained by a lack of funds. He believes the project could have a much larger impact with more funds, provided that it had the time:

- to develop good working relationships with local institutions, and
- to develop meaninful project activities.

## F-13 NIGERIAN TOBACCO CO., WESTERN STATE ISEYIN DIVISION, NIGERIA

### I. PROJECT BACKGROUND

The Nigerian Tobacco Company was started by the British American Tobacco in 1933. NTC first introduced the growing of green leaf to small farmers by providing seedlings, extension assistance and purchase contracts for the leaf grown at a fixed price; the company brought and flue cured the leaf. Gradually production expanded, and NTC's main plant was constructed in Ibadan, Western State, in 1948. In 1954, NTC decided that the company would get a higher quality leaf at less cost if farmers did the flue curing and grading themselves. Moreover, this innovation would substantially increase the profitability of tobacco production for small farmers.

The project area (where flue curing has been introduced) is located in Iseyin Division, Western State, where there are about 7000 "green leaf" growers. To cure the leaf, there are over 1000 barnsites owned by about 3000 families. Originally, flue curing was introduced through cooperatives which mainly involved the larger farmers in the area. The company provided interest-free loans to the cooperatives for covering production costs as well as the costs of constructing the barnsites.

More recently, NTC has developed Farm Family Units (FFUs) which construct their own barnsites and do the curing and grading using family labor. Not only have the FFUs succeeded in getting the benefits to smaller farmers, but they have also proven to be sufficiently profitable that Barclay's Bank provides seasonal and medium-term (three year) loans for barnsite construction at commercial interest rates. Since 1969, the number of FFUs has grown from four to 704, with continued potential for expansion.

The small holder tobacco production and curing operation in the Iseyin area is managed by the Division Leaf Instructor who is responsible to the company leaf instructor in Ibadan. He is assisted by four senior leaf instructors and 32 leaf instructors.

### V. PROJECT SUCCESS

The difference in net return per acre between plain green leaf growing and growing plus flue curing is US$81. For a family in a FFU, this means a percent increase in on-farm income of 93.9 percent. It should be noted though that the farmers in the FFUs own slightly larger holdings than the area average. For those involved in the project, the increased income has provided better education for their children, more amenities and some savings. An additional benefit has been increased yields of maize grown in rotation with the tobacco (because of the use of fertilizer). Beyond the direct income benefits to the participating families, there have few additional benefits.

The growth rate of the FFUs is one indicator of their potential spread. The limiting factors are the rate at which NTC an expand its technical assistance, the capacity of the Ibadan plant and the size of holdings necessary (six acres available for tobacco) for farmers to participate in the FFU.

One purpose of the FFUs has been to reduce costs to NTC. The provision of credit through commercial bank channels rather than interest-free loans from the company is one step towards developing viable, unsubsidized operations at the local level. The other subsidies provided are seen (which NTC will continue to provide for quality control) and extension assistance, the need for which has become greater with the increased number of FFUs. The costs for administering the Iseyin Division operation were US489,000 in 1973, or approximately $80 per barnsite. It would be difficult, if not impossible, for the FFUs and FCPs to absorb this cost.

While the technical aspects of the operation an only be replicated in comparable areas where flue cured tobacco is produced, some elements of the NTC approach have broader application. One is the potential use of families as basis organizational units, particularly in areas where there is a high disparity in landholdings and income. Another element is the recruitment, training and supervision of extension workers. A third is the constant experimentation by NTC to make ventures more profitable to small farmers.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

There are several lessons which can be drawn from the NTC experience. First, the project shows that farmers, even illiterate ones, can handle complex technological packages if given adequate supervision. Second, it demonstrates the need to consider the type of organizational arrangement at the local level so that benefits accrue to the smaller farmer. Third, it illustrates that the special organizational arrangements and a profitable crop, commercial channels can be used to provide credit.

## F-23 ZARIA TOMATO PRODUCTION PROJECT, NORTH CENTRAL STATE, NIGERIA

### I. PROJECT BACKGROUND

The Zaria Tomato Project was initiated in late 1971 in North Central State of Nigeria. The purpose of the project was to develop a commercially-viable tomato paste industry. More specifically, the project was designed to introduced irrigated tomato production into the Zaria area and expand "wet" cultivation. Responding to national pressures to reduce imports, the North Central State Ministry of Agriculture and Natural Resources identified the project, arranged for the feasibility studies and invited Cadbury Ltd. to consider the investment. Cadbury Ltd. was selected because of its existing operation in Nigeria. Primary funding for the project comes from Cadbury Ltd., though major support is provided by the State Ministry of Agriculture and Natural Resources. There is also an FAO advisor to the project.

To grow tomatoes using irrigation, farmers are organized by village chiefs into groups of about 24 to cultivate eight acres of land (which is divided into private plots). Since the first year, the number of groups has increased from three to 40, or approximately 960 farmers cultivating 320 acres of land. This number of farmers cannot meet the needs of the Cadbury plant on a regular basis, so there is potential for expansion. However, even with such an expansion, the project will only reach a marginal percentage of the more than two million farmers in the state.

### V. PROJECT SUCCESS

The introduction of irrigated tomato production has proven profitable to small farmers, in addition to providing an alternative to off-farm employment during the dry season. Irrigation has increased yields sevenfold over those of traditionally grown tomatoes. Growing only one-third of an acre, a farmer stands to net US$184, which is about a 52 percent increase in his yearly income. The sociologist has uncovered tangible evidence of the increase in wealth of the six farmer groups that he examined. He found that several amenities had been bought, such as bicycles, and that the number of people visiting Mecca each year had increased from 100 to 500. Beyond this increase in income there are few institutional or communal benefits derived from the project.

Cadbury Ltd. has a need to extend both "wet" and "dry" cultivation of tomatoes. However, this will require increased efficiency and expansion in the provision of support. Moreover, to be profitable, future expansion may require alternative local credit and organizational arrangements.

The cost of the project to Cadbury Ltd. and FAO in 1973 was approximately US$260,755; this was supplemented by the support of the Ministry of Agriculture and Natural Resources, which was about US$94,000. The income generated for small farmers on the 320 acres under irrigation was about US$284,832.

## VI. LESSON FOR DESIGN AND IMPLEMENTATION

The project offers several lessons. First, it illustrates the problems which occur when there is a division of responsibility for project implementation. Second, it shows the need for timely provision of supporting assistance. Third, it shows the need to take account of the local power structure and the attitudes of the farmers towards that structure. To accommodate these attitudes, flexibility is required at the microlevel in structuring a project. In certain cases, a community-wide organization was appropriate, for there was little exploitation of the smaller farmers by the larger; in others where there was a tendency to exploit, sister organizations for separate groups were the best approach.

## F-42 UBOMA DEVELOPMENT PROJECT, EAST CENTRAL STATE, NIGERIA

### I. PROJECT BACKGROUND

The Uboma Development Project is sponsored by Shell-British Petroleum Nigeria in association with the East Central State Ministry of Agriculture. Uboma Local Council area covers approximately 25 square miles and consists of six villages with a current population of 40-45,000 people; it is situated in southern Nigeria near Umuahia. About 75 percent of the families are small farmers. Following a three-month search in 1963 by a Shell agronomist, Uboma was selected because it was representative of farm communities in the area; this fact, Shell believed, would allow the lessons from the planned technical assistance effort to be applied in other locations.

Following guidelines developed from Shell rural development projects in Italy and other countries, the Shell agronomist (a Nigerian who was to become the first project manager) sought the approval of local leaders (traditional, religious, educational, and political) through a series of meetings to conduct a detailed socioeconomic survey of the area as the basis for planning a low-cost technical assistance effort. The survey was approved by the local leaders and was initiated by the Shell agronomist and the University of Ibadan in September 1963. From this survey, the objectives of the project were formulated, which were:

- to improve the yield of major food crops;
- to improve the diet of the people through additional protein;
- to increase earnings from agriculture by expanding and diversifying the production of cash crops; and
- to improve the quality of social services and infrastructure in the area.

Moreover, the survey uncovered the patterns of local cooperation on which the implementation of the development strategy was based, and revealed simple innovations which would have a high initial impact on the local population.

The technical assistance phase of the project was launched in November 1964 on completion of the survey; field work began with the aid of the Shell agronomist. Over the past ten years, one Shell agronomist, helped by one or two seconded government officials and occasional outside experts, has acted as a catalyst for helping the people of Ubama tap into government programs, and has provided technical advice for improving agricultural production in the area. The cost to Shell Nigeria and Shell-BP has been about US$220,000, which is in addition to regular government expenses in the area. There has been an estimated five-to-one return in net income generated in Ubama over the Shell-BP investment of technical assistance funds.

## V. PROJECT SUCCESS

Even though project implementation was hampered for 30 months during civil war, the aggregate results of the project are impressive. Some of the most significant are:

- over 1600 acres of rice production;;
- 864 acres in improved oil palms;
- 1955 budded citrus stands planted;
- over 70,000 pineapple stands planted;
- 29 acres of fish pond constructed and stocked;
- 88 acres of irrigated dry vegetables grown annually;
- 15 small poultry and ten small piggery farms in operation;
- two rice mills and a mobile rice processing unit established; and
- the formation of 17 farmer cooperatives, and creation of the Ubama Farmers' Cooperative Union.

Using rough estimates of the net income generated from these innovations, the increase in average family cash income from the land (4500 families) over the past ten years approximates 37 percent. Unfortunately, the data does not allow an assessment of the distribution of this increased income. Clearly, the most progressive farmers, through whom the project has worked, have benefited significantly, particularly from improved oil palms. Field interviews indicate that about 75 percent of the smallest farmers, who hold two to three acres, have adopted one or more of the innovations. However, there is still the possibility that the project has caused an increased disparity in income distribution within the area.

Beyond the direct income benefits, the project has strengthened institutional capabilities in the area so that community improvement activities are now initiated, financed, and carried out locally.

Shell-BP major input into the project has been technical assistance personnel; this investment, as mentioned earlier, has been about one-fifth of the total net income generated in the area over the past ten years. The intent of this assistance was to exploit a community's resources whether they were funds from the government, or the labor and latent skills of the people themselves. While Shell considers these inputs to be totally external to project costs, the availability of government funds played a vital role in bringing about behavioral changes at the local level.

Perhaps a more significant question at this point is whether the project would collapse if Shell personnel were withdrawn. In terms of those innovations that have been widely accepted by the farmers, the delivery and marketing systems for the most part are functioning effectively. Moreover there has been an increase in management capabilities, farmer and institutional (through the cooperatives and other associations). Still, the Shell personnel play an important catalytic and troubleshooting role; without their support, project activities would continue and grow, though perhaps not as efficiently. It is doubtful at this point that the Uboma Local Council or the Farmers' Cooperative Union would finance this technical assistance, not because of a lack of appreciation, but because of a shortage of available funds.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

The Uboma Development Project shows how local resource, government and private, can be mobilized in a development effort with an infusion of technical assistance. Moreover, it suggests strongly that the effectiveness of technical assistance depends largely on the manner in which it is given, not necessarily on the amount of aid funds.

There were some unique features to the Uboma project which contributed to its success. Perhaps the most important of these was the rapport that the Shell agronomist who initiated the project was able to develop with the farmers. In addition, the availability of a major market in Umuahia provided an outlet and probably an incentive to farmers for increasing their production. However, many of the techniques can be applied in similar agricultural development projects, as Shell-BP is currently doing in Rivers and Mid-western states.

More broadly, the Uboma Project offers major lessons for future project designs.

First, the information collected in the socioeconomic survey was used to plan and implement the development effort. More specifically, it illustrates the types of information necessary for operational planning. For example, it is doubtful that the cooperative endeavors could have been launched without a detailed understanding of the social organization of Uboma. Further, through the interaction which took place during the data collection effort, the Shell agronomists, or field operator, got a better understanding of the needs of the local population and the importance to them of various local organizations and family relationships.

Second, the project illustrates the importance of local involvement in decision-making from the outset. Local leaders, because they were involved, understood the purpose of the project and were able to enlist local support.

Third, simple technological innovations were introduced. They were tested on the farmer's land, and usually on a small portion of his land, and were located in areas which people frequented. Once an innovation proved to be successful, the project staff was able to draw its knowledge of local organizations, communication channels, and customs to promote adoption.

Fourth, the project concentrated on income-producing activities, assuming that as capabilities increased at the local level the leaders and groups would take the initiative in improving rural services.

## G-2 DESEC, CENTER FOR SOCIAL AND ECONOMIC DEVELOPMENT, BOLIVIA

### I. PROJECT BACKGROUND

Initiated in 1963 on a regional basis and currently national in scope, DESEC (Centro Para El DEsarrollo Social Y Econominco) is a private sector program dedicated to assisting Bolivian campensinos (peasants) overcome their marginal socioeconomic status. DESEC seeks to promote, on the one hand, the organization of democratic rural base institutions run by and for peasants. On the other, it seeks to assist the project activities of these base institutions by making available to them a variety of professionally administered technical assistance services. In the process, DESEC attempts to mobilize both the human and capital resources of the peasants as well as foreign funding to finance income-generating and social betterment endeavors on behalf of the rural poor.

Since its inception, DESEC has organized 200 local (community) groups with a combined membership of some 3000 rural Bolivian families from five of the nation's nine departments. About 120 of these groups are affiliated into a national peasant federation known as APADO. Most of the base groups have been organized, in turn, into zonal and regional interest groups along project or product-specific lines to form cooperatives, input and marketing centrals, and producer associations. To channel technical assistance and other outside resources to these peasant-managed institutions, DESEC created four service agencies:

- o ASAP (for agricultural, livestock and artisan craft promotion),
- o VIPO (to assist housing projects),
- o ICE (to support peasant education), and
- o SEPSA (to provide rural health services).

While DESEC hopes eventually to place the services of these agencies on a self-supporting basis, their continued operations are still largely dependent on outside grants, mainly from Canadian and European sources.

DESEC was conceived, organized, and continues to operate through the efforts of Juan Demeure, a Bolivian national totally dedicated to the social and economic improvement of the rural campensinos. With university degrees in pedagogy and psyschology, and coursework in sociology and economics, Demeure was consultant to DESAL between 1958 and 1962. His assignment was to help organize and evaluate rural development projects - first in Chile, then in Bolivia, Peru, and Venezuela. From this work he acquired the conviction that the only way peasants could overcome their socioeconomic disadvantages wasthrough organization of interest groups. Work in the field taught Demeure how to organize peasants and the appeals which would draw them together. Determined to begin directly assisting Bolivian peasants, Demeure started full-time in 1963, opening an office of DESEC in La Paz but spending most of his time in Cochabamba, where he had previously identified organizations he felt might serve as the nucleus for a rural development program.

## V. PROJECT SUCCESS

In the one ASAP technical assistance project total income of participants increased ten percent (30 percent increases of cash income). There were also significant demonstration benefits, at least three to one, suggesting that other non-participant small farmers were benefiting from the knowledge which the project made available. None of the other projects were investigated in detail, but we have no reason to believe they do not deliver income benefits.

DESEC report previous technical assistance failures; e.g., attempts in Cochabamba to introduce improved sheep prior to the development of improved pasture, and attempts in the Altiplano to increase agricultural productivity. Recognition of these failures should ensure that ongoing technical assistance programs will benefit small farmers, as well as become self-sufficient; another of DESEC's goals. In addition, the continual interaction with APADO peasant non-applicable to local circumstances will be quickly identified, modified or dropped.

Probably more important than delivery of benefits is the increased capability of peasants, united in an organization; which pyramids from rural community to national headquarters; to complement outside assistance with their own resources, land, labor, cash and management. The failures in the program have been technical failures (the technology did not work), not failure of local involvement; insofar as voluntary contributions could make a project successful, they have been forthcoming. Increased literacy, the building of leadership positions, the election of community, regional, departmental and national leaders, the strong and positive interaction with DESEC and service organization professionals have led to increased confidence that development is possible.

While there has been a flow and ebb of APADO membership (around 3000 families on average) depending on the success of programs, the steady trend has been toward more membership and more peasants directly involved in the development projects. DESEC's policy of expanding the peasant base appears to have been curtailed in 1970, due to a funding constraint required existing service organizations to become self-sufficient. Since there are upfront costs to most new projects, those underway received priority, and new promotional or organizational efforts were assured. In 1974, DESEC/APADO appear to be in a position to make good use of more external funding, with a prepared peasant organization and an established service mechanism. There is every reason to believe they will become a major factor in the rural sector in Bolivia in the future.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

DESEC/APADO appears to be a model of successful rural development in a very poor, traditional country. Dedicated leadership from outside the rural peasantry helped motivate, train and assist in the creation of a national peasant organization, with roots firmly in the countryside, responsive to outside cooperation and assistance, but financially and politically independent. In a country where political tremors have often rocked the rural countryside; there was a state of martial law in Cochabamba for months during 1974; APADO has maintained its apolitical alignment, while still serving as a focus for peasant interests. The thrust has been the optimization of local resources and capabilities with outside assistance introduced as required and available. A dependency relation has been avoided, and APADO base units promote change in areas where there are no technical assistance projects underway.

Interaction between the service organizations and the peasant organizations appears to be excellent. Project were modified as they were unsuccessful, transferring as many functions to the peasant organization as they could handle; particularly those projects which needed community and group pressure to insure success (i.e., credit repayment). ASAP in Cochabamba was experimenting with the provision of technical extension assistance to rural cooperatives on a pay-for-service basis, which would give the local members strong incentive to make their needs known, and to use the advice they were paying for. The wide diversity of projects types, organizational schemes and methods of financing suggests that the project takes to heart its own policy of adapting the assistance to local circumstances. It has proven to be very successful, on a modest but significant scale, in rural Bolivia.

The DESEC organizational scheme offers insights into the community-versus-individual base for project organization, another often debated consideration for countries at very low levels of development. Although good results have been obtained by projects which include the entire community in Bolivia, DESEC has deliberately sponsored a peasant based organization which contains much but not necessarily all the community. Individuals join APADO; there is no requirement for automatic participation by all community residents. The functional committees of APADO may be joined by non-APADO members, a rule which further extends the project to non-joiners and gathers supports from those interested in one development subject, but not in peasant organizations per se.

The evolution of DESEC's and APADO's local-to-national organizational structure has involved a great deal of high level professional talent, in organizing peasants as well as technical assistance to complement peasant organizations. The peasant base, APADO centers and committees with their related networks, centrals and cooperatives, and the service organizations, with their interlocking directorates with DESEC, are complex and demanding organizational entities. Only a man like Juan Demeure could conceive and bring into existence such a complex development project. Peplication in other environments would require similarly qualified leadership.

Another lessons not be overlooked is the fragility of peasant organizations. Leadership, cooperation and management are underdeveloped skills; there is often no history of the kind of decision-making necessary to make such an enterprise function. DESEC has provided just the right kind of help; training to increase peasant capability, bolstering the faltering steps toward independent decision-making, assisting with funding, housing for leaders, transportation; while promoting autonomy and independence. Juan Demeure is an exceptional man, and his innate sense of when to help and when to step back has lifted APADO to its present prominence. His and DESEC's roles have not ended, and there will be a continuing need for the kind of repectful outside cooperation which DESEC has brought to rural development in Bolivia.

## J-2 PLAN PUEBLA, STATE OF PUEBLA, MEXICO

### I. PROJECT BACKGROUND

The Valley of Puebla, located about two hours drive southeast of Mexico City, is a mountain plateau densely populated by some 43,000 small farm families cultivating approximately 126,000 hectares (311,220 acres) of arable land. A region of predominately rainfed agriculture (only 15 percent of the farmland is irrigated), farms are uniformly small, averaging about 2.4 hectares (5.9 acres). Corn is Puebla's main crop, grown both for family consumption and market sale, and takes up about 90 percent of the typical farmer's cultivable property.

It was this setting that a group of agricultural scientists from CIMMYT (International Maize and Wheat Improvement Center in Mexico supported by the Rockefeller Foundation) and the National School of Agriculture at Chapingo chose as their laboratory to launch one of the first efforts ever attempted to promote increased productivity and income among exclusively small farmers. Now beginning its eighth year of labor, plan Puebla has been a training ground for rural development practitioners from throughout Mexico and the Third World. The subject of extensive literature and several international conferences, the so-called Puebla strategy has become somewhat of a legend in its own time.

Initiated in 1967, Plan Puebla is a pilot project designed to develop, field test and refine strategy for rapidly increasing yields of a basic food crop, corn, on the farms of subsistence producers located in rainfed areas. An additional objective, added in 1970, is to train agricultural technicians, professional and subprofessional, domestic and foreign, in the elements and successful use of this strategy. The strategy itself consists of an integrated and simultaneous delivery of the following prerequisite services:

- Applied research on high yield crop varieties and cultivation practices at the farm level.
- Effective communication of agronomic and other production related information to small farmers.
- Provision of adequate, timely, and accessible supplies of modern inputs, together with the credit necessary to finance their appropriate use.

- Secure and renumerative market prices for small farm surpluses.

- Promotion of farmer organizations and group action for credit procurement, marketing, and other activities which benefit the rural producer.

- Provision of crop insurance.

- The maintenance of ongoing program evaluation activities.

By the end of 1973, when CIMMYT's financial sponsorship of the program was terminated, (the Mexican government through the graduate college of Chapingo has assumed responsibility for its continuation). Plan Puebla's accomplishments are as follows;

- Directly reached 7200 small farmers representing 22,343 hectares, about 55,000 acres or about 17 percent of the producers in the region.

- Created 284 rural groups.

- Developed 16 different corn production technological packages.

- Increased the corn yields of project participants by an average of 979 pounds per acre.

- Was generating direct net income benefits estimated at $1,367,643 or about $190 per project participant.

It should be noted that these accomplishments were achieved by a staff which never exceeded two dozen professionals and subprofessionals and whose total administrative costs averaged $132,150 per year during its first seven years of operation.
The total administrative costs of Plan Puebla from 1967 through 1973 was $ 925,045. Of this amount, $406,308 (44%) was spent on agronomic research activities, $107,975 (12%) for project coordination, $299,059 (32%) for communications, and $111,709 (12%) for evaluation.

## V. PROJECT SUCCESS

The productivity and income achievements of the Puebla project have already been cited in the opening section of this write-up. The following will compare the project outcomes measured in 1970 against the benchmark information gathered in 1967.

In 1967 total farm family income of the region's small-holders averaged $667. A general sample survey conducted in 1970 (including farmers on credit lists and those who were not) revealed farm family income, adjusted to 1967 prices, had increased to $825, a change of 23.8 percent. In terms of value, crop earnings for the average family had grown from $202 to $293 per year, an increase of 45%. However, considering those families on credit lists, income from crop production averaged $400, a 98% increase. These figures suggest a substantial benefit flow accruing to project participants, but equally important, they would indicate that non-participants have also benefited, most likely by a slow diffusion and imitation of Puebla-generated technology between those farmers using credit and those who do not.

In this regard, it is important to clarify that Puebla technology is by no means so expensive that only credit users can afford it. For example, through refinement of technological recommendations the average cost per hectare of the average input package has fallen from US$62.89 in 1967 to $41.93 in 1973. Using the traditional technology, most small farmers were already using in 967 (and continue to do so today ) some chemical fertilizer. The average fertilizer cost per hectare for traditional use levels was estimated at $23.10 for the 19968-73 period, or $9.24 per acre. Thus there is currently only about an $8 cost differential between the traditional and the new technology on a per hectare basis ($3.24 on a per acre basis) which places self-financed adoption or partial adoption of the new technology well within the realm of possibility for the average small farmer of the region. For this reason, as noted earlier, the Puebla project claims to have generated during its first seven years about $2.6 million of indirect benefits in the Valley of Puebla.

A second area of project benefits involves rural employment. The traditional technology requires an average of 16.2 man-days of labor per acre (40.6 man-days per hectare); the new technology of 21.1 (or 52.7 man-days per hectare); an increase of 30 percent. Considering that project participants in 1973 (7194) cultivated 20,604 hectares (50,892 acres) the increase in regional demand for labor (at 4.8 extra man-days per acre or 12.1 per hectare) was 246,888 man-days higher than in 1967. It is further estimated that an additional 12,450 hectares (30,752 acres) planted by non-participants also employed the Puebla technology, which would raise the increase in labor demand to 150,000 man-days. Distributed over the region's 43,000 farm families, the increase in labor demand represents 9.3 man-days per family.

It is noteworthy that productivity and income gains generated by the Puebla project have been converted into significant improvement in the standard of living of the rural population.

According to the 1971 mid-term evaluation, the proportion of farm families who fish every four to seven days increased from 3.2 percent to 11.3 percent 1967 and 1970, while the proportion of families who said they ate fish at least once a month doubled. Similar improvement was registered in family consumption of cheese, poultry, eggs, fruit and to a lesser extent, beef and pork.

With respect to home improvement, between 1967 and 1970 some 29 percent of the region's farm families made repairs, additions or other improvements on their houses. Local investments or activity to improve public services were also recorded during the first three years of the project. The number of farm homes with electricity increased by 14 percent; those with potable water by seven percent. In 1970 as many as two-thirds of all farm families believed they could afford to have their children complete primary school, and 21 percent believed their children could complete secondary school.

## VI. LESSONS FOR DESIGN AND IMPLEMENTATION

If judged by the rigorous criteria and expectations of its planners and implementers, the Puebla project can only be considered a partial success because it has not grown fast enough. But as a carefully planned, comprehensively integrated, focused and self-critically implemented rural development pilot project, Plan Puebla has few equals anywhere in the world.

Perhaps the true importance of the undertaking is not measurable in terms of the benefits, however impressive, received by the project's participants and the local population in general; rather it lies in the wealth of lessons learned and experienced gained in the course of Puebla's evolution as a pilot project. Most of these knowledge gains have been mentioned earlier and merit only brief summary at this time.

Puebla demonstrated that modern agriculture technology relevant to small farmers requires for its development both meticulous and ongoing adaptive research at the farm level, as well as the active participation of small farmers themselves in the research enterprise. The project shows that developing the technology is only the first step; subsequent investments in local communication, farmer group organization and a panoply of credit and other service institutions are essential for adoption of the technology to proceed rapidly. In the process, difficult problems of an institutional, cultural and interpersonal nature involving both project participants and outside change agents must be faced candidly and resolved with commitment and resourcefulness if the full potential of rural assistance activity is to be realized. At all times a project seeking to benefit small farmers must demonstrate an ability to listen to the opinions of the people it wishes to help; the project must encourage their active participation as change agents in expanding program coverage to other producers like themselves.

And finally, the Puebla experience demonstrates that the development and conscientious use of a methodology for ongoing project evaulation is indispensable to the success of small farmer assistance activities. At the very least, no objective assessment of project achievements is possible without such a formalized information system. At best, a periodic evaluation capability can provide highly effective tools for isolating program deficiencies, learning from mistakes, replicating successes and generally increasing opportunities for improved program performance.

If the Puebla project teaches us anything, it is that developing suitable technology is merely one of many components of the success equation. In the last analysis, the crux of the rural development dilemma lies less with persuading small farmers to adopt new behavior recommended by outsiders than it does with persuading outsiders to change their behavior and attitudes toward small farmers. And chief among the changes required of outsiders is the realization of their own vulnerability: that they do not have all the answers, that they cannot monopolize the process of rural development; that they cannot, in brief, help small farmers without the latter's assistance.