

AGRICULTURAL CREDIT, INPUT, AND MARKETING SERVICES:  
ISSUES AND LESSONS FROM A.I.D. PROJECT EXPERIENCE  
-- AN INTRODUCTORY REVIEW

AID PROGRAM EVALUATION REPORT NO. 15  
(Document Order No. PN-AAL-079)

by

Ray Solem  
(Bureau for Program and Policy Coordination)

David Wilcock  
(Development Alternatives, Inc.)

Barbara S. Lynch  
(Independent Consultant)

Peter Taylor  
(Independent Consultant)

U.S. Agency for International Development

August 1985

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

## TABLE OF CONTENTS

Foreword

Preface

Summary

### 1. Purpose and Approach of the Evaluation

- 1.1 Background
- 1.2 Scope and Products of the Evaluation
- 1.3 Evaluation Study Samples
- 1.4 Caveats

2. Analysis of Types of Agricultural Services
  - 2.1 Agricultural Credit Projects
    - 2.1.1 Appropriateness of Credit Projects
    - 2.1.2 Availability of Credit
    - 2.1.3 Profitability of Utilization of Credit
  - 2.2 Agricultural Input Projects
    - 2.2.1 Appropriateness of Agricultural Inputs
    - 2.2.2 Timeliness of Delivery of Agricultural Inputs
    - 2.2.3 Profitability of Inputs
  - 2.3 Agricultural Marketing Projects
    - 2.3.1 Appropriateness of the Markets
    - 2.3.2 Timeliness and Accessibility of Markets
    - 2.3.3 Profitability of Markets
3. Analysis of Delivery Mechanisms for Agricultural Services
  - 3.1 Public-Sector Delivery Mechanisms
    - 3.1.1 Advantages of Public-Sector Delivery Mechanisms
    - 3.1.2 Disadvantages of Public-Sector Delivery Mechanisms
  - 3.2 Mixed Public/Private Delivery Mechanisms
    - 3.2.1 Ad Hoc Combinations
    - 3.2.2 Parastatals
  - 3.3 Private-Sector Mechanisms
    - 3.3.1 Private Voluntary Organizations
    - 3.3.2 Cooperatives
    - 3.3.3 Private for-Profit Delivery Mechanisms
4. Lessons
  - 4.1 Agricultural Service Lessons
  - 4.2 Delivery System Lessons
  - 4.3 Conclusion

## Appendixes

- A. Summaries of the Five Impact Evaluations in the Agricultural Service Series
- B. Summaries of the Sample of 44 Projects

## FOREWORD

In October 1979 the Administrator of the Agency for International Development (AID) requested the Office of Evaluation in AID's Bureau for Program and Policy Coordination to

provide for a series of evaluations of the long-term impact of AID projects from representative sectors of the Agency's worldwide program. These impact evaluations are to be done with a view toward ensuring that cumulative findings are of use to AID and the larger development community.

This study is a synthesis of a series of five such impact evaluations focusing on AID's experience with agricultural credit, input, and marketing service projects. Carried out between 1982 and 1984, the series opened with a survey of all available documentation in AID files. Some 203 projects were identified in which delivery of agricultural credit, input, or marketing services was a primary objective. Of that universe, a sample of 44 projects was selected for close review, and of that sample, 5 were selected for field-level impact evaluations. Upon completion of the field-level impact evaluations, a conference of experts from the international donor, university, and consulting communities was held to review preliminary results.

The final version of this synthesis, thus, has benefited from passive documentation review, field-level work with host country participants in the programs, and a subsequent review of conclusions in a conference setting. The number of authors cited on the cover reflects this multitiered process of report preparation.

The findings, we believe, are well considered, although responsibility for them rests with the authors alone. In certain areas, for example in the discussion of methods for delivery of agricultural credit, criticism is harsh and suggested remedies represent a dramatic departure from traditional approaches. In other areas, for example discussion of alternative delivery vehicles for agricultural services, the material is more explicative of the relative strengths of each approach (e.g., government agencies are most effective in policy projects, whereas private sector entities do better at retailing services) than judgmental about prior performance.

It is hoped that this Program Evaluation Report will both (1) "pull together" the material from the many inputs to the series and (2) stimulate interest in directing the reader back to the impact evaluations themselves.

## PREFACE

Between 1958 and 1982 the Agency for International Development (AID) engaged in over 200 projects in which a primary focus was providing agricultural credit, input, or marketing services. With the continued importance of agricultural projects in the AID portfolio and the changes in emphasis within the sector over the years, AID's Center for Development Information and Evaluation (CDIE) resolved in 1982 to review that experience with a view toward seeing what lessons it might suggest for

future project design and implementation efforts.

The focus of the CDIE review was an examination of the entire universe of agricultural credit, input, and marketing projects from two perspectives: the services themselves and the methods for delivery of such services. Questions posed were as follows:

What have we Learned about agricultural credit, agricultural inputs, and agricultural marketing that might make us more effective in the future?

What are the various vehicles that have been used for delivery of such services (e.g., public, mixed public and private, and private), and what are their respective strengths and weaknesses?

This review comprised several steps taken over a 3-year period. The first step was a search of all documentation available in AID's CDIE information bank concerning agricultural service projects, a review of evaluation abstracts for 203 projects, and a study of all available project documentation for a sample of 44 projects. This was followed by field visits and full impact evaluations for 5 of the 44 projects. Finally, CDIE prepared a draft synthesis of the findings of the agricultural services investigations and sponsored a conference for AID and other international donor agency, consulting, and private voluntary agency experts on the subject to review such draft findings.

The final outcome of the above activity is the Program Evaluation Report that follows. It is an introductory review, as the scope of the study is a broad look at agricultural services rather than an in-depth examination of each component. CDIE plans to undertake further evaluation studies of some of the principal activities reviewed in this report, for example, small farmer credit. Opinions expressed are those of the authors alone. The basis for them, however, is some 3 years' work and the goodwill and assistance of many people from throughout the economic development community. If the final product is of value, they are to be thanked.

## SUMMARY

Between 1958 and 1982 the Agency for International Development (AID) engaged in over 200 projects in which a primary focus was providing agricultural credit, input, or marketing services. In 59 percent of the projects, AID worked with public institutions, usually regular government agencies, to deliver these services. In other projects, AID cooperated with special mixed public/private organizations (25 percent) or with businesses entirely within the private sector (16 percent), that is, private voluntary organizations (PVOs), cooperatives, or regular for-profit enterprises. In 1982, an evaluation study of these projects was begun. The purpose of the evaluation was to

assess the tradeoffs among the various approaches to delivery of agricultural credit, input, and marketing services and to attempt to draw conclusions about the strengths and weaknesses of each.

The first task of the evaluation was to review all relevant projects in AID's automated data bank to establish a general knowledge base about the types and trends of agricultural services offered and to identify key issues and lessons Learned related to impact of services.

A major conclusion of the analysis of all the agricultural service projects reviewed -- whether agricultural credit, input, or marketing -- is that three conditions must be met for a project to succeed:

The service must be appropriate to the user, that is, technologically feasible and financially desirable.

The delivery of the service must be compatible and timely to the user.

Utilization of the service must result in profit for the user.

The absence of any one of these conditions can cause a project to fail.

More specifically, credit policies for agricultural credit projects must be appropriate to the local small farmer credit environment. Many programs have failed because credit funds were priced below the costs of administration, inflation, and other costs, thus causing decapitalization of lending institutions. Loans must be available through procedures that are timely and compatible with the small farmer's customary ways. Many programs have failed because loan processing was too slow and because loan application procedures were too complicated for the small farmer to deal with. Credit utilization must be profitable to the farmer; unfortunately, government policies, weather, and other factors result in financial losses and farmers lose interest in applying for credit.

Agricultural input projects must provide inputs that are technologically feasible in the small farmer's environment. Often they are too advanced for the farmer's resources and knowledge base or too complicated for the local system of transportation and communication to support. Delivery of the agricultural inputs must be timely. Many inputs must be completely written off if they are not available at the proper time in the season, and concern about this possibility of failure may inhibit farmers from experimenting with new inputs even where delivery problems have been resolved. Utilization of the inputs must result in a marketable, profitable product for the farmer, which means that inputs must be coordinated with the overall farming system and supportive price and economic policies at the national level.

For agricultural marketing projects, services must be appropriate to the systems available in the user's environment. This might be collecting crops at the farm gate, handling small

increments, and providing assistance with crop drying and storage. The market services must be timely. Most farmers, especially in the tropics where risks of spoilage are high, prefer an immediate sale to a private trader over a later sale to a government agency, even when a higher price is offered. Yet marketing the crops must result in a profit if the incentive to produce is to be maintained. The two most frequent causes of price problems are government policies and seasonal volatility caused by short-term supply considerations.

The second task of the evaluation was to look closely at the advantages and disadvantages of the various (public, mixed, and private) approaches to delivering agricultural credit, input, and marketing services. The evaluation revealed several interesting trends in use of approaches. Use of private-sector systems for delivery of agricultural services in AID projects has been increasing, from 4 percent prior to 1973 to 22 percent since 1973; and, among private-sector delivery systems, AID has relied most heavily on PVOs in Africa and Asia and on cooperatives in Latin America. The Near East program has used both vehicles equally. Private, for-profit vehicles have been scarcely used in delivery of agricultural services. Of the 203 projects from the CDIE data base, 60 percent delivered agricultural services primarily through public-sector institutions, 25 percent through mixed public/private agencies, and 15 percent through largely private-sector vehicles.

One concern of the analysis was to draw conclusions about the mixture of these methods as a means of meeting program and policy objectives in a specific country or region. The choice of methods must be based on a thorough knowledge both of the agricultural production and marketing systems of each country and of its social and political processes. The following conclusions highlight the appropriate roles of each type of delivery mechanism for various types of activities.

Three types of agricultural service interventions are best handled by public-sector agencies:

1. General impact, such as infrastructure development and maintenance projects, where costs are too high and the benefits too diffuse for any but a taxing authority
2. Public policy, in which the project focuses on a particular policy intervention, such as import and export policies, or exchange rate adjustment
3. Transfer programs, such as price-support or input-subsidy programs, in which the objective is to improve the economic rewards from certain activities

A review of the AID portfolio reveals no conflict about the appropriateness of public sector vehicles for these programs.

A mixed public/private entity has been most effective when agricultural services required management that is intensive, responsive, and flexible on the one hand, yet required political

influence in the interest of program objectives on the other. The major categories of such public/private entities are para-statals and ad hoc combinations.

Parastatals have been established where private investors are unwilling to invest on their own, where an activity requires a sophisticated level of business management (as with private firms), or where the authority of government is required to carry out specific activities effectively. Examples include institutions that provide specialized credit, produce and distribute seed, and export commodities. Ad hoc combinations are formed when the required tasks are beyond the scope of a single institution, such as when farmer associations unite with public agencies to implement a rural development project. Ad hoc combinations are often effective in ensuring participation of client groups in project decisionmaking. However, these combinations may be characterized by inefficiency and conflict when the institutions involved have different management styles and interests.

Private-sector institutions generally are most effective when agricultural services require a flexible management approach and individual contact with client farmers, such as in retailing production inputs and purchasing production outputs at the farm gate. Private-sector institutions may be divided into three categories: private voluntary organizations (PVOs), cooperatives, and private for-profit entities. PVOs have excelled at providing diverse services to target clients, particularly those often overlooked by public or mixed delivery systems. Their particular strengths include dedication of staff and access to a range of resources. Weaknesses include financial instability because of dependence on donor support, difficulties in satisfying the donor's implementation requirements, and a general inattention to the need for long-term institution building. Cooperatives often have been successful in serving their clients' interests in agricultural service projects. Their activities include lobbying for policy changes; ensuring local participation and commitment; and implementing delivery systems for credit, inputs, and marketing. However, cooperatives often are characterized by poor financial management, inability to make decisions without consulting their membership, and domination by government agencies. Private for-profit institutions are particularly effective in projects involving transactions at or near the farm gate. Private businessmen providing agricultural services are often from the local area and thus understand the social system and have interests closely identified with the farmers they serve. Moreover, they tend to be more stable, entrepreneurial, and flexible, and have lower costs than outside public or mixed institutions.

## 1. PURPOSE AND APPROACH OF THE EVALUATION

### 1.1 Background

Programs supporting agricultural development have been the cornerstone of U.S. bilateral assistance efforts during the past 35 years. In the early years of bilateral assistance, which were characterized by an emphasis on heavy industry and on import substitution related to industrialization, Agency for International Development (AID) leaders realized that a healthy agricultural sector is requisite to the development of a more modern economy. Furthermore, they believed that, as the world's foremost agricultural producer nation, the United States should offer its agricultural development experience to developing countries. Unfortunately, agricultural development in countries receiving assistance has generally not met expectations during the past several decades. Results have been mixed at best,<sup>{1}</sup> and, in some parts of the world, stated program and project objectives have not been achieved.<sup>{2}</sup> For a number of reasons, the early 1980s have been a critical time for bilateral and multinational agencies attempting to come to grips with this failure in rural development efforts. Soaring energy costs and inflation rates, worldwide recession, and massive debt repayment difficulties have put many developing countries in vulnerable positions. The world donor community, led by the World Bank, has begun to put unprecedented pressure on numerous countries to promote policy and administrative reform, largely to facilitate debt restructuring and more efficient project management.<sup>{3}</sup>

At this critical juncture, AID has undertaken a multifaceted review of its worldwide portfolio of agricultural development programs. For the purpose of analysis, AID's agricultural programs have been divided into several categories. Agricultural research was the subject of an impact evaluation series completed in 1982,<sup>{4}</sup> and systems promoting irrigated agriculture were evaluated in 1983.<sup>{5}</sup> The current evaluation explores systems for delivering certain agricultural services -- specifically, credit, input, and marketing services. This series is designed to examine delivery systems for services related to several activities universal among farmers, including attaining necessary production credit and inputs and disposing of production output. Agricultural extension, which provides the bridge between tangible inputs and agricultural research, is excluded, as are services that are intimately intertwined with government policies, such as general price and credit controls, import/export procedures, and crop insurance.

---

<sup>{1}</sup> See, for example, World Bank, *World Development Report 1983* (New York: Oxford University Press, 1983); and Bruce F. Johnston and William C. Clark, *Redesigning Rural Development: A Strategies Perspective* (Baltimore: Johns Hopkins University Press, 1982).

<sup>{2}</sup> Africa perhaps best represents a region that has suffered massive program failure and a declining agricultural performance. See, for example, World Bank, *Accelerated Development in Sub-Saharan Africa: An Agenda for Action* ("The Berg Report") (Washington, D.C.: World Bank, 1981); Carl K. Eicher, "Facing Up to Africa's Food Crisis," *Foreign Affairs* 61,

1 (Fall 1982); and Christopher L. Delgado and John W. Mellor, A Structural View of Policy Issues in African Agricultural Development (Washington, D.C.: IFPRI, July 1984).

{3} For a provocative analysis of this process see John M. Cohen et al., Policy Space and Administrative Systems Research in DonorLed Rural Development, Development Discussion Paper No. 166 (Cambridge: Harvard Institute for International Development, May 1984).

{4} Agency for International Development, AID Experience in Agricultural Research: A Review of Project Evaluations, AID Program Evaluation Discussion Paper No. 13 (Washington, D.C.: AID, May 1982).

{5} Agency for International Development, Irrigation and AID's Experience: A Consideration Based on Evaluations, AID Program Evaluation Report No. 8 (Washington, D.C.: AID, August 1983).

## 1.2 Scope and Products of the Evaluation

The scope of the agricultural services evaluation series, first defined in March 8, 1982, was to

provide the Administrator and Congress with concrete evidence of the Agency's experience as to (1) the mechanisms found most efficient in providing quality input and . . . marketing services to more farmers on a timely basis, (2) the strengths and weaknesses of government, parastatal, and private sector [institutions] in providing input and marketing services to food producers, and (3) the conditions that must be fulfilled if the private sector is to be effective while the interests of . . . farmers and . . . government are being protected.

Four products from the evaluation series were anticipated: (1) a discussion paper analyzing AID's agricultural services strategies over the years and identifying key issues for investigation through impact evaluations, (2) field impact evaluations, (3) a review of the evaluation findings derived from a conference of experts, and (4) a final paper synthesizing the findings of the series and presenting recommendations for AID policy and program changes.

The discussion paper was prepared after all field evaluations had been completed; therefore, the paper was useful in revealing experience, but provided no guidance for selecting projects for field investigation. (For a description of the evaluation samples, see Section 1.3 below.) The conference of experts to review evaluation findings was held October 22 and 23, 1984, as a two-day workshop in Washington, D.C. Attended by about 60 technical, program, and project design people from AID,

the World Bank, Inter-American Development Bank, private voluntary organizations, the international consulting community, and other organizations, the conference was a valuable forum for eliciting responses to the findings of the evaluation series presented in a draft synthesis paper and for discussing the topic in general. All the invitees were active in the field of agricultural services in developing countries and represented a wide range of perspectives. The draft synthesis paper was edited to include helpful new ideas and points of view. These are interwoven throughout this final version of that synthesis paper and are implicit in the conclusions, which were written after the conference.

### 1.3 Evaluation Study Samples

Three types of samples were analyzed in the evaluation. First, a review was made of AID's Center for Development Information and Evaluation (CDIE) data base to compile a list of completed or nearly completed agricultural services projects having significant emphasis on agricultural credit, input, and marketing services. Some 203 projects qualified and their project synopses were reviewed. Second, of the 203 projects, a random sample of 44 projects was selected for more extensive review (see Tables 1 and 2). For this sample, all available documentation was reviewed, including evaluation documents on file in CDIE. (Summaries of the 44 projects are provided in Appendix B.) Third, an extensive review was made of all agricultural service projects in five countries which were selected because they were representative of one of the three approaches to project administration (public, private, mixed public/private). These five reviews involved full-scale impact evaluations (four of which are to be published by CDIE). Two of the studies involved largely public-sector approaches (Korea and Bangladesh Agricultural Services), two were of mixed public-private institutions (the Tanzania Seed Company and the Dominican Republic Agricultural Credit Bank), and one represented a private-sector approach (the Paraguay Agricultural Credit Union System). Synopses of the five follow below. (Summaries are provided in Appendix A.)

Table 1. Regional AID Agricultural Services Projects by Total and Subsample

Region	Projects	
	All Agricultural Services Projects	Selected for Analysis
Africa	72	15
Asia	40	7
Latin America	70	15
Near East	21	7

Total                      203                      44

---

Korea. Specific AID projects during a 14-year period to encourage agricultural production included two loans and a grant for Government-run fertilizer plants, two grants for agricultural and rural policy planning, and a loan to a Government-controlled agricultural bank to provide subsidized production credit. The programs were implemented by the public sector.{6}

Bangladesh. Thirteen AID projects during a 10-year period covered a broad spectrum of agricultural services: fertilizer production and storage, technical training, agricultural research, agricultural credit, and irrigation. Implementing agents included various Government agencies, a mixed public and private fertilizer development corporation, and a mixed public and private agricultural development corporation.{7}

Table 2. Sample of 44 AID Agricultural Services Projects Reviewed{a}

---

Area/ Number	Country	Project Title
1	Africa	Rice Production Accelerated -- Impact (Guinea-Bissau)
2	Africa	Entente Food Production
3	C.A.R.	Seed Production Center
4	Chad	OPG Acacia Albida Expansion Project
5	Ethiopia	Agricultural Advisory Services
6	Ethiopia	Agricultural Sector Planning
7	Ghana	Farmer Association and Agribusiness Dev.- PVO OPG
8	Ghana	Managed Input and Agricultural Services
9	Kenya	Agricultural Sector Loan I
10	Liberia	Agricultural Cooperative Development
11	Mauritania	Rural Assessment Survey
12	Senegal	Senegal Grain Storage
13	Tanzania	Arusha Planning and Village Development
14	Tanzania	Livestock Marketing Development
15	Zaire	Planning and Management Services
16	Bangladesh	Ashuganj Fertilizer Plant
17	Korea	Agricultural Credit
18	Korea	Rural Policy Planning and Survey
19	Indonesia	Assistance to Agricultural Planning
20	Asia	Asian Vegetable Development Center
21	Pakistan	Dryland Agriculture Development I
22	Pakistan	Agricultural Inputs
23	Bolivia	Agricultural Development Sector I
24	Bolivia	Cereals Development
25	Brazil	Northeast Agricultural Marketing
26	Chile	Rural Co-op Upgrading
27	Colombia	Small Farmer Development
28	Costa Rica	Rural Development Program

---

29	Guatemala	Rural Development
30	Haiti	Small Farmer Development
31	Haiti	Small Farmer Marketing
32	Honduras	Agricultural Sector II
33	Honduras	Agroindustrial Export Development
34	Paraguay	Assistance Agriculture Credit Loan
35	Paraguay	Small Farmer Development
36	Paraguay	Marketing Services Cooperatives
37	Peru	Soy and Corn Production on Small Farms
38	Afghanistan	National Agriculture Development
39	Afghanistan	Afghan Fertilizer Company Management Support
40	Jordan	Credit for Jordan Valley Farmers Association
41	Jordan	Jordan Valley Farmers Association
42	Morocco	Cereals Production
43	Morocco	Dryland Farming
44	Tunisia	Small-Farmer Supervised Credit

---

{a} Abstracts of these projects are provided in Appendix B.

Tanzania. The Tanzania review focused on a 12-year effort to increase agricultural production through institutionalization of the production and distribution of high-quality improved seeds directed toward food crops for small farmers. AID interventions included technical assistance, equipment, and training primarily to support the operation of the seed facilities and secondarily to influence Government policies regarding seeds. The implementing agent was a mixed public and private (parastatal) organization known as the Tanzania Seed Company (TanSeed).{8}

Dominican Republic. The evaluation was of an 8-year effort to increase agricultural production by (1) providing subsidized credit to small farmers through the mixed public and private National Agricultural Bank and (2) strengthening the Secretariat of Agriculture so that it might provide more and better services to small farmers. Two discrete sector loans were made, one in 1974 and another in 1978. The bulk of these funds was directed to the Agricultural Bank, for loans to small farmers at concessionary rates.{9}

Paraguay. Over an 11-year period AID provided three grants and one loan to develop a national credit union system to provide low-cost (but profitable) services to small farmers. Initial services were entirely in the area of credit and related technical assistance. Subsequent AID interventions supported diversification into input supply and marketing activities. The implementing agent, CREDICOOP, is a private nonprofit institution.10

---

{6} For details, see David I. Steinberg et al., *Korean Agricultural Services: The Invisible Hand in the Iron Glove. Market and Nonmarket Forces in Korean Rural Development*, AID Project Impact Evaluation Report No. 52 (Washington, D.C.: AID, March 1984).

{7} For details, see Agency for International Development, "From Relief Toward Self-Reliance: Agricultural Services in Bangladesh," AID Project Impact Evaluation Report Draft (May 1983).

{8} For details, see C. Bryce Ratchford et al., Tanzania\_Seed Multiplication, AID Project Impact Evaluation Report No. 55 (Washington, D.C.: AID, January 1985).

{9} For details, see Agency for International Development, "Agricultural Credit in the Dominican Republic," AID Project Impact Evaluation Report Draft (March 1984).

{10} For details, see Richard R. Solem et al., U.S. AID to Paraguay: Assistance to CREDICOOP's Agricultural Credit Union System, AID Project Impact Evaluation Report No. 56 (Washington, D.C.: AID, January 1985).

#### 1.4 Caveats

An analysis of AID's experience with developing country agricultural service projects must posit several caveats because of problems with definitions and boundaries. First, what should be defined under the heading "agricultural services"? In the Korea impact evaluation, agricultural services were defined as assistance in commodity supplies (fertilizer, seeds, and so forth), marketing, credit, mechanization, and grain storage.<sup>{11}</sup> This reasonable working definition excludes many agricultural development components (such as agricultural research, extension, and irrigation) that may be critically interwoven with a specific agricultural service in a project designed to increase agricultural output. This is true when the project is focused on the production and marketing of one crop or of livestock products. The limitation of a partial view is heightened when project objectives are focused on the multiple crop outputs of small farms in most predominantly agricultural developing country economies.

Caveat 1: The analysis in this paper treats agricultural services in a partial sense, as mandated by the study design. However, we do not advocate such an approach in project or program design work. Instead, agricultural services must be viewed comprehensively in a systems or subsector approach that considers all aspects of production and distribution, from input supply through production technologies to product marketing, in the context of the country's economic and policy environment.<sup>{12}</sup>

Second, although this evaluation series focuses on farm gate delivery of agricultural services, most projects reviewed operated at other levels. For example, many projects targeted the production and distribution of agricultural inputs at the wholesale level, credit programs at national or regional administrative levels, and food and/or grain marketing at

the storage and wholesale levels.

Caveat 2: Although the goal is to analyze delivery of improved agricultural services to farmers, this report is not a review of farm-level research or evaluation results. This type of evidence has been incorporated where available, but much of the focus is on other levels of national credit, agricultural supply, or marketing systems that are also critical to supply, or marketing systems that advance farm-level production. This means that it is often difficult to make accurate statements concerning causality in attributing farm-level changes to project performance.

Finally, the impact of differences in project environments cannot be underestimated. What might work well in a relatively developed Asian or Latin American context may have little relevance to large parts of Africa, where institutional and infrastructural poverty, miniscule middle classes, and a lower level of overall socioeconomic advancement may preclude from consideration many otherwise viable project-delivery mechanisms.

Caveat 3: Generalizations made in this report must be tested in the environment of individual countries. Agricultural development occurs in very special circumstances; the application of lessons drawn here must be made by agricultural practitioners intimately knowledgeable of social, political, and agricultural dimensions of particular rural environments.{13}

With these caveats in mind, the next section of this report will do the following:

1. Briefly categorize the agricultural services projects reviewed
2. Present findings about the three major agricultural service subject categories evaluated (credit, technological inputs, and marketing services)
3. Discuss the relative merits of alternative institutional systems (ranging from 100 percent public to 100 percent private) for the effective delivery of these services to producers

---

{11} Steinberg et al., Korean Agricultural Services, p. 19.

{12} For a good statement of this approach, see James D. Shaffer et al., *Influencing the Design of Marketing Systems To Promote Development in Third World Countries* (East Lansing: Michigan State University, Department of Agricultural Economics, October 1983).

{13} For example, both the Korean and Bangladesh evaluations state that because of the unique circumstances in each country, the lessons drawn are not likely to be widely applicable. The unique

contributions of a particular ethnic group are described in *The Private Sector: Ethnicity, Individual Initiative, and Economic Growth in an African Plural Society: The Bamileke of Cameroon*, AID Evaluation Special Study No. 15 (Washington, D.C.: AID, 1983). The unique public policy environment of an entire country is described in *The Private Sector and the Economic Development of Malawi*, AID Evaluation Special Study No. 11 (Washington, D.C.: AID, 1983). The relatively unique contribution that high technology corporate farming approaches can offer in certain farming niches in developing countries is described in *The Social Impact of Agribusiness: A Case Study of ALCOSA in Guatemala*, AID Evaluation Special Study No. 4 (Washington, D.C.: AID, 1981).

## 2. ANALYSIS OF TYPES OF AGRICULTURAL SERVICES

A major conclusion of the analysis of all the agricultural service projects reviewed is that three conditions must be met for a project to succeed:

1. The service must be appropriate to the user, that is, technologically feasible and financially desirable.
2. The delivery of the service must be compatible and timely to the user.
3. Utilization of the service must result in profit for the user.

The absence of any one of these conditions can cause a project to fail. For example, even if credit is provided in an appropriate, timely, and affordable manner, a project nevertheless will fail if the enterprises or inputs for which the credit is used are not profitable for the farmer. An appropriate technology is of no value if it cannot be delivered. A good delivery system is of no value if the product for delivery is inappropriate to target farmers. A bountiful crop is of no value if there are no accessible markets for it.

This section of the report discusses the findings and lessons drawn from AID's experience with credit, input, and marketing projects.<sup>{14}</sup> Of the 203 projects reviewed, 52 percent could not be categorized solely as credit, input, or marketing projects; rather, they were multiservice projects that often had both a credit component and an input supply or marketing component. This multiservice approach is appropriate to the needs of farmers and the emphasis on integrated rural agricultural development projects in the past decade. Of those projects that clearly had only one service activity, 16 percent involved inputs (chemicals, seeds, and farm machinery), 12 percent marketing, 13 percent institution building, and only 7 percent agricultural credit.

---

<sup>{14}</sup> This section draws heavily on a consulting report by Peter L.

Taylor, Delivery Channels for Selected Agricultural Services  
(Washington, D.C.: AID, June 1984).

## 2.1 Agricultural Credit Projects

Among AID agricultural service activities, credit has been predominant. Approximately 50 percent of the 203 projects listed credit as the project's focus or as a significant component linked to the delivery of another input to the farmer. Of the 44 projects reviewed intensively, 19 (43 percent) had a sole or partial focus on a credit component. Of the five projects evaluated for impact, four had a sole or major focus on agricultural credit.

The findings of these project reviews and impact evaluations are in general agreement with the conclusions of past reviews of AID agricultural credit programs: the landmark AID Spring Review of Small Farmer Credit conducted in 1973<sup>{15}</sup>; the Food and Agriculture Organization (FAO) regional seminars on agricultural credit for small farmers (Near East, 1973; Africa, 1974; Asia, 1975; and the resulting world conference in 1975)<sup>{16}</sup>; and the joint USAID/IBRD Colloquium on Rural Finance in 1981.<sup>{17}</sup>

The project reviews confirm that substantial confusion exists among AID planners about the primary role of agricultural credit: whether it is financial intermediation or financial facilitation that can best help realize opportunities for improved agricultural production. In many projects credit is treated like another agricultural input or commodity that can be added to a new technology package and given out to farmers. The assumption is that credit by itself is a positive factor when, in fact, it is only meritorious if it is linked to an appropriate program or commodity. The same principles as those that are behind the long-standing tradition of agricultural credit in the United States tend to be applied to programs for developing countries even though the circumstances are different. Specifically, the United States has always had the technology and institutions (for example, land grant universities) appropriate to the application of credit. Most developing countries have limited technology and delivery mechanisms; thus, for a credit program to be worthwhile, these individual circumstances must be assessed. Otherwise, the financial resources will tend to seek their highest return, but not necessarily in the prescribed agricultural production activity. Three major lessons are evident from the analysis of agricultural credit projects:

1. Credit policies must be appropriate to the local small farmer credit environment. Many programs have failed because credit funds were priced below the costs of administration, inflation, and other credit costs, thus causing the decapitalization of lending institutions.
2. Loans must be made available through procedures that are

timely and compatible with the small farmer's customary ways. Many programs have failed because loan application procedures were too complicated for the target small farmer clients to deal with. Others have failed to live up to potential because loan processing was too slow and caused disbursement to occur after the need for such funds had passed (for example, planting, fertilizer application, and harvesting).

3. Credit utilization must be profitable to the farmer. If government policies, weather, overproduction, or other factors cause the farming operation to be unprofitable there will be low interest in borrowing in the first place and low ability to repay when loans have been taken.

The question always to bear in mind is, can the target credit recipients (usually small farmers) actually use the money, given the available technology and markets, to make a profit from their crops? In the following three sections, an analysis is presented of the three conditions essential to the success of credit projects.

---

{15} See, for example, E.B. Rice, "Summary of the Spring Review of Small Farmer Credit," No. 20, AID Spring Review of Small Farmer Credit (Washington, D.C.: AID, 1973); or the more extensive summary by Gordon Donald, *Credit for Small Farmers in Developing Countries* (Boulder, Colorado: Westview Press, 1976).

{16} References to this vast literature are contained in *Agricultural Credit Bibliography* (Rome: Food and Agriculture Organization, 1978).

{17} Many of the major conclusions are summarized in Dale Adams and Douglas Graham, "A Critique of Traditional Agriculture Credit Projects and Policies," in Carl K. Eicher and John M. Staatz (eds.), *Agricultural Development in the Third World* (Baltimore: Johns Hopkins University Press, 1984), p. 319.

### 2.1.1 Appropriateness of Credit Projects

Credit policies and procedures must be appropriate to the small farmer. Loans should be made to farmers only for products and technologies that have been proven. If experimentation is necessary, the risks should be assumed by entities more able to afford them.

The rationale for assuming that agricultural credit activities will have a positive development impact is that greater credit availability should lead to higher rates of adoption of improved agricultural technology, if such technology is available. It is often hoped that this process may become self-financed as higher agricultural incomes lead to increased rates of rural savings. However, analyses of project experience and research results have shown that low "interest rates and loan

supervision have a weak effect on decisions to adopt new technology or make on-farm investments."<sup>18</sup> Instead, in most of the cases reviewed, product and input prices have been much more important incentives to the use of new technologies. Thus, trying to improve agriculture through subsidized credit, particularly when other conditions are not favorable, is not likely to have a major effect.

In addition, cheap credit policies are, in many cases, tied to low interest rates paid to potential savers in rural areas. Experiments in the use of flexible interest rates for rural savings programs have shown that the rural savings potential is much greater than is generally recognized. If, as mounting evidence suggests, rural savings behavior is highly sensitive to changes in real rates of interest, then cheap credit policies will hinder the growth of self-financing rural development because savers clearly cannot be paid more than the borrowers are paying to use the same funds. In the long run, this hindrance to the development of viable local financial institutions could be the most serious negative consequence of compensatory, subsidized credit policies.

One element recognized in this new consensus on agricultural credit, and strongly confirmed by these project evaluations, is the very high transaction costs encountered by both lenders and participating borrowers in agricultural credit projects. These transaction costs are both financial and social. As Adams and Graham point out,

Total borrowing costs, especially for borrowers of small amounts, may be two or three times as much as nominal interest payments. These costs include waiting in line, transportation costs, bribes, legal and title fees, paperwork expenses, and time lost from work to deal with these demands.<sup>19</sup>

The total annual administrative cost of lending to small farmers may also amount to a percentage of the outstanding loan portfolio clearly exceeding the interest rate being charged. This was the case in Eastern Upper Volta.<sup>20</sup>

The high transaction costs derive from the "supply-side" approach to agricultural credit taken by AID's traditional counterparts -- generally public and mixed public/private institutions. There are two devastating problems with this approach. First, the interest rate on loans is too often determined by program designers who are more influenced by their home environment than by the recipient's environment. During the 1960s and 1970s, when AID sponsored many agricultural credit programs around the world, the tendency was to set interest rates at 7 to 12 percent, which seemed reasonable in the U.S. context, while host country rates might be running from 50 to 100 percent. Second, in disregarding the economic environment in which the project must operate, AID runs the risk of setting unrealistically high or low interest rates, which may render the lending institution noncompetitive or the program unprofitable. In its

design of agricultural credit programs, AID has repeatedly run the risk and paid the price. In Bolivia, the nominal 13-percent interest rate loans cost the small farmer borrowers more than the moneylender rate (approximately 48 percent) when the transaction cost was computed -- (most of this was an up-front cost incurred before any loan was ensured). Only for larger farmers, where the relatively fixed up-front costs could be spread over a larger loan amount, were the subsidized development bank loans advantageous.{21}

-----  
{18} Adams and Graham, p. 319.

{19} Adams and Graham, p. 315.

{20} Edouard Tapsoba, "An Economic and Institutional Analysis of Formal and Informal Credit in Eastern Upper Volta: Empirical Evidence and Policy Implications" (Unpublished Ph.D. thesis, Michigan State University, Department of Agricultural Economics, 1981).

{21} Jerry Ladman, The Costs of Credit Delivery: The Institutional Structure of Rural Financial Markets and Policies To Reach More Small Farms With Credit Programs, Discussion Paper No. 7, Colloquium on Rural Finance (Washington, D.C.: IBRD and USAID, 1981).

### 2.1.2 Availability of Credit

To encourage the use of credit, loans must be made available through procedures that are timely and compatible with the small farmer's customary ways. A major deterrent to delivery of credit to the small farmer is the loan application and approval process. Bureaucratic procedures are perhaps the most onerous impediment common to target farmers seeking loans from AID's credit projects. Most institutional credit procedures applied in AID projects are developed by technicians who have long experience with accountants, notaries, and attorneys. For them, a three-page, single-spaced loan application requiring a financial statement; projected cash flow; a notary seal; and a land survey, deed, or other proof of ownership would not present a significant challenge. Similarly, the trip to the city for an interview with a well-dressed loan officer, followed by a 2- to 3-week wait for processing, would not be fearsome. But this often is not the case for the semiliterate target farmer, who may already have had substantial negative experiences in dealings with government bureaucracies or who may simply be at a loss for how to proceed in a city. Such circumstances illustrate the concluding lesson from the Korea impact evaluation that agricultural services are more difficult to implement effectively without a literate population and an effective administrative mechanism. Thus, by disregarding the social environment in which a project must operate, AID risks keeping borrowers away because of their inability or unwillingness to deal with application procedures.

**Informal Lenders: The Small Farmer's Preference.** Many of the evaluation reports and their documentation show that farmers prefer dealing with informal lenders. Recent microeconomic studies have revealed very high opportunity costs for agricultural lending and tend to justify the associated high interest rates that are often pointed to as exploitive. In addition, complex webs of supportive social relationships and low transaction costs have often resulted in farmers viewing private credit sources as more desirable and flexible.

For example, in Paraguay, where AID has supported agricultural credit programs operating through public (Ministry of Agriculture), mixed public/private (National Development Bank), and private (CREDICOOP) programs, the traditional moneylenders (usually neighborhood storekeepers) still provide 71 percent of all agricultural credit and about 98 percent of credit to small farmers. The Ministry of Agriculture, the National Development Bank, and CREDICOOP offer credit at real rates in a range of 24 percent to 72 percent, depending on the time of repayment. At the same time, real rates from moneylenders tend to range from 50 percent to 100 percent, yet the moneylenders clearly are the preferred source of credit. The preference is attributable to their approach. The informal moneylenders are products of the environment in which they live, and without any Government subsidies they must be competitive. They recognize that to small farmer borrowers, the cost of money is secondary to quick and reliable access.

**Credit Union System: Advantages to the Small Farmer.** In Paraguay, the credit union system was able to pursue reasonably independent policies and was much closer to maintaining a self-sustaining rural financial institution than many of the other systems reviewed. In addition, project performance vis-a-vis a small-farmer clientele was improved and is reflected in three lessons from that evaluation:

1. Integration of farmer and nonfarmer members in the same credit union had two strengthening effects: (a) it helped to level financial flows during the course of the agricultural year, because all farmers tend to go to the loan windows at the same time, while urban members spread their visits more evenly; and (b) it provided relatively sophisticated leadership because urban members tend to be better educated.
2. The ability to lend without requiring mortgage collateral is an important strength of the credit union vehicle. Although this considerably increases risk of default, it also increases ability to reach small farmer borrowers.
3. Whether or not individuals in the area served by a credit union have benefited directly, availability of the credit union alternative tends to make suppliers of other agricultural services more competitive.{22}

---

{22} Solem et al., U.S. Aid to Paraguay, p.19.

### 2.1.3 Profitability of Utilization of Credit

More than with most agricultural services, the success of credit programs relies on the profitability of the overall farm enterprise. If there is no prospect of profit (for example, prices are clearly too low because of government policies), or if the credit offered is tied to unrewarding inputs, such credit either will not be used in the first place or, if used, will result in high rates of economic failure. Some of the agricultural credit programs reviewed were threatened because credit was tied to the purchase of inputs that proved inappropriate. For example, to promote development of tomatoes in Paraguay, a loan was made to CREDICOOP for onlending to small farmers. Farmers who participated in this program were devastated when markets failed to materialize, and crops were sacrificed at prices well below their cost of production. In other cases, availability of appropriate seed, fertilizer, and equipment was not timely.

For a number of agricultural projects, the goals proved to be unrealistic, especially those designed to use cheap credit to compensate for economic policies that discourage agricultural production. For example, many food production and integrated rural development projects in West Africa were caught in this bind. Low cereal prices and confiscatory state marketing practices discouraged grain production more than cheap credit encouraged it.

Programs to promote improved agricultural production through access to agricultural credit clearly must be both feasible at the farm level and supported at the macro-policy level by strong complementary policies. In such a coordinated fashion, agricultural production goals can be achieved at the same time that equity and other social issues can be effectively addressed. This has not generally been the case, however. The lesson about policy environment is that agricultural credit programs can survive and prosper where government policies are at least benign. Where these policies render profitable farming difficult or impossible, however, use of credit may only aggravate the farmer's problems.

AID's Agricultural Development Bank project in the Dominican Republic is a good example of how highly subsidized credit offered through reasonably effective delivery systems can fail because of unfavorable government policies. AID resources there were dedicated to an agricultural credit program largely as compensation for structural deficiencies. Economic policies, such as a highly overvalued exchange rate, inhibited growth of export crops while favoring food imports. Federal personnel policies discouraged retention and effectiveness of project-trained technicians in agricultural service agencies, thereby rendering them

ineffective allies of the farmers they were charged to serve.

In Paraguay, where AID has supported agricultural credit programs working through the private cooperative movement (CREDICOOP), as well as through the National Development Bank and the Ministry of Agriculture's credit organization, the overall Government policy environment is neither especially supportive nor harmful. Prices are not controlled, and import/export restrictions are few. The greatest threat to profitable farming in Paraguay is not the Government, but the farmer's traditional enemy -- nature. Rainfall is unpredictable in many areas, causing problems during both the growing and the marketing seasons, and crop insurance does not exist. Despite this lack of Government support, AID has enjoyed modest success in all of its agricultural credit programs there, with the private CREDICOOP program being the most promising in long-term effectiveness and sustainability.

Of greater concern are those situations in which stated AID objectives clearly are not being achieved, nor is any correction being attempted. Vested interests in particular may present a dilemma to AID policymakers. For example, in numerous instances, particularly under conditions of high inflation and inflexible, low interest-rate policies, credit programs allow those with access to concessionary loans to receive large income transfers through negative real rates of interest. Inflation also allows the political system to bestow patronage through the financial system. This process was documented in the Dominican Republic impact evaluation and in several other AID rural credit programs reviewed.<sup>{23}</sup>

In some countries, the donor community or the United States unilaterally has enough influence to enforce reform in key financial services. This was the case in Korea in the mid-1960s, when substantial changes were made in financial market policies as well as reforms in related economic policies. Korean policy-makers used subsidies extensively in agricultural programs. This was consistent with other economic policies and with the very hierarchical, administrative nature of Korean society. The Korea impact evaluation team concluded its analysis with the following statement: "The pattern of the development of Korea is in sharp contrast to AID policy, which stipulates that agriculture will spur national growth. The exception of Korea may prove the general rule, but it may also indicate that policy formulation might well take into account alternative development modes."<sup>{24}</sup> Most important, the combined policies have worked reasonably well together, and agricultural development objectives have been met.

In many other environments, agricultural credit policies (or, at least, the "hidden agendas") and performance have been inconsistent with stated development objectives. Credit programs are "colonized" by local wealthy elites, and small-farmer production remains unchanged.

The following quotation from the Bangladesh impact evaluation illustrates many points made concerning the small farmer

credit experience in many developing countries:

Until 1977, Bangladesh's small farmers could look only to local moneylenders for credit. . . . To remedy this situation, two sets of activities have been initiated: (1) liberalization of banking regulations to encourage agricultural loans, and (2) implementation of several projects aimed at making agricultural and rural loans available to the smaller farmers, including in some cases, renters.

Despite these good intentions, however, only a small percentage of small food producers and sharecroppers have obtained loans from these institutions.

For those farmers who do master the process, the repayment record is poor because the GOB [Government of Bangladesh] periodically orders the banks to forgive all delinquent loans. To make matters worse, the GOB policy with regard to savings is to keep interest rates low, thus discouraging bank deposits needed to provide loan capital. Clearly, the GOB has a long way to go in developing a policy framework conducive to growth of a viable agricultural credit system.{25}

-----  
{23} Adams and Graham, p. 375.

{24} Steinberg et al., Korean Agricultural Services, p. 17.

{25} Draft Impact Evaluation of Agricultural Services in Bangladesh, p. 7.

## 2.2 Agricultural Input Projects

Most AID agricultural services projects had an exclusive or major component providing agricultural inputs to farmers. Of the 203 projects identified in the CDIE data base, 16 percent were uniquely focused on agricultural inputs, 7 percent on fertilizer, 7 percent on seeds, and 2 percent on mechanization. In many of these projects, the output was designed to converge with existing farm-level delivery systems or other donor-sponsored projects at the farm level. Many of the multiservice projects have both an input-supply component and a credit-facilitation component; research, institution building, or extension components often are included as well. These components have usually been part of projects to improve crop production, whether they are called cereal-production, food-production, integrated agricultural development, or integrated rural development projects.

Three major lessons are evident from the analysis of agricultural input projects.

1. Agricultural input programs must provide farmers with inputs that are appropriate. Many programs have introduced technologies that were too advanced for the farmers' resources and knowledge base, not profitable under the farmers' own conditions, or too complicated for the local system of transportation and communication to support.
2. Delivery of the agricultural inputs must be timely. Many inputs must be completely written off if they are not available at the proper time in the season. Concern about this possibility of failure may inhibit farmers from experimenting with new inputs, even where delivery problems have been resolved.
3. Utilization of the inputs must result in a marketable, profitable product for the farmer.

The next three sections analyze agricultural input projects according to these three conditions.

### 2.2.1 Appropriateness of Agricultural Inputs

The overall impression gained from a number of these projects is that although AID has realized considerable success in development of agricultural input packages in the research station, it has often erred in the selection of agricultural technologies for export to developing countries. Donor agricultural scientists, drawing on their training and developed world experience, have often promoted technologies inappropriate to the project beneficiaries.

Examples of successful choices of technology can be pointed out. Growth of the farming systems research methodology<sup>{26}</sup> has occurred in response to the many failed agricultural interventions that have resulted from a misunderstanding of target farming systems. Growing evidence suggests that these methods, coupled with the development of appropriate local institutions and the training of competent agricultural technical staffs, can produce improved technological packages that can contribute to small farmer food production even in countries where conditions are particularly difficult. However, these are not quick-fix solutions, and they come at a considerable cost in scarce development resources.

The fact that special niches in developing countries can be found for intensive and even high-technology agricultural interventions from the private, corporate sector<sup>{27}</sup> further argues that it is possible to find appropriate agricultural interventions, particularly for high-value cash crops. However, this process is more difficult when it comes to the improvement of ecologically well-adapted, staple food-crop systems. Too often, problems occur in the transfer of improved technologies to the farmers' fields. (Many of these issues of management, project design, and host country management capability are the subjects

of a parallel synthesis effort on the "management of agricultural services projects"{28} and are not addressed in this report.)

The types of inputs covered in the projects reviewed may be grouped into three categories of farm technologies: biological, chemical, and mechanical. Field-level agronomic research results and the extension of improved technical packages of inputs are not examined in this report, even though these factors are critically related to overall program and project success. Indeed, often a project is designed to produce a new input, or greater supplies of a traditional input, but there is no adequate farm-level technological package to absorb the increased production.

**Biological Technologies.** Many of AID's input projects to provide biological technologies have been seed projects. One of the five impact evaluations examined the Tanzania seed multiplication effort. Other seed projects reviewed by AID included maize in Kenya, rice and peanuts in the Central African Republic, vegetable seed in a number of Asian countries, wheat in Bolivia, corn and soybeans in Peru, and a broad-based commercial feed operation in Thailand.

Biological improvements have been much more striking in wheat, maize, and rice than in sorghum and millet. In West Africa, for example, there have been virtually no research improvements in drought-resistant varieties; this shortcoming has added to the complications of food production projects predicated on the existence of improved varieties.{29} In most of these projects, the scientific, on-station seed development and multiplication efforts have been more successful than the offstation distribution and utilization of the improved varieties. In fact, projects are fairly rare which demonstrate both a simultaneous success in the development and multiplication of a well-adapted new variety and a successful farm-level use of that variety. In one such case involving maize in Kenya, the report indicates the difficulties and uniqueness of this achievement:

Too many lessons should not be drawn from the Kenyan experience. In most important aspects, Kenya's experience with hybrid maize seed is not replicable, at least in Africa. The initial boost given by large-scale commercial farmers, the significant long-term presence of foreign advisers, the aggressive private seed company, and a well-developed transportation infrastructure all mark Kenya's success as unique.{30}

The Thailand seed project was notable for its success in (1) providing for a broad range of improved seed needs and (2) doing so through close collaboration with private seed companies.

Additional information on the gap between relatively successful scientific work and relatively unsuccessful farm-level adoption is presented in the AID companion study on agricultural research.{31}

**Chemical Technologies.** All projects for chemical technologies

involved the manufacturing, distribution, or on-farm use of chemical fertilizers. The Korea and Bangladesh impact evaluations and the review of the long-term project involvement in Afghanistan analyze AID investment in industrial-scale, Government-operated facilities for manufacturing fertilizer. Evaluation of industrial projects is outside the scope of this review; overall, however, evaluators found these to be important and timely investments that drastically changed the availability of fertilizer at the national levels in all three countries. The Korea impact evaluation points out that this initial AID investment in Government fertilizer plants also trained scientists, managers, and technicians who became instrumental in the rapid expansion of Korea's private fertilizer industry. Again, contrary experience in other countries cautions against generalization.

Increasing the use of chemical technologies at the farm level was a principal objective of the Pakistan Agricultural Inputs project that has been successful in making fertilizer more readily available to small farmers and in providing a larger role for private sector distribution. A similar project undertaken in Ghana, Managed Input and Agricultural Services (1976-1982), has had less success with a different institutional configuration and, perhaps more important, in a country in the midst of extreme economic deterioration.<sup>{32}</sup>

In sum, evidence on the farm-level success of projects with major fertilizer components is mixed, with a large number of apparent failures.

**Mechanical Technologies.** Specific focus on mechanical inputs to farming was not frequent in the AID projects reviewed; of the 203 projects only three had a principal focus on farm mechanization. None of these projects was included in the sample of 44 projects analyzed in detail. In two of the five impact evaluations, there was some mention of mechanization. In Korea, AID credit money was instrumental in facilitating the wide-scale adoption of walking tractors, motorized sprayers, and other small-scale motorized equipment. In Tanzania, the foundation seed farms were severely hampered by the importation of elaborate U.S. mechanical land-preparation and seed-harvesting machinery that could not be repaired in the country. There was generally little evidence of the large-scale mechanization disasters that characterized earlier development decades. Some projects have been elaborately involved in mechanical technology, particularly in the use of animal traction, in both food and cash crop production. Final judgment has yet to be made on the overall success of animal traction schemes.<sup>{33}</sup> One of the most interesting AID ventures into mechanical technologies for agriculture is the Agency's support of the International Rice Research Institute (IRRI) program to manufacture, distribute, and service new tools and simple machines appropriate to small Indonesian farms. This activity has been underway since the late 1960s through two AID projects, Agricultural Mechanization Extension and a follow-on titled Consequences of Agricultural Mechanization, and has resulted in many technological breakthroughs. Long-term viability without donor support is unclear, however.

- 
- {26} See W.W. Shere et al., *Farming Systems Research and Development: Guidelines for Developing Countries* (Boulder, Colorado: Westview Press, 1982).
- {27} Business International Corporation, *Agribusiness and the Small-Scale Farmer* (Washington, D.C.: AID, Bureau for Private Enterprise, 1984).
- {28} A CDIE synthesis workshop on this topic was held in Eastern Maryland in September 1984; synthesis results are forthcoming.
- {29} For a detailed description of the complexities of sorghum/millet improvement work in West Africa, see, for example, Development Alternatives, Inc., "Midterm Evaluation of Semi-Arid Tropics Crops Research, Phase II ICRISAT/Mali" (Washington, D.C.: DAI, November 1983).
- {30} Kitale, p. 12. Two private-sector seed industry studies show interesting results as well. The USAID Bureau for Private Enterprise will very soon release a study of the successful private seed industry in Thailand. One of the case studies in Business International Corporation's Study, *Agribusiness and the Small-Scale Farmer*, (Volume X), "San Miguel Corporation: A Hybrid, High-Yield Corn Seed Venture in the Philippines," concerns a more limited hybrid corn seed operation in the Philippines.
- {31} Paul Crawford, *AID Experience in Agricultural Research: A Review of Project Evaluations*, AID Program Evaluation Discussion Paper No. 13 (Washington, D.C.: AID, May 1982).
- {32} An interesting variation on the chemical fertilizer project was the Biological Farm-Level Fertilizer project in Chad (Appendix A, Project Summary No. 4) that sought to increase the number of *accacia albida* trees in farmers' fields. These trees add measurably to soil fertility by shedding their leaves during the rainy season, in contrast to most "competitive trees." The farm-level impact of this project in war-torn Chad is not clear from available documentation.
- {33} For a detailed farm-level evaluation of a typical West African animal traction scheme that was the central component to an AID integrated rural development project, see Vincent Barrett et al., *Animal Traction in Eastern Upper Volta: A Technical, Economic, and Institutional Analysis*, Michigan State University International Development Paper No. 4 (East Lansing: Michigan State University, 1982).

### 2.2.2 Timeliness of Delivery of Agricultural Inputs

Assuming that an appropriate technological package exists,

timeliness is the next criterion for the successful delivery of such inputs to target farmers. Timeliness is particularly important when biological processes and farmer decisionmaking are dependent on capricious monsoon rains. The more complex the technological package and the greater the number of off-farm inputs required, the more dependent the farmer becomes on the efficiency of input delivery services. The Tanzania impact evaluation describes difficulties encountered by farmers caused by inefficiencies in TanSeed, the parastatal seed distribution company. An inefficient delivery system impeded achievement of the project's goal of improved cereal production; however, seed distribution was not one of the responsibilities of that project per se. The problems arising from the failure of one part of an interrelated agricultural service/production system were also illustrated in Paraguay, where farmers reported that failure of institutional lenders to process credit applications promptly often prevented the use of improved inputs on a timely basis, rendering the inputs virtually useless.

Farm-level problems caused by delays in input delivery are pervasive in agricultural projects, regardless of what organization has responsibility. The question is whether accurate generalizations can be made about the relative effectiveness of different delivery mechanisms in getting inputs to farmers when they need them. This question is addressed in more detail below in Section 3.

### 2.2.3 Profitability of Inputs

In general, many problems affect input projects when the input in question is not adequately coordinated with the overall farming system, with the presence of technological packages that make both agronomic and economic sense, and with supporting price and other economic policies at the national level.

## 2.3 Agricultural Marketing Projects

Marketing projects have been an important component of AID's agricultural service project portfolio over the years. Twelve percent of the projects selected from the CDIE data base focused exclusively on marketing, and 20 percent (9 of 44) of the sample intensively reviewed had a similar unique focus. The five impact evaluations were not representative in that none had a major focus on the marketing of farm products.

Although a developing country's government often attempts to solve urban food problems by entering into agricultural marketing enterprises, it should focus on farm activity. If farmers cannot be induced to participate by increasing marketable output, the program will fail. For this reason, this evaluation examined

AID's experience in agricultural marketing projects as they relate to the problems of the farmer. Again, as for credit and agricultural input projects, there are three essential conditions for the success of an agricultural marketing project:

1. Marketing services must be appropriate to the target user. In developing countries, this often means collection points at the farm gate, the ability to handle small increments, and assistance with crop drying and storage.
2. Market services must be timely for the farmer. Timely access to markets is an acute problem in most countries located in the tropics because the risks of spoilage are so high. AID projects have at times failed to recognize the farmers' interest in disposing of their produce even when this means sacrificing longer term goals. Most farmers prefer an immediate sale to a private trader to waiting in hope that a government agency buyer will appear with a better price before the crop spoils.
3. Markets must result in profit for the farmer. If farmers cannot sell their crops at a satisfactory profit, their incentive to produce will be lost. The two most frequent causes of price problems encountered in this study were government policies and seasonal volatility caused by short-term supply considerations.

### 2.3.1 Appropriateness of the Markets

AID's experience with agricultural marketing projects can be divided into three general areas: food-crop marketing, livestock marketing, and cash-crop marketing. The problems of each are examined below.

**Food-Marketing Projects.** The distribution of food-marketing projects varies by geographic region. Common among the relatively more developed economies of Latin America and parts of Asia are the more sophisticated marketing interventions focusing on improvements in overall food wholesaling and retailing. In poorer countries and regions, food-marketing projects have focused largely on the bulk handling of staple food products, mostly grains. Very often these grain-storage and marketing projects have involved government grain-marketing boards.

A typical food-marketing project emphasizes the diagnostic analysis of the performance of an entire food production and distribution subsector, often involving a wide variety of interventions to enhance overall system performance through better vertical integration of marketing channels.<sup>{34}</sup> An example of a project of this type is the Northeast Brazil Food Marketing Project. This intervention methodology, with its broad scope and flexibility, has many advantages and, in more recent years, has been used in a number of highly specific applications, such as

the improvement of the pickling and canning industries in rural Thailand.{35}

These food-marketing interventions indicate the necessity of (1) an adequate understanding of the micro-level detail of a particular food subsector or commodity and (2) flexibility in the variety of policy and intervention strategies if inefficiencies in the system are to be removed. (These lessons are reflected in Section 3.)

In poorer countries, the more common grain-marketing and storage interventions have not proved very successful, particularly when negative production incentives have been present. In the Sahel region of West Africa, for example, experiences in projects funded by AID and other bilateral and international donors have been well documented.{36} Much of the emphasis in these projects has been on the urban consumer, with a major objective being to provide reasonably cheap staple food supplies to the politically pivotal urban population, as in the Senegal Grain Storage Project involving a Government marketing board (ONCAD, which is no longer in existence). A number of microeconomic studies confirmed the negative impact on production by artificially low Government grain-purchasing prices and the often Draconian measures adopted to force producers to part with a portion of their production. In addition, lack of marketing infrastructure, fluctuating Government prices, and lack of knowledge of larger supply/demand trends all hampered an AID integrated rural development project in Burkina Faso, Upper Volta, that was attempting to promote the creation of village cooperative grain banks.{37}

The greatest dilemma presented in these various grain storage experiences is the reconciliation of the inherent conflicts between agricultural development and other foreign policy goals. Limiting government intervention in grain marketing and price setting could, in most cases, lead to a substantial short-run increase in farm-gate prices and provide much greater production incentives. However, it could also lead to urban political unrest, perhaps toppling weak urban-based governments. These conflicting goals have been at the heart of many of the "cheap food" debates around the world. Again, the likely long-run outcome of these debates will be an intermediate solution in many countries. Basic private-sector marketing systems will be allowed to function and may be assisted by facilitating government investment in infrastructure, information, and so forth, but the government will retain a buffer stock and regulatory intervention capability.

**Livestock-Marketing Projects.** Relatively few projects focused on livestock marketing, but a number of livestock projects have been undertaken in Africa, where food-development systems are still at a very traditional, nomadic level.{38} A livestock marketing project in Tanzania showed negligible results. Livestock marketing could benefit from additional attention, particularly if high-quality animal protein at fairly reasonable prices was promoted on a larger scale.

Cash-Crop Marketing Projects. Cash-crop marketing mechanisms received substantial emphasis in the projects reviewed. The following general observations could be applied to most of these projects:

Export marketing channels are typically more effectively coordinated than are domestic food channels. Export firms or marketing boards become active coordinators interested in promoting production for export...they provide incentives for farmers to shift resources to supply export markets...{39}

Cash crops, particularly export cash crops, often have been marketed by parastatals of colonial origins. In many instances, the success of these bodies has fluctuated, depending on a host of variables. Among the most successful in West Africa have been the parastatal cotton firms, which trace their ancestry back to the French colonial corporation.{40}

Coffee in Haiti and coffee and cocoa in Liberia were the subjects of AID marketing projects that used a cooperative structure in farm-gate marketing. The projects had mixed success.

Private marketing mechanisms have been used in a variety of export-crop marketing projects, particularly in Latin America and parts of Asia. A corporate fruit-marketing scheme was used in Honduras, and a U.S. corporation has a vegetable-freezing plant in operation in Guatemala.<sup>41</sup> Many of the success stories enumerated in the recent AID Bureau for Private Enterprise study on agribusiness and the small farmer relate the experiences of corporations that have been able to fill a profitable production/marketing role in a cash-crop niche in particular developing country environments.

The impact of these different agricultural service delivery mechanisms are explored in Section 3 because of their important policy-relevant issues.

---

{34} This pioneering work is summarized in Kelly Harrison et al., *Improving Food Marketing Systems in Developing Countries: Experiences from Latin America*, Research Report No.6 (East Lansing: Michigan State University, 1974).

{35} Merle Menegay, "Improving the Performance of Procurement Systems for Fruit and Vegetable Processors in Thailand: A Case Study of Up-Country Picklers and Canners" (Ph.D. thesis, Michigan State University, 1983).

{36} See particularly University of Michigan, Center for Research on Economic Development, *Marketing, Price Policy and Storage of Food Grains in the Sahel*, 2 volumes (Washington, D.C.: AID, 1977).

{37} Ismael Ouedraogo, "A Socio-Economic Analysis of Farmers' Food Grain Marketing Linkages and Behavior" (Ph.D. thesis, Michigan State University, 1983).

{38} See particularly, Agency for International Development, The Workshop on Pastoralism and African Livestock Development, Program Evaluation Report No. 4 (Washington, D.C.: AID, 1980).

{39} Shaffer, *Influencing the Design*, p.13.

### 2.3.2 Timeliness and Accessibility of Markets

Access to reliable markets is a serious problem in many developing countries. Often lacking is the classic infrastructure that facilitates market exchange -- all-weather roads and adequate transportation facilities, market information systems, storage and warehousing facilities, public market places, and so on. AID has participated in attempted solutions to these infrastructure problems through project investments in rural roads, market infrastructure, and increased institutional marketing capacity. A typical project, Tanzania Rural Roads, was reviewed in this study, but the farm-level impacts of these investments are exceedingly difficult to evaluate.

Other dimensions of the market access problem are the timing of product payments and farm-level cash flow difficulties. The CREDICOOP impact evaluation team in Paraguay noted that even when farmers received production loans from their credit union to plant cotton, many refused to sell to the CREDICOOP cotton gin at the consignment price, which comprised a base amount plus a portion of the expected profits from the ginning. They preferred to receive a lesser amount, paid in cash, directly from local merchants at the time of sale.

---

{40} The story of one of the companies, SODECOTON in the Cameroon, is explored in detail in Agency for International Development, *The Tortoise Walk: Public Policy and Private Activity in the Economic Development of Cameroon*, AID Evaluation Special Study No. 10 (Washington, D.C.: AID, March 1983).

{41} AID, *The Special Impact of Agribusiness*.

### 2.3.3 Profitability of Markets

Microeconomic research has indicated that in most developing countries farmers are economically rational and responsive to price changes over time. If marketplace conditions do not allow for an acceptable profit, there is no incentive for farmers to produce for sale. As primary food producers, subsistence farmers have always been the rule, not the exception.

The two most common causes of price problems encountered

during this study were (1) inappropriate government policies and (2) seasonal volatility caused by short-term supply considerations.

The impact evaluation of agricultural credit in the Dominican Republic pointed out that Government exchange-rate policies discouraged exports and encouraged imports. In a country with the potential for abundant cash-crop production, this policy is shortsighted and has impaired the effectiveness of all agricultural assistance efforts. In Korea, by contrast, very high Government price supports for agricultural commodities have had a powerful effect, facilitating greater response through private-sector mechanisms than could be accomplished through direct Government intervention in production.

Paraguay presents an example of the hazards of seasonal price volatility. Farmers accustomed to raising crops with a long shelf-life, such as cotton and grain, were lured by easy credit and generous technical assistance to grow tomatoes, a highly perishable crop. Production conditions were good, and a fine crop resulted. Unfortunately, with the Paraguayan market far too small to absorb the crop and the Argentine market difficult to penetrate because of trade restrictions, the bulk of the crop had to be sacrificed at very low prices, or not sold at all.

Whatever the cause of insufficient market prices, the effect is the same. Farmers will not grow for the market if they cannot rely on a buyer at the right price.<sup>{42}</sup> AID technicians should determine whether the market is reliable and the price is right before promoting better farming technologies and credit to pay for them.

This is the traditional problem in making changes in food systems to improve performance. As most experienced practitioners insist, this is more of an art than a science. Many analysts of the development process are currently emphasizing that "getting prices right" is essential to providing incentives to expand output. However, this is not simply a matter of letting the market work, as is sometimes implied.<sup>{43}</sup> The effectiveness of prices as carriers of information, incentives, and rewards in the coordination of economic activity depends on the institutional structure organizing transactions. Improving market system performance requires attention to these institutional structures.<sup>{44}</sup>

---

<sup>{42}</sup> For a detailed documentation of negative price incentives from African cash-crop marketing policies see Robert H. Bates, *The Regulation of Rural Markets in Africa*, AID Evaluation Special Study No. 14 (Washington, D.C.: AID, 1983).

<sup>{43}</sup> An example of this tendency is contained in the report by Molly Hageboeck and Mary Beth Allen, *The Private Sector: Ideas and Opportunities*, AID Program Evaluation Discussion Paper No. 14 (Washington, D.C.: AID, June 1982).

{44} Shaffer, Influencing the Design.

### 3. ANALYSIS OF DELIVERY MECHANISMS FOR AGRICULTURAL SERVICES

An important contribution of the agricultural services impact evaluation has been its analysis of the advantages and disadvantages of various delivery mechanisms. Of the 203 projects from the CDIE data base, 60 percent delivered agricultural services primarily through public-sector institutions, 25 percent through mixed public/private agencies (often parastatals), and 15 percent through largely private-sector vehicles. The analysis divides the last category into private voluntary organizations (PVOs), cooperatives, and private for-profit approaches to service delivery.

Of paramount importance is the achievement of project goals within the context of a country's larger social and political objectives. To accomplish this, systems for small farmer production and marketing must be organized, supported, and coordinated. This position was expressed in a summary document by the AID funded Latin America Marketing Planning (LAMP) project:

With the exception of the pure subsistence economy, the coordination of economic exchange must be performed in every economic system. Coordination of economic activity involves three mechanisms: (1) the market processes linking activities and individuals and firms through exchange and prices; (2) administrative coordination linking activities within firms or government organizations; and (3) the rules of the game, specified by the political and social system, that regulate market processes and administrative decisions. No markets are free of rules. Social and political forces largely determine the relative importance of these three coordinating mechanisms for a given country at a given point in time.{45}

The current analysis attempted to draw conclusions and policy objectives in a specific country or region. The choice of methods must be based on a thorough knowledge of the agricultural production and marketing systems of each country and on an equal understanding of its social and political processes. The following sections describe the appropriate roles of each type of delivery mechanism and provide an analysis of AID's agricultural services projects in terms of the advantages and disadvantages of each type of delivery mechanism within its project setting.

---

{45} K. Harrison et al., Improving Food Marketing Systems, p. 88.

#### 3.1 Public-Sector Delivery Mechanisms

Three types of agricultural service interventions are best handled by public-sector agencies:

1. General impact, such as infrastructure development and maintenance projects, where costs are too high and the benefits too diffuse for any but a taxing authority
2. Public policy, in which the project focuses on a particular policy intervention, such as import and export policies, or exchange rate adjustment
3. Transfer programs, such as price-support or input-subsidy programs, in which the objective is to improve the economic rewards from certain activities

Review of the AID portfolio reveals no conflict about the appropriateness of public-sector vehicles for these programs.

Services provided through a public channel are delivered through a host-country institutional structure wholly controlled by the government, and activities are generally designed to support overall public policy. A variety of public institutional arrangements has been used for the delivery of credit, input, and marketing services. In many cases, a single institution provides services; in others, several agencies collaborate, often through a special coordinating committee. In this review, the following institutional arrangements were observed:

Institution	No. Cases
Line ministries	30
Specialized public agencies	27
Combination line ministries, special public agencies, banks	25
Provincial-level governments	2
Public-sector banks	8
Unspecified public	21
Total	113

A public channel was used in 56 percent of the 203 projects. The number of projects using a public-sector mechanism increased significantly during the 1970s in three of the four AID regional bureaus (see Table 3); only Latin America had a slight decrease. However, the percentage of total projects in the public channel, which is probably a more useful indicator, decreased for all regions from 72 percent to 52 percent. Alternative approaches were used more frequently. Review of AID's experience with the 203 agricultural service projects, and especially the 113 projects that worked through public-sector institutions, provided some useful insights into the strengths and weaknesses of public-sector institutions vis-a-vis development activities.

### 3.1.1 Advantages of Public-Sector Delivery Mechanisms

When agricultural services are promoted for the benefit of the general population or carry strong political or agricultural policy connotations, they are best handled by public-sector agencies. Public impact projects such as general infrastructure development and maintenance, (e.g., roads and dams) are generally too costly for any but a taxing authority. Often there is no easy way of restricting access to the facility; beneficiaries of a road include not just those who travel on it (the people one could assess with a user fee), but also everyone who lives near it, or who deals with someone living near it. Clearly, a private means of allocating road costs among beneficiaries would be difficult to administer. For these reasons, the task of facilitating infrastructure development has generally been in the domain of the state.

Table 3. Reviewed AID Agricultural Service Projects,  
by Region and Type of Service Delivery Channel,  
Before and After 1973

		AID Agricultural Service Projects			
Region	Delivery Channel	Pre-1973		Post-1973	
		No.	%	No.	%
Africa	Public	10	71	26	54
	Public/Private	4	29	13	27
	Private	0	0	9	19
	Subtotal	14	100	48	100
Asia	Public	8	62	13	57
	Public/Private	5	38	6	26
	Private	0	0	4	17
	Subtotal	13	100	4	100
Latin America	Public	20	80	19	46
	Public/Private	3	12	10	24
	Private	2	8	12	30
	Subtotal	25	100	41	100
Near East	Public	4	67	8	57
	Public/Private	2	33	4	29
	Private	0	0	2	14
	Subtotal	6	100	14	100

All Regions	Public	42	72	66	52
	Public/Private	14	24	33	26
	Private	2	4	27	22
	Subtotal	58	100	126	100

---

Source: USAID/CDIE Data Base (Note: The data were insufficient for complete classification of 19 of the 203 total projects.)

Projects with political and policy connotations include those within the complex realm of economic policy intervention. Where foreign-exchange policies or import/export policies are the object of an AID activity, the most effective approach is through the public sector.

Examples of agricultural service projects with agricultural policy connotations include those that seek to develop programs for farm input subsidies or price supports for farm output. Although the direct beneficiaries of these programs are well defined (the farmers themselves), the programs tend to be expensive, thus precluding any but a taxing authority from paying for them. But, more important, input-subsidy and price-support programs result in income transfers from one segment of society to another. Part of the rationale behind the involvement of the public sector in agricultural services is that the government assumes responsibility for those services the private sector is unable or unwilling to deliver because of the high costs or the externalities involved. (Externalities refer to conditions in which competitors can benefit from investment without bearing the relatively high initial investment costs.) Primary infrastructure, agricultural extension and technology transfer, research and development, and commodity price stabilization are services traditionally dominated by the public sector.

Providing services through a public channel may afford an opportunity for a comprehensive approach to development problems. The Indonesia Assistance to Agricultural Planning Project, for example, contributed to numerous programs and to the installation of a flexible fertilizer pricing system. The Korea Rural Policy Planning and Survey Project helped improve the Korean Government's planning and policymaking capabilities and its ability to implement larger, more effective programs. The Agriculture Advisory Services Project in Ethiopia helped establish an economics-oriented development guidance unit, thereby encouraging more effective project planning. Activities dealing with improved seed and fertilizer in the Afghanistan National Development Service Project contributed to a significant increase in national wheat production.

Another important set of reasons for government intervention in the economy can be grouped under the heading of "market failures." Modern economic theory clearly recognizes a number of circumstances under which markets do not allocate resources efficiently.

These circumstances tend to be the provision of public goods (public health, national defense, basic infrastructure), the existence of externalities (such as overall resource depletion), and the setting of long-term objectives (natural resource protection). Finally, and most important, "Markets do not necessarily lead to equity, however measured." {46}

---

{46} For a good treatment of these issues, see Jerome Wolgin, *The Private Sector, the Public Sector, and Donor Assistance in Economic Development: An Interpretive Essay*, AID Program Evaluation Discussion Paper No. 16 (Washington, D.C.: AID, March 1983), particularly pp. 30-36.

### 3.1.2 Disadvantages of Public-Sector Delivery Mechanisms

Despite positive experiences and valid reasons for using public-sector delivery mechanisms, a number of significant disadvantages to such delivery of agricultural credit, input, and marketing services were noted by impact evaluators. The Bangladesh study in 1982 observed that government agencies tend to do an inadequate job of generating, mobilizing, and allocating indigenous resources; services generally are offered within relatively inflexible bureaucratic constraints. In the Korea Rural Policy Planning and Survey Project, little time was allowed to planners for ongoing education and technical growth amid pressures to achieve targets. Government funding systems in Costa Rica were too cumbersome for the Rural Development Project to respond appropriately to small-scale decentralized operations assumed in the project design. Similarly, the Tunisia Small Farmer Supervised Credit Project found the National Bank's procedures too unwieldy for most farmers' needs. Often, these and similar systems are established for social and political reasons that are intended for maximum control rather than economic efficiency. On the other hand, the Assistance to Agricultural Planning Project found the Indonesian Department of Agriculture sufficiently flexible to respond quickly to project needs, even when they deviated from implementation plans.

A serious obstacle to the effectiveness of public agricultural service channels has been the difficulty of establishing adequate information systems. Too little is known about farmers' problems -- their needs for credit, inputs, and marketing assistance. Both the Arusha Planning and Village Development Project in Tanzania and the Rural Development Program in Costa Rica reported that they were unable to establish ongoing, viable data collection systems. The high costs of information generation, analysis, and pilot-testing are often hard for the public institutions of developing countries to accept. Planners may be obliged to proceed with a project although they lack adequate information, rather than face the consequences of long delays.

The sustainability of publicly channeled activities once donor support ends has been a major concern. The priorities and

agendas of public-sector agencies may ultimately be at odds with project priorities. The Small-Farmer Development Project in Colombia encountered difficulties when it became apparent that the methodology it required was in conflict with the traditional approach of the participating public agency. Even when host country project staff are cognizant of and in agreement with the project's approach, insufficient support from central authorities may result in a project's having little lasting effect after outside funding and supervision are removed.

The inefficiency of public mechanisms compared to the relative efficiency of private sector mechanisms has been a major concern in all these evaluation studies. For example, evaluators of the Ashuganj fertilizer plant in Bangladesh indicated that inadequate performance by Government officials was the result of distorted incentives created by price and distribution controls and lack of training. The evaluators suggested that similar manufacturing efforts should be in the hands of private firms because they are more motivated to finish construction quickly and to operate efficiently.

Projects with multiple objectives may be simultaneously efficient and inefficient; efficiency in achieving one objective may even preclude efficiency in achieving another.<sup>{47}</sup> Many of the evaluations noted that projects may be highly inefficient in achieving their stated agricultural development goals, but highly efficient in achieving their hidden agendas -- for example, disguised income transfers, political patronage, or public employment. The Dominican Republic impact evaluation examines this phenomenon in some detail. AID has turned to the public sector in a number of efforts to encourage reform of policies that discourage agricultural production. Export tariffs and taxes on coffee in Haiti, for example, were the highest in the world in 1980. Fertilizer subsidies in Bangladesh and Pakistan discourage private-sector involvement and distort distribution patterns. Interest rates for production credit are regulated in many countries and often discourage rural savings. Government freezes on farm commodity prices in Senegal were said to encourage farmers to export their crops clandestinely rather than to market them domestically.

Results from efforts to reform policy have been mixed. Persistent project efforts aimed at altering fertilizer-pricing and subsidy policies in Bangladesh have not resulted in appropriate reforms. The National Agricultural Development Project in Afghanistan similarly had little success but made progress toward convincing public officials that the importation and sale of inputs can be handled by the private sector. In Pakistan, economic policy liberalization did occur: the licensing of retail fertilizer dealers was simplified, private-sector access to imported phosphates was expanded, marketing margins were increased, and geographic restrictions on allocations were lifted.

---

<sup>{47}</sup> See John Cohen, *Policy\_Space*, for a detailed discussion of this phenomenon at both the project and national policy levels.

### 3.2 Mixed Public/Private Delivery Mechanisms

When agricultural services require management that is intensive, responsive, and flexible, yet require political influence in the interest of program objectives, a mixed public/private entity has proven to be most effective. The two major categories of such public/private entities are as follows:

1. Parastatals have been established when private investors are unwilling or unable to invest on their own, when an activity requires a high level of business management, or when the authority of government is required to carry out specific activities effectively. Examples include institutions that provide specialized credit, produce and distribute seed, and export commodities.
2. Ad hoc combinations are formed when the required tasks are beyond the scope of a single institution, such as when farmer associations unite with public agencies to implement a rural development project. Ad hoc combinations are often effective in ensuring participation of client groups in project decisionmaking. However, these combinations may be characterized by inefficiency and conflict because the institutions involved have different management styles and interests.

AID project services provided through mixed public/private mechanisms were delivered through a structure composed of at least one public institution and one nongovernmental institution or a private sector organization, foreign entity, and/or the beneficiary population. When this approach is used, designers seek to combine the advantages of public and private institutions, and the process often spawns innovations not traditionally found within wholly public programs. Again, a variety of institutional arrangements was observed:

Public institutions, universities, PVOs, cooperatives	24
Public institutions, private for-profit sector	8
Government-controlled, corporate-like bodies (parastatals)	9
International public/private organizations	6
Total	47

Public/private channels were used in 25 percent of the projects surveyed (see Table 3). Overall, the percentage of public/private agency projects increased slightly after 1973 because of greater use of them in Latin America, where percentages grew from 12 percent to 24 percent of total projects. Use of public/private service delivery mechanisms dropped off in the other AID bureaus as reliance increased on alternative, nonpublic vehicles.

Mixed public/private vehicles were used most often to provide

multiple services. The variety of resources available through the collaboration of several organizations probably lends itself to such multiple-service approaches. Single-service activities providing credit or chemical inputs were next in frequency. A credit-delivery structure involving public financial institutions and regional and local nonpublic associations was often utilized. Similarly, fertilizer projects frequently involved sales to farmers through private retailers, with the government retaining control over the initial stages of importation and distribution.

Where the promotion of agricultural services requires management that is intensive, quickly responsive, and flexible on the one hand, yet capable of wielding political influence in the interest of program objectives on the other, a mixed public/private entity can be most effective. Areas in which mixed companies have been most effective include the following: (1) acquisition, wholesaling, or production of farm inputs (especially insecticide, fertilizer, and seed); (2) operation of regional marketing systems; and (3) allocation of agricultural credit to retail lending institutions or directly to medium- and large-scale farmers/borrowers.

Two major types of public/private channels were used for project implementation: ad hoc collaboration of public and non-public agencies for the purposes of a project and parastatals.

### 3.2.1 Ad Hoc Combinations

**Advantages.** There are several reasons for using an ad hoc combination of public and nonpublic entities for service delivery. A complex project with multiple components and objectives may require the collaboration of the government, universities, PVOs, and private for-profit institutions. A flexible mechanism may be sought that involves organizations with a mandate or demonstrated past performance for serving the beneficiaries. The Jordan Valley Farmers Association Project was such an effort. Other projects emphasize the broadening of participation, working through rural self-help organizations, as did the Haiti Small Farmer Development Project, or eliciting direct beneficiary input into public policymaking, as with the Arusha Planning and Village Development Project in Tanzania. Finally, an ad hoc combination may be used to improve the efficiency of service delivery by bringing in private for-profit participation; this was an aim of the National Agricultural Development Project in Afghanistan.

Ad hoc combinations have been effective in achieving progress toward certain objectives. The Haiti Small-Farmer Development Project, despite some significant problems, was able to test an experimental group-lending concept involving farmer associations. Similarly, the Arusha project in Tanzania reported that its process approach to planning resulted in the incorporation of Tanzanian attitudes and decisions in project activities. The Kenya Agricultural Sector Loan I helped improve the

implementation capacities of participating cooperatives. Projects in Costa Rica, Afghanistan, Pakistan, and Kenya made progress in involving private for-profit entities in input distribution.

**Disadvantages.** Certain problems have been experienced in projects depending on ad hoc combinations as service delivery mechanisms. In several cases, evaluators of complex projects observed that project designs were erroneous or overambitious. The Honduras Agricultural Sector Loan II was said to be over-complex in design and replete with erroneous assumptions. The design of the Entente Food Production Project failed to plan adequately for subproject financing after project completion.

Coordination problems have arisen where several distinct institutions have been involved in service delivery. The project design tended to provide inadequate or unclear guidance about the way in which decisions were to be made and implemented and what the input of each participant was to be in the process. The Tanzania Livestock Marketing Development Project suffered from unclear design and poor coordination. In the Jordan Valley Farmers Association Credit Project, jurisdictional disputes between institutions slowed progress. Project documents for the Honduras Agricultural Sector II project failed to specify the roles of the various planning institutions involved.

Although participation in a project may be broadened with the use of the ad hoc combination approach, effective beneficiary contributions to decisionmaking do not necessarily follow. Agriculture credit societies were a crucial component of the Haiti Small-Farmer Marketing Project, but actual beneficiary participation in the cooperative organization was reported to be inadequate. The Jordan Valley Farmers Association Project experienced similar problems, but evaluators observed that the one-farmer/one-voice concept was undermined by the reality of the tribal elite environment. Nonetheless, when beneficiary organizations carry the responsibility for credit repayment and are unable to participate effectively in the consideration of loan applications, their viability is jeopardized. A similar problem was a major reason for the ineffectiveness of local credit societies in the Tunisia Small-Farmer Supervised Credit Project.

A problem common to many ad hoc public/private combinations is that new organizations are often created to coordinate service delivery. Longer time frames are often necessary to work out initial organizational problems. Frequently, too much is expected too soon, as occurred with the Jordan Valley Credit Project. Technical assistance was said to be more appropriate for mature institutions rather than for the newly created and struggling institutions. In Tunisia, local credit societies were said to be ineffective because they were perceived as an artificial construct of the public-sector bank involved. The societies failed to generate expected peer pressure because farmers believed they owed it no allegiance.

### 3.2.2 Parastatals

Although the word is used principally in the African context, "parastatal" is used here to describe a government-controlled institution set up and operated along corporate lines. The most common examples of parastatals are institutions dedicated to providing specialized credit, to multiplying and disseminating seed, or to manufacturing and distributing fertilizer. The Tanzania Seed Company and the Dominican Republic Agricultural Bank are examples of parastatals in the evaluation series projects. A widely known U.S. parastatal in the economic development business is the Overseas Private Investment Corporation.

**Advantages.** Parastatal organizations have been established when it was thought that an activity required the intensity of management, institutional flexibility, and attention to the bottom line that are characteristic of the private sector, yet also needed the backing and authority of government policy. Externally, the parastatal organization may be difficult to distinguish from a government entity, but from an internal perspective the difference may be substantial. Freedom from government travel, procurement, salary, promotion, and political patronage constraints are examples of critical differences that may be present to various degrees in parastatal organizations.

The relative success of parastatal cotton-marketing organizations in West Africa is an example of effective use of parastatals.<sup>{48}</sup> The Tanzania Livestock Marketing Company and other livestock parastatals involved in the Livestock Marketing Project showed progress in establishing and utilizing markets, weighing stations, and holding and watering grounds. There are, of course, many other examples of successful parastatal operations, and these usually involve organizations with adequate managerial autonomy to remain reasonably free from overt political direction and patronage demands. This point is made very forcefully in a study of Malawi's numerous parastatal organizations: as long as the organizations were independently run by expatriate advisers, they were fairly free from political interference and maintained healthy financial positions. This situation started to deteriorate with the employment of a larger number of Malawians in managerial positions; they were more easily reached by political influence. The overrun parastatals finally had to demand special Government action to protect their own citizen-managers from letting this kind of influence override sound business management principles.<sup>{49}</sup>

**Disadvantages.** Use of parastatals also has inherent disadvantages. Beneficiary participation is not easily incorporated. Also, as government entities, their autonomy is limited. Disadvantageous public policies can circumscribe an organization's effectiveness, and lack of a profit motive or, in many cases competition, may inhibit efficiency. Tanzanian Government marketing regulations and price-fixing resulted in purchasing inefficiencies and high transport costs for livestock parastatals. The Afghan Fertilizer Company operated amidst pressures to revert

to traditional operating modes; it also relied heavily on outside technical advisers.

In summary, although numerous examples exist of both success and failure in AID's experience with parastatals, the important challenge is to examine directly the design requirements for improved systems performance and to use the institutional forms and incentive mechanisms that will most directly address development goals that have priority in the political arena.

-----  
{48} AID, The Tortoise Walk.

{49} Agency for International Development, The Private Sector and the Economic Development of Malawi, AID Special Evaluation Study No. 11 (Washington, D.C.: AID, March 1983).

### 3.3 Private-Sector Mechanisms

Private-sector institutions have performed most effectively when agricultural services required a flexible management approach and individual contact with client farmers, such as in retailing production inputs and purchasing production outputs at the farm gate. Private-sector institutions may be divided into three categories: private voluntary organizations (PVOs), cooperatives, and private for-profit entities.

1. Private voluntary organizations have excelled at providing diverse services to target clients, particularly those often overlooked by public or mixed delivery systems. Their particular strengths include dedication of staff and access to a range of resources. Weaknesses include financial and institutional instability because of dependence on donor support and difficulties in satisfying the donor's implementation requirements.
2. Cooperatives have often been successful in serving their client's interests in agricultural service projects, with activities that include lobbying for policy changes; ensuring local participation and commitment; and implementing delivery systems for credit, inputs, and marketing. However, cooperatives often are restricted by poor financial management, inability to make decisions without consulting their membership, and domination by government agencies.
3. Private for-profit institutions are particularly effective in projects involving transactions at or near the farm gate. Private businessmen providing agricultural services frequently live in the local area and thus understand the social system and have interests closely identified with the farmers they serve. Moreover, they tend to be more stable, entrepreneurial, and flexible and have lower costs than

outside public or mixed institutions. However, private firms also may be exploitive of small farmers and act in ways detrimental to the economy if competition is weak or government controls do not work.

In the late 1970s and early 1980s, greater emphasis was placed on providing agricultural credit, input, and marketing services through private-sector rather than public-sector mechanisms. Project designers were increasingly drawn to private-sector approaches to agricultural service delivery because of a number of perceived advantages therein:

1. A wider range of human, material, and economic resources may be tapped.
2. A more flexible and intensive mode of operations capable of responding to a wide range of local conditions is possible.
3. More direct farmer participation in service provision may be facilitated.
4. Greater efficiency occurs as efforts are made to earn and maintain profit.
5. Private-sector participation may ultimately permit an expanded, more equal distribution of benefits.

This study identified three major subdivisions among AID private-sector collaborators: private voluntary organizations, cooperatives, and private for-profit entities.

### 3.3.1 Private Voluntary Organizations

The PVO mechanism provides services through a nongovernmental, nonprofit organization, often with international linkages, that relies to a significant degree on private grants and contributions for capital and that often draws on volunteers to carry out programs. PVOs are a heterogeneous group and may be religious or secular, large or small, based in the United States or in the host country, and may provide a number of services, both humanitarian and material.

Overall, PVOs were used as a primary delivery channel in 8 percent of the 203 CDIE projects examined. In their early years, PVOs were involved mainly with relief, disaster assistance, and food distribution. More recently, they have been used in a broader range of development activities. Although PVOs formed part of delivery structures in public/private delivery mechanisms prior to 1973 (see Table 3), little emphasis was placed on their use as the principal delivery mechanism. After 1973, they were used as principal vehicles more often -- in 12 percent of the projects. Almost one-fifth of the African projects carried out after 1973 provided services through a PVO channel, more than in any other region.

In the projects examined, PVOs most often provided multiple services, but tended to be involved in intensive, rather than extensive activities, working with relatively small groups of beneficiaries in limited geographic areas. Their emphasis on multiple services is related in some instances to the fact that PVOs often work with fringe groups overlooked by other institutions. PVOs provided a single service in only five of the projects reviewed: two projects involving marketing, two involving institution-building services, and one providing fertilizer. No PVO was used as a primary delivery mechanism for single-service credit, seed, or farm machinery projects, perhaps because of the relatively high costs of large-scale operations in those areas.

The PVO, considered an independent development agency in its own right, has been used to extend AID's own effectiveness to community-level development, complementing the role of the public sector. In 1981, the U.S. Congress directed AID to make available to PVOs at least 12 and up to 16 percent of its development and disaster assistance funding.

Differing institutional priorities and agendas have at times proved a significant consideration in AID's use of the PVO delivery channel. A 1982 AID Policy Paper on PVOs<sup>50</sup> recognized these differences, observing that AID is accountable to Congress and the PVOs to their contributors. It stated that the motivations, interests, and responsibilities of these development agencies are not, and should not be, identical; rather, the collaboration of AID and PVOs in the delivery of services should arise from the convergence of complementary programmatic interests and objectives.

**Advantages.** The 1982 AID Policy Paper stated that PVOs embody the traditional humanitarian ideals of the American people. Their orientation toward service makes them especially appropriate for situations in which the potential for profit is small. PVOs as a rule differ widely in philosophies, approaches, and objectives. Their heterogeneity may be a source of innovation as they are involved with USAID Mission priorities.

PVOs often have international linkages and access to technical, financial, and human resources lacking in other nonpublic agencies. International Voluntary Services, Inc., for example, provided technical advisers to the Agricultural Rehabilitation Development Project in the Sudan; CARE provided technical training to local farmers to sustain project activities in Chad.

A strong argument made for the PVO mechanism is its relative effectiveness with an intensive operating mode. The seven PVOs funded through the Ghana Farmer Association and Agribusiness Development Project were reported to be generally effective in providing inputs and introducing technical innovation. Replication of successful activities often followed spontaneously. Similarly, the Acacia Albida Expansion Project in Chad was able to achieve most of its innovation-transfer objectives. Several

of the PVOs in Ghana proved capable of extensive operations as well, but without the emphasis on innovation.

Because of their relatively small-scale operations, PVOs usually have fewer bureaucratic constraints and are more capable of experimenting than are other institutions. The Ghana project found that PVOs were responsive to evaluations and were able to adjust operations accordingly. One PVO, Technoserve, changed its objectives entirely to emphasize technical assistance to other participating PVOs.

Disadvantages. Despite the usefulness of the PVO approach, several problems temper the advantages. While the PVO heterogeneity can be a source of innovation, it may imply a diffuse and problematic implementation. Many PVOs have had considerable difficulty meeting AID registration, commodity procurement, accounting, reporting, and monitoring requirements. The Ghana project evaluators reported that a great deal of USAID Mission time was required to work out such problems. This points up an area that may be explored as another hybrid development mechanism: teaming a donor-country PVO with one or more in the developing country to improve the ability of the joint enterprise to deal simultaneously with the local environment and with the complex world of AID paperwork and reporting.

Although PVOs often afforded AID funds a wide impact for a relatively small cost, in general PVOs were not found to be cost-effective. Many PVOs with international linkages are supported mainly through private revenue. However, indigenous PVOs are often dependent on AID for finances. Those involved in the Ghana project were said to be dismayed by AID's unwillingness to pay overhead for general support costs, a complaint the Mission considered to be valid.

Administrative and financial management capabilities were deficient in several cases. Evaluators of the Ghana project recommended that subsequent grants be given to a single U.S.-based PVO that could then register and assist indigenous PVOs in obtaining and implementing grants.

The participation of beneficiaries in PVO operations was an issue observed by evaluators. PVOs have often excelled at facilitating beneficiary participation in project activities; however, beneficiaries frequently lacked effective participation in decisionmaking.

Many of these ideas are summarized in the principal conclusion of an AID-sponsored evaluation of the PVO mechanism:

Many PVO projects, in sum, will be top-down, nonparticipatory, reliant on known techniques, or dependent on government. . . . What PVOs refer to as participatory processes are better described, for a large subset of their projects, as decentralized decisionmaking by PVOs and local elites. For certain types of projects, such control will not prevent enjoyment of benefits by the poor. For other

project types, local elite control will result in [fewer] benefits to the poor than will a more centralized project, or a top-down donor style. . . . They may be reaching the poor indirectly, however, through spread effects; or the economic growth consequent upon their actions may worsen, rather than improve, income distribution. In these cases, PVOs will be practicing a community-level version of trickle-down or non-targeted approaches to development. . . . If PVOs are effective at providing this class of services to clients that are not poor but not yet serviced, are they or AID willing to accept this as success?{51}

Of course, these generalizations must be tempered in the experience of PVOs in any particular country. What emerges, however, is a picture of high-risk, high-gain involvements. There are some spectacular, highly cost-effective projects, and others that are little more than elaborate "con games." This highly variable performance also brings into question how easily a positive experience in one community can be expanded within a country. According to an intensive study conducted in Niger and Kenya:

This aspect of the classic PVO approach is subject to criticism from an institution-building perspective. PVOs tend to give far greater emphasis to getting a job done than to developing local capacity to carry on in the PVO's absence. Sometimes development of that long-run capacity is more important than short-term gains.

Replication of the more successful projects was judged to be an expensive option, particularly in terms of the human resources needed; the limited evidence available from efforts to "scale up" PVO approaches was not encouraging.{52}

---

{50} Agency for International Development, "Policy Paper on Private Voluntary Organizations," 1982.

{51} Judith Tendler, Turning Private Voluntary Organizations Into Development Agencies: Questions for Evaluation, AID Program Evaluation Discussion Paper No. 12 (Washington, D.C.: AID, April 1982), pp. iv-vii.

{52} A.H. Barclay et al., The Development Impact of Private Voluntary Organizations: Kenya and Niger (Washington, D.C.: AID, April 1982), pp. iv-vii.

### 3.3.2 Cooperatives

The cooperative mechanism provides services through a nongovernmental, host-country institution set up along principles of voluntarism, business purpose, democratic control, and equitable sharing of benefits.<sup>53</sup> This definition of the cooperative mechanism has at least two important implications. A number of

cooperative organizations, particularly in areas of Africa and Asia, are actually operated as government institutions and, for the purposes of this analysis, are categorized as public delivery mechanisms. Also, the degree to which the international principles of cooperativism just described actually govern a cooperative's operation varies greatly by situation.

Cooperatives were the primary delivery mechanism in 6 percent of the projects examined. The Bureau for Latin America and the Caribbean was the only one to use cooperatives as the principal vehicle prior to 1973. The use of cooperative channels increased after 1973, especially in Latin America (see Table 3). However, these figures do not adequately reflect the emphasis placed on the organization and development of cooperatives in the 1960s and 1970s, when a prodigious growth in Latin American and African credit unions was observed.

Cooperatives were used as principal service delivery mechanisms most often for the provision of multiple services (55 percent of the cases). As with PVOs, cooperatives often operate in an intensive rather than extensive mode. Single-service or marketing activities were channeled exclusively through cooperatives in just under one-third of the projects. Agricultural credit as a stand-alone service was provided in this manner in only one project.

**Advantages.** Cooperatives are service-oriented and as such are potentially effective vehicles for eliciting the maximum participation of beneficiaries, because members contribute their own resources and time. Consequently, cooperatives have often been considered best suited for the provision of services to rural areas, particularly where small farmers are concerned. The Small-Farmer Development and Marketing Services Project in Paraguay contributed to the development of viable farm supply and marketing activities through a central cooperative and financially self-sufficient member cooperatives. The Rural Cooperative Upgrading Project in Chile provided financial and technical assistance through a central cooperative to create development opportunities for small farmer members.

However, most of the inputs and marketing projects involving cooperatives have used them in combination with public and other private institutions. Twenty-two of the projects using a mixed public/private channel involved cooperative associations. Credit services in Haiti, Costa Rica, Guatemala, Korea, Ghana, Kenya, and Jordan were provided to farmers through cooperative associations in coordination with public agencies. Improved seeds were distributed through cooperatives in Kenya, Guatemala, and Liberia. At least one project in Ghana made fertilizer available through cooperatives.

**Disadvantages.** The difficulties associated with the effective organization of cooperatives have probably precluded their more frequent use as primary delivery mechanisms. Effective cooperative development was found to require a full-time commitment in the Bolivia Cereals Development Project. The Guatemala

Rural Development Project reported that agricultural cooperatives were particularly difficult to organize and maintain as viable economic entities. The Accelerated Impact Project in Guinea Bissau discovered that the establishment of an irrigation cooperative and a farmer credit union was probably an unrealistic objective given its timeframe. Also, restrictive government regulations often made effective cooperative activities difficult, as in many countries in Africa. Or, as was the experience of the Jordan Valley Farmer Association, the cooperative concept may not be easily workable given traditional patterns of authority.

Effective and responsible member participation has been an elusive goal. Farmers may not feel that the benefits of participation in cooperative activities justify the commitment of scarce time and resources. Their margin for failure is usually slim. Evaluators of the Haiti Small-Farmer Development Project discovered that farmers believed that their coffee income could best be increased through better fertilizer use and skillful pruning, rather than with cooperative marketing and other project activities. Farmer interest in cooperatives has been discouraged where cooperatives are dominated by outside business elements or captured by local elites. Further, where essential public-sector support is to be forthcoming, a government's lack of credibility may prove an obstacle.

Cooperatives have evoked most effective participation when they have been indigenous organizations, as was the case with Haiti's agricultural credit societies. The Tunisia Supervised Credit Project's credit societies were ineffective largely because they were perceived as artificial constructs of the National Bank. Participants in the Guinea-Bissau project, according to evaluators, were likely to be little motivated to form cooperatives because project services were provided them free of charge.

Cooperative effectiveness has been hindered by deficiencies in financial management and administrative capacity. Agricultural produce cooperatives in Liberia were reported to be losing money through poor business practices -- paying too much for produce, ineffective loan collection, and excessive trust in employees. IFICOOP, the central cooperative involved in the Chilean Rural Cooperative upgrading project, overextended itself through unsound loans to worker cooperatives and entered into bankruptcy. IFICOOP was able to renegotiate its debts and reorganize to continue operation. On the other hand, assistance to UNIPACO, a Paraguayan central cooperative, had to be terminated in 1975 when the organization was judged to be ineffective.

In sum, the purpose here is not to praise or criticize unduly any particular institutional mechanism used in the delivery of agricultural services to farmers. Instead, it is to assess pragmatically the advantages and disadvantages so that the appropriate institutional arrangement can be selected, and so that actual or potential competencies and incentives can lead to the most efficient achievement of multiple farm-level objectives.

In this sense, the cooperative movement has a long and noble tradition around the world and certainly will remain a formidable force in agricultural development.

---

{53} Agency for International Development, "Policy Paper on AID-U.S. Cooperative Organization Relationships," March 30, 1980.

### 3.3.3 Private for-Profit Delivery Mechanisms

The private for-profit mechanism delivers goods and services for the market through profit-oriented entities, either entirely of the host country or with international linkages. This group includes not only manufacturers, processors, and marketers of agricultural produce and farm inputs (including credit), but also the farmers themselves. These profitmakers further include those from the U.S. private sector who invest in developing countries, impart their managerial skills and philosophies, and transfer their technologies toward improving host-country agricultural systems. This definition excludes PVOs, nonprofit-oriented or public-owned cooperatives, and parastatals, because these organizations tend to respond to motives in addition to or in place of the profit motive.{54}

The figures in Table 3 by themselves can present a misleading picture of the role of the private for-profit institution in credit, input, and marketing service projects. Part of the reason for this is that the study identified primary service delivery mechanisms through available documentation. Prior to the 1980s, less emphasis was placed on recording the private for-profit entity as a distinct agent of development with a distinct role to play in project implementation and service delivery. Consequently, it is often difficult to discern from abstracts the actual role that private for-profit entities played. It is possible that in a number of public/private combinations, the public institution was mainly used to receive donor funds and to guarantee exchange, while the private for-profit agent played a greater role in channeling services. This is often the case in input and product marketing.

Three projects from the sample of 44 were identified as relying primarily on this delivery mechanism, two in Latin America and one in Asia. However, substantial work was also done involving private for-profit entities in the 1960s and 1970s, particularly with commercial farming agribusiness ventures and other rural entrepreneurial efforts. In Latin America, substantial support was given to host country private financial institutions (financieras) through which rural industry- and agriculture-related activities were often funded. Also, an examination of projects with start dates more recent than considered here would reflect the increasing role for the private sector in project activities.

A 1982 policy paper on private enterprise development states

that a "greater reliance on private enterprise in Third World development is essential to the effective and efficient achievement of AID's central objective -- to assist recipient countries to supply the basic human needs of their poor majorities through sustained, broadly based economic growth."{55} Much of the poor performance of less developed countries, it continues, can be attributed to incentive-inhibiting public-sector activities. Involvement in lower-than-cost production and services in itself makes the public sector a formidable competitor. Scarce capital and management skills that might otherwise be used in the private sector are often appropriate for these activities.

Public policies discourage private for-profit provision of agricultural services in a number of ways. Commodity price controls are often counterproductive when costs rise without an increase in revenue. Subsidies often prevent private involvement in input importation and distribution. Unfavorable taxes and tariffs limit production for export that could earn foreign exchange. Restrictive marketing regulations hinder efficient and cost-effective operations.

Advantages. The private for-profit approach offers several advantages in providing inputs and marketing services. The human, material, and financial resources available to private for-profit agents exceed those of the state. Although the private sector as a whole in many developing countries is underdeveloped, individual farmers form the largest group of private for-profit productive units. Their resources are usually dispersed, but they constitute a great potential for resource generation and mobilization. One Latin American private for-profit institution, the Latin American Agribusiness Development Corporation (LAADC), has been involved in stimulating the mobilization of these diverse resources by supporting rural industries.{56}

The private for-profit mechanism has often proved to be more efficient than the public sector in providing certain services. The private Fauji Agrico Fertilizer Plant in Pakistan was rated high for construction and operating efficiency. Evaluators of the public Ashagani Fertilizer plant in Bangladesh suggested that such operations were better handled by the private sector. Many of the technology transfer achievements of the Honduras Export Promotion Project were credited to the astute management of the private for-profit personnel involved.

The free play of appropriate incentives has been an important factor in efficient and effective operations. The private retailers involved in fertilizer distribution in Pakistan and Afghanistan, it was observed, had a strong profit incentive to expand sales outlets as widely and efficiently as possible. Also, the private for-profit channel may be more likely to offer producers concrete incentives to utilize services, rather than simply calling on them to cooperate for the good of the country.

Experience has shown that a wider, ultimately more equitable distribution of services can be possible through a private for-profit

channel under some circumstances. A common view of these agents holds that their activities are dominated by greed and unfair profiteering and that benefits will accrue to those who need them the least. However, in Bangladesh, it was discovered that public services without private participation reach only a small proportion of farmers, for the most part the wealthier farmers. The public sector was found to be too bureaucratic to effectively expand contacts with beneficiaries to include individual marginal farmers and sharecroppers. Similarly, in Afghanistan, evaluators reported that the public sector was unable to handle large-scale distribution of agricultural inputs. When fertilizer and improved seeds were available through private sales outlets, however, their purchase and timely utilization within a 5- to 10-mile radius rose to 60 percent of the farmers, in contrast to the national average of 7 percent.

Services provided through a private for-profit mechanism may ultimately prove more sustainable once project support ends. Prices charged for services that reflect their true costs can create fewer dependencies on outside support. Also, reasonable profit incentives can motivate continued provision of services.

Disadvantages. The use of private for-profit entities has not been without problems, however, because private investors tend to be conservative about entering into certain high-risk activities. The experience in the Guatemala Rural Development Project, for example, was that the private sector was slow in building adequate crop storage and handling facilities because short-run considerations often took precedence. Private traders tend to wait cautiously for market trends to prove themselves to be permanent. In Afghanistan, personnel from the National Development Agricultural Services Project charged with emphasizing the long-term profitability of private input marketing had only limited success in stimulating private participation in fertilizer and seed distribution. In Thailand, where AID worked through private seed companies, there was quick acceptance of profitable maize seed technologies but a reluctance to work with rice seed due to low profit opportunities there.

Effective beneficiary participation in the decisionmaking process of private for-profit entities has been difficult to develop. Evaluators of the Honduras Agro-Industrial Export Development Project remarked that the firm involved was unlikely to allow a peasant-controlled organization to participate in the marketing process. In that project another deterrent to beneficiary participation was the lack of credibility of a second processing firm which was believed to be unsympathetic to the farmers' needs. The firm's poor relationship with the farmers was aggravated by its unwillingness to pay the "going price" for produce and by its frequently late payments.{57}

Another consideration of the private for-profit channel is that it may exclude, because of its emphasis on cost-effectiveness, segments of the population that are marginal. Although the allocation of resources through competitive markets is said to be almost invariably more equitable over time than public allocation,

in the short term marginal groups may be bypassed.

In sum, the review of AID's agricultural services portfolio reveals many positive examples of improved system performance through deliberate use of private-sector mechanisms as well as the inevitable instances of poor project design, unanticipated political developments, and so forth. Again, the challenge to program and project designers and field-level managers is to choose the delivery systems most likely to meet important project objectives and, at the same time, to be consistent with the overall policy, institutional, and social context of the host country.

---

{54} Albert Brown, AID, Agriculture, and the Private Sector (Washington, D.C.: AID, Bureau for Private Enterprise, 1981).

{55} Hageboeck and Allen, The Private Sector.

{56} Again the reader is encouraged to examine The Social Impact of Agribusiness, (the ALCOSA Study), that involved support from LAADC.

{57} For a very positive view of the role of corporate agribusiness in interactions with small farmers, see Business International Corporation, Agribusiness and the Small-Scale Farmer.

## 4. LESSONS LEARNED

### 4.1 Agricultural Service Lessons

For an agricultural service project to succeed, the service promoted (whether credit, inputs, or marketing assistance) must be appropriate to the intended user, must be delivered in timely fashion, and the utilization of such service must result in higher income for the user. It was found that in the majority of cases, AID projects fell short of their potential because of the breakdown of one or more of these essential elements.

1. Credit projects typically fell short because they were tied to unproven technologies, the policy environment was hostile to farming in general, application procedures were onerous and time consuming, or interest rates were dictated arbitrarily rather than determined by the marketplace.
2. Input projects tended to break down because they promoted technologies that, although scientifically sound, were judged inappropriate by the target farmers, and because of difficulties in timely delivery.
3. Marketing projects broke down most commonly from failure of marketing institutions to collect the produce in timely fashion at the farm gate, and occasionally from failure to ensure market price stability.

## 4.2 Delivery System Lessons

It is clear from the study of the delivery systems utilized by AID in its agricultural service projects that no one system (public, mixed, or private) has all the answers. Indeed, each has areas of comparative advantage.

1. Public sector entities are clearly superior delivery mechanisms when the project's impact is very general in nature (e.g., infrastructure), where public policies are the focus (e.g., price or exchange rate policies), or where social transfers (e.g., price supports or input subsidies) are the goal.
2. Mixed public/private entities are best when agricultural services require management that is intensive, responsive, and flexible on the one hand, yet also require political influence in the interest of program objectives.
3. Private sector delivery systems have performed most effectively where agricultural services require a flexible management approach as well as individual contact with client farmers. Retailing of credit and inputs and purchase of farm outputs at the farm gate are tasks at which private sector entities tend to be most effective.

## 4.3 Conclusion

If there is one overall conclusion that can be expressed from the agricultural services evaluation series it is that AID projects have been too supply-side oriented at the design stage, and this orientation has carried through to implementation. More attention must be paid to developing assistance packages that will be adopted by target clients, rather than on developing packages that look good to the scientists and economists who are designing them.

Text for Appendix A missing.

Text for Appendix B missing.