

**AGRIBUSINESS AND RURAL ENTERPRISE  
PROJECT ANALYSIS MANUAL**

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## **CHAPTER ONE: EXECUTIVE SUMMARY**

### ***Introduction***

The last decade has seen many changes in the focus of development programs and policies. A.I.D. and other international donors have become increasingly concerned along with most developing countries about the distribution of the benefits of economic growth. This focus has brought with it increased concern for rural employment which has in turn led to expanded interest in agribusiness and small scale rural enterprises. Agribusinesses (which include the processing of food and fiber products, agricultural marketing services and agricultural inputs) and rural enterprises of all types have recently received substantial attention as sources of increased rural employment and income. Not only can these activities provide income and employment directly, but perhaps as important is the indirect impact they have on small farms from which they purchase produce and to whom they provide inputs. Agribusinesses and rural enterprises occupy an important intermediate position between farms and consumers and their development can be a key factor in transforming rural development at all levels.

Much of the recent emphasis in development assistance thinking has been related to the apparent conflict between "growth" and "equity." One of the most important potentials of the agribusiness and rural enterprise sector is in providing growth possibilities without an equity conflict. Labor intensive, small scale and relatively efficient enterprise systems exist in most countries and their expansion has favorable impacts on the income and employment of the rural landless and nonfarm poor as well as favorable linkage to the small farm sector. While all of these potentials exist they are not simple to unlock; care must be taken in project identification, design and implementation in order to achieve important contributions to both growth and equity. Much is yet to be learned about the agribusiness and rural enterprise systems in developing countries and how to provide development assistance in successful ways. The purpose of this manual is to provide an overview of what is known about the role of these activities as it relates to A.I.D. project possibilities and then to outline project analysis methods for the identification, design, monitoring and evaluation of development assistance projects in this area.

### ***A. Guide to the Use of the Manual***

#### ***1. Purpose of the Manual***

The purpose of the manual is to provide A.I.D. project personnel with background and project analysis methods for agribusiness and rural enterprise projects.

#### ***2. Use of the Manual***

The manual is written for three types of A.I.D. project personnel, and three corresponding levels of detail are presented. The first group is project design, implementation, and/or evaluation personnel who are or may be

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working directly with agribusiness or rural enterprise projects. For these direct project personnel, the manual and its technical footnotes should be useful both as a guide and as a reference. In those cases where the manual is unable to pursue a particular topic in sufficient detail to guide practitioners because of space limitations, the footnotes and bibliography usually suggest further references. For project personnel involved directly in design, implementation or evaluation of agribusiness or rural enterprise projects, the manual was designed to be read in its entirety, including footnotes.

The second group of potential readers is A.I.D. project personnel who are involved only part time with agribusiness and rural enterprise projects. This would include central A.I.D., regional bureau personnel, and mission officials involved in project review. For this group an understanding of methodology and technical detail is less important. The manual was designed such that this group could obtain the necessary level of awareness by omitting the footnotes; almost one-third of the total material presented in the manual is contained in the technical footnotes.

The third group includes A.I.D. or other development agency personnel who have only a peripheral interest in agribusiness and rural enterprise projects. The executive summary was written especially for this group and presents an abstract of the main ideas of each chapter.

Readers who choose to read only the executive summary are cautioned that its brevity carries important dangers. It fails to provide analytical balance in that it tries to present the strongest but not the only reasonable position on many issues. It makes statements without supporting evidence and discussion which are contained in the body of the manual itself. The summary gains economy and brevity at the risk of oversimplification of a complex and difficult subject.

For those who would like to obtain a slightly increased understanding of the subject beyond that provided in the Executive Summary, Chapter Four is recommended.

The manual is intended to be a management oriented guide; it does not attempt to provide a comprehensive review of existing literature and research, but rather to select inside that literature useful examples which will either provide an overview of the field (Part I) or illustrate viable project analysis methods (Parts II-IV). The authors have had direct experience with agribusiness and rural enterprise project design and evaluation and have attempted to provide materials which will be useful to A.I.D. practitioners.

A manual is difficult to design which can satisfy the generally interested reader and the practitioner alike. When one is directly involved in conducting a cost benefit analysis of a project, for example, his level of interest in exploring the technical detail related to the task at hand is great. The manual attempts to strike a balance between these varying levels of interest. While it does not provide a project analyst with the necessary detail at the "cook book" level to teach and guide to successful completion, it does intend to provide the A.I.D. project manager with the necessary understanding to write a satisfactory scope of work for a project analysis, and the background necessary to be an adequate monitor of a contractor engaged in project analysis. The manual is intended to equip A.I.D. project personnel with sufficient skills and background that they can systematically "manage" the specialists involved in project identification, design, implementation, and evaluation. This is simply another way of saying that the manual is oriented to the A.I.D. manager and not the subject matter specialist.

## ***B. Part I: Overview of Agribusinesses and Rural Enterprise Project Setting***

### ***1. Private Sector Approach***

Almost all agribusinesses and rural enterprises in developing countries are in the private sector. A.I.D. projects in this field must enter at some stage into this private sector system. Public sector banking channels, technical assistance organizations, and research capability may be critical to project success, yet the projects are basically private sector oriented. Unlike agricultural technology which has been substantially developed and disseminated through public channels, the small scale and large scale technologies which can be drawn upon for agribusiness and small scale rural enterprise development have largely originated and become perfected in the private sector.

The central focus of most of this manual, and indeed of most A.I.D. projects in this field to date, is on assistance to indigenous small scale enterprises in rural areas or in urban areas but related to processing or distributing agricultural products. Larger scale enterprises which process labor intensive agricultural products and which link directly to small farmers are also included.

U.S. agribusiness can play a vital role in this process by providing training, risk capital, technology transfer and market connections in many cases to indigenous enterprises; however, this manual is not designed to be directly useful to U.S. businesses interested in developing projects of this type. Harmonizing the interests of U.S. agribusiness and indigenous enterprises presents significant potential in certain products which are characteristically labor intensive.

### ***2. Growth with Equity***

Agribusiness and rural enterprise projects hold significant potential for promoting growth with equity. Many of these activities are labor intensive, owned and operated by target group families, provide employment and income for landless rural populations, and at the same time are relatively efficient. The resource use efficiency of many of these enterprises implies that scarce capital resources will be appropriately expended in these projects from both "growth" and "equity" points of view.

### ***3. Agriculture Sector Linkages***

The rural economy in LDCs is an interknit system. Farms, small scale enterprises, commerce, and services operate in an integrated fashion whether or not a money economy predominates. Growth and development in this system also take place in an integrated fashion. This does not necessarily imply that each subsector will grow at an even pace. Growth may stem from an initiative in a single segment of the system and spread unevenly to other components of the rural economy.

Agroindustry and rural enterprise interventions are located in the middle of this backward-to-agriculture and forward-to-final-consumer system of linkages. These interventions are ideally situated to draw the system more closely together, to pass more evenly the growth potentials of one segment of the rural economy to the others, connecting potential producers with final markets.

Agribusinesses (both small scale rural and large scale urban and rural enterprises) utilize farm and rural products as their major raw material inputs. Expansion of these industries will have important impacts on the suppliers of these inputs.

#### **4. Public Policy**

A considerable public policy structure participates in framing the environment within which Small and Medium Scale Rural Enterprises (SMRE) function in any country. The policy setting (including the lack thereof) must be a part of the knowledge base with which the project planner avails himself prior to further identification of alternative project interventions.

Policies of obvious concern to the project planner are those that are targeted directly to SMREs, and impact either negatively or positively on viability and potential for growth of the subsector. Others that are not quite so obvious, but nevertheless affect the climate within which SMREs operate are: 1) general economic and trade policies that directly or indirectly affect the economic climate within which SMREs compete for raw materials, factors of production, and markets; and 2) policies affecting other subsectors strongly linked to SMREs as suppliers of inputs or purchasers of outputs.

##### **a. Credit Policy**

Credit is a tool by which adjustments in all factors of production can be achieved. Thus, public policies affecting the availability and conditions of credit and capital supply to SMREs and agroindustry are particularly important.

In looking at credit policies, it is important to examine not only those policies that seek to make credit accessible to SMREs in acceptable terms, but also those policies which access large-scale enterprises to supplies of capital (often at subsidized interest rates) that generally cannot be tapped by smaller rural enterprises. Capital markets in less developed countries often are not well developed, being generally limited to the capital city in smaller countries, and generally not reaching beyond major regional centers in larger countries. Although bank branches may exist in more remote areas, they generally exist primarily as depositories for funds and to facilitate noncredit transactions between the hinterland and the capital city.

In many cases, large scale enterprises have access not only to major national capital markets, but to international capital markets as well. In addition, special government industrial promotion programs often provide special lines of credit at subsidized interest rates. Such programs usually are administered from one office in the capital city or a limited number of offices in other major commercial centers. Paperwork generally is substantial and insurmountable for many SMREs. Because of geographic isolation and the sophistication required to access these special lines of credit, SMREs are not benefited by such programs, although they are not formally excluded. Their situation can be characterized as one of "benign neglect." Nevertheless, the net result of such programs often can be negative for SMREs, since they enhance the relative competitive position of larger-scale enterprises.

The point is that credit should not be looked on as one of the **essentials** of SMRE development, as are availability of raw materials, markets for output, managerial capability, etc. If these **essentials** do exist, then credit may **accelerate** the growth of SMREs, if the potential exists. Rural entrepreneurs may not lack capital or credit so

much as the motivation to use resources to develop their enterprises. There is ample evidence that credit programs for small businesses often can be wasteful of funds, or even counterproductive.

Despite the pitfalls, credit may be an important component of a project intervention aimed at assuring that the essentials to successful SMRE growth and development are in place. Credit policies then become important variables to be taken into account by the project planner.

Many specialists have marshalled impressive evidence that subsidized interest rates may be self-defeating in terms of making credit effectively available to these target groups. It should be kept in mind that if the profitability of the credit investment depends upon a few percentage points of interest, the investment probably is not sufficiently profitable to justify the use of credit in the first place. The most telling argument in favor of charging true interest rates is that economic viability of the lending institution cannot otherwise be sustained. Even in the case of a state lending institution, the government is not likely to continually replace the capital of a subsidized credit fund, and it will eventually become depleted.

### ***b. Agrarian Reform and Agricultural Policy***

An obvious need for the SMRE subsector is raw materials and markets. The skewedness or absence thereof in the distribution of productive wealth in rural areas obviously has an impact on the local availability of raw materials from agricultural production and the size of the local market. In cases where land previously held in absentee ownership, or previously concentrated in large units, is distributed to the former landless laborers or sharecroppers, disposable incomes in the local area may increase even if output does not increase (or even declines somewhat). This is because more of the total agricultural income is retained by local people and expended in the local area rather than being expended in the capital city or outside the country. Thus, an agrarian reform that results in nothing more than income transfer can be expected to increase local demand for goods and services. If productivity increases also are achieved as the result of programs supporting agrarian reform, the increase will be even more substantial. This results in an economic climate that should have a positive impact on SMREs that provide goods and services for local consumption.

### ***c. Labor Laws and Employment Policy***

Labor laws that impose minimum wages and relatively high levels of fringe benefits are common in LDCs. Where these encompass SMREs, they can seriously limit ability to maintain viability and expand. In many cases, such labor laws exempt enterprises under a certain size; e.g., with less than five employees. Exemptions set at low levels may be an important disincentive to expansion by SMREs, even where other factors are favorable.

### ***d. Internal Fiscal and Tax Policies***

Nationally administered property and income taxes probably do not impact negatively on smaller rural enterprises in most LDCs. Small enterprises often are specifically exempted from business taxes because of their size or organizational form and tax administration may be inadequate to monitor any but large business enterprises.

### ***e. Industrialization, International Trade Policy, and SMREs***

Often industrialization has viewed the SMRE as part of the backward, traditional sector which was to gradually diminish in size as the modern sector expanded, so no concrete attempts were made to subsidize them either. SMREs have been affected negatively by the import substitution policies in many cases. The high level of protection of infant industrial firms, for instance, provided a monopoly power to some local industries, resulting in SMREs having to pay monopoly prices for their inputs from such industries or in having to receive monopsony determined prices for their output sold to such companies. Direct and indirect subsidies had the effect of encouraging capital-intensive and import-intensive activities and techniques to the prejudice of SMRE production which tends to be more labor-intensive and intensive in the use of local resources. The whole industrialization policy resulted in a disproportionate direct and indirect taxation of agriculture through such mechanisms as discriminatory subsidies, overvaluation of the exchange rate, high tariffs on imported agricultural inputs, export taxes on agricultural exports, price controls of agricultural goods to subsidize local food consumption, etc.

By the mid-1960s, criticism of the import substitution strategy was widespread as it became evident that equity considerations such as employment and income distribution were little impacted by the growth oriented industrialization approach. Out of this criticism emerged two separate strategies—that of export promotion and that of small and medium scale enterprise development. While the former preceded the latter, which is just coming into its own, they bear similar objectives, and in some cases are intimately related, although this relationship has not generally been given sufficient attention. For many SMRE products the local market does not offer any significant opportunities to SMREs if they want to expand their production or to new SMRE firms wishing to start up. To some of these firms, exporting will offer the only viable way for some SMRE activities to grow.

There are many raw and processed agricultural goods for which the LDCs have a comparative advantage because of their labor-intensive requirements, and for which the income elasticities of demand are high, especially in the developed countries (e.g., vegetables, certain fruits, and oilseed plants) which can be successfully exported in competition with developed countries. The entry problems for SMREs are obvious. Quality differences and low quality production are common characteristics of SMREs. A SMRE will not have access to information regarding adaptation requirements of the foreign market, nor can it afford the high fixed costs of entering the foreign market alone, and an exporter will have little interest in dealing with a sole SMRE. These problems are surmountable, however, through appropriately designed interventions.

### ***5. Project Design to Benefit the Poor***

While agribusiness and rural enterprise projects have very attractive potential for generating growth with equity, this result is not automatic; considerable care in design and implementation are required to achieve useful results and project failures are not rare events. Three principal recommendations are made to increase the probability that positive employment and income impacts will result for the A.I.D. target group, the poor majority.

The basic recommendations apply to all types of interventions and constitute an analytical checklist against which to test each intervention and its components. The three recommendations all have a common focus of building on existing enterprise structures and of maximizing the involvement of the poor through the utilization of their skills, resources, and products.

1. All interventions should be so designed as to focus first on the use of the most important single resource owned by the rural farm and nonfarm poor, their labor.
2. All interventions should be so designed as to focus on the second most important resource of the nonfarm rural poor, their small scale enterprises and the entrepreneurial skills they have developed to operate them.
3. All agroindustrial interventions (those using farm products as their inputs) should be so designed as to draw their raw material from the second most important resource of the rural farm poor, their small farms and the entrepreneurial skills they have developed to operate them.

The nonpoor are comparatively agile in most rural and urban situations. It is they, the nonpoor, who can usually take advantage of new resources, new government programs and incentives, new market opportunities, etc. The nonpoor are the ones who by and large have the skills and mobility to shift, to adjust, and to capture the benefit of most realignments in the rural economy. Perhaps the best way to at least reduce the natural advantage of the nonpoor is to directly utilize the poor and their resources in the intervention itself.

#### *a. Focusing Interventions on Employment Creation*

There are two basic ways to insure that agribusiness and rural enterprise project interventions maximize their impact on employment creation. First, focus the intervention on products with a high labor intensity; that is, those which require large proportional quantities of labor relative to capital and land. Second, to utilize technologies and techniques in project interventions which are the most efficient using "shadow prices" for labor. In simpler terms, the first is to favor the production of goods which use large proportions of labor, and the second is to use techniques for the production of all goods which utilize higher proportions of labor. For example, labor represents a higher proportion of total costs in the processing of fruits and vegetables at almost all levels of technology than in wheat milling. Fruit and vegetable products may be thought of as "labor intensive" products compared to "wheat flour." These labor intensive products should be favored in interventions. It is possible to process either fruits and vegetables or flour with different techniques, each having a different labor intensity. Regardless of the product involved, interventions should favor those techniques or technologies which are more labor using or labor intensive. These two project choices, choice of product and choice of technique, should both be used to focus on maximizing employment creation.

Project design may favor labor intensive technology by choosing to intervene and support smaller scale enterprises. Though the precise structure needs to be analyzed for each country, most agribusiness and rural enterprise subsectors reveal an increasing labor intensity (for the same product type) as scale decreases. An important issue often raised when labor intensive technology is addressed deals with the efficiency of using labor intensive technologies. The concern is often that in the enthusiasm for generating employment, efficiency and profitability not be forgotten. It has been argued that in labor surplus economies even some technologies which do not have high private profitability should be supported because they have justifiably high "social profitability." Social profitability adjusts wage rates to reflect the presence of underemployment of unskilled labor. While this argument may be important, it is probably true in many, if not most, actual agribusiness and rural enterprise projects that such an argument is not even necessary to support the viability of labor intensive technologies simply because the private profitability of the more labor intensive technologies is acceptably high.

A second method for favoring labor intensive technology is to identify viable labor intensive technologies and support them directly. This alternative could be accomplished in a number of different ways. A project could take existing labor intensive technologies and, using industrial extension, methods encourage and train enterprises to adopt them. Where acceptably efficient labor intensive "packages" do not already exist, research activities could be undertaken to identify and test viable alternatives. In combination with technical assistance, or without it, projects could provide financial support for the installation and/or operation of labor intensive technologies. The support could be either in money or in kind in the form of actual machinery or labor intensive input packages.

***b. Focusing Project Interventions on the Enterprises Owned and Operated by the Rural Poor***

The objective of focusing on enterprises owned and operated by the rural poor is to harness the entrepreneurial capabilities of the poor in the solution of their own problems, and secondly to reduce the proportion of project benefits which is captured by the nonpoor. Since the rural poor generally own and/or operate small scale enterprises, this focus also tends to concentrate project intervention on small scale and rurally located enterprises. A second reason for emphasizing those enterprises owned and operated by the rural poor is that entrepreneurial returns and profits from these enterprises are captured by the poor in addition to labor incomes. To the extent that larger scale enterprises, not owned by the poor, are the focus of project interventions, the poor will benefit only in labor incomes and not in entrepreneurial returns or profits.

The major benefit of focusing on small scale enterprises is that the poor capture both the labor and profit incomes. If larger scale enterprises are the focus, the poor obtain only labor income and backward linkage incomes from increased demand for small farm production. The project choice should therefore depend on the relative size and probability of these two potential income streams. If more total income can come to the poor from added employment in larger scale firms and from the increased demand which is generated for small farm output than can be obtained in the form of labor and profits in small scale enterprises, then the choice should be in favor of the larger scale intervention. If on the other hand, the labor income, profits, and backward links generated by small scale businesses are greater, the choice should be in favor of the smaller scale enterprises. The finding that net income per month worked, profit margins, and capital output indicators are very satisfactory for very small scale enterprises indicates that there is a vast potential for income and employment generation resting inside the enterprises owned and operated by the poor themselves.

***c. Focusing Interventions on Maximizing the Backward Link Benefits to Small Farms***

The first factor which determines whether an agribusiness intervention will pass on large benefits to small farms relates to the nature of the intervention itself. If the intervention is directed at expanding agribusiness output, the logical result will be to require more raw material input. If the intervention is to change the technology of enterprises, to increase its profit margin, to improve its management, or any other change which improves the business without expanding it, it is not likely that additional raw material will be required and hence little benefit will be passed back to suppliers. It should be noted that there are intervention types which may actually result in a decreased requirement for raw material. One way to increase the efficiency and profit margin of an agribusiness firm is to increase the conversion rate of raw material into the final product. A feasible agribusiness intervention might be

to reduce raw material waste in the agribusiness firm, and this may reduce the raw material demand and actually injure the incomes of raw material suppliers. Thus the nature of the intervention type chosen (improvement vs. expansion) will have an important impact on the proportion of the benefit which is passed backward to suppliers, a part of whom may be small farmers and part of the target group. Enterprises with different product types spend varying proportions of their total expenses on raw material. This proportion is here referred to as the raw material intensity of production. A project intervention will pass a larger part of its total benefit backward to suppliers if it is made in agribusinesses that have a higher raw material intensity.

The raw material supplied to agribusinesses does not all come from small farms whose families are members of the target group poor. Large farms may supply a very large proportion for certain products. In the event that the raw material is supplied by large farms, expanding the demand for raw material will benefit the poor only as they are workers on the larger farms, which is an employment benefit, but not a benefit to small farms. Large farmers are more institutionally agile, and viewed by processors as more stable and higher quality suppliers. It is therefore likely that when given a choice, most agribusinesses would probably choose the large farm suppliers. There are two project intervention alternatives which will increase the impact of projects on the welfare of small farmer families:

- Select agribusinesses for project interventions which process those products for which small farms predominate in primary production.
- Arrange the project so that part of the intervention itself structures the supply of raw material so as to require or at least raise the probability that small farms are the input suppliers.

#### *d. Specific Types of Interventions*

The discussion so far in this section has dealt with a framework for choosing interventions which will maximize the benefits of agribusiness and rural enterprise projects for the rural poor. The discussion in the present subsection deals with the intervention types themselves and provides a short description of each.

**Training:** Short-term courses, on-the-job guidance, self-education aids, and preparatory training are some of the more common means used to transfer relevant technical or managerial information. Instruction in basic accounting, marketing (e.g., demand analysis, promotion, distribution), production (e.g., planning, quality control), finance, and organization (e.g., personnel, organizational structure) can enable the manager to improve his/her operations.

**Research Services:** Techno-economic services, which are often included within one or more existing government or private institutions, often include economic research such as general statistics by industry, market surveys, and industry feasibility studies, and technical research on production processes and appropriate/modern technology. As the objective of such services is to provide the necessary knowledge for the entrepreneur to make well-informed business decisions and the government to improve policy affecting that entrepreneur, the research services must be closely attuned to the needs of the country's SMREs. It is therefore important to establish effective communication between organizations such as extension services which are familiar with the specific needs of target industries and which can assist in disseminating relevant information. Some research services which have been included within organizations with wider responsibilities have suffered due to low priority relative to other tasks.

**Advisory Services:** Managerial and technical advice in all critical areas, i.e., marketing, production, accounting, management, and finance, is usually offered through a variety of mechanisms. In some programs, the government develops and supports an extension service within an existing body such as the Department of Industry. Un-

fortunately, government bodies have frequently been unable to recruit and retain highly qualified agents; civil service regulations limit the salaries and promotional opportunities, and those with real business acumen usually go into business themselves. In addition, many governments have been slow in committing adequate resources to technical assistance agencies, thereby seriously handicapping their ability to service SMRE entrepreneurs.

**Credit Programs:** Rural entrepreneurs frequently identify credit as their primary problem. Although in many cases credit is a major constraint, there are often other problems. Hence, though credit needs clearly need to be addressed, other factors should also be reviewed and perhaps included as project components.

**Facilitating Procurement of Raw Materials/Equipment:** Facilitating procurement of raw materials/equipment can involve several approaches. First, basic policies affecting the scarcity of goods, e.g., those related to inflation, foreign exchange, or capital formation, should be reviewed to avoid any unnecessary shortages. Second, concerted efforts to improve the efficiency and effectiveness of the purchasing and distribution system must be made. Increased availability of information on supply and demand conditions can minimize the vulnerability of smaller rural entrepreneurs.

**Marketing Aids:** Aside from training and advisory services directed toward improved marketing, other approaches include improving the flow of market information, strengthening associations, and/or providing government or cooperative outlets for goods, and improvement of marketing infrastructure.

## ***6. Appropriate Technology and Local Participation***

A theme which has received increasing attention has been the need for more appropriate technologies and local participation in the development process of less developed countries. The concept of "appropriate technology" (AT) has received an enormous amount of attention since the early seventies, yet it remains a controversial subject and its proponents share a broad spectrum of philosophies regarding both its basic rationale and its practical application.

The concept of AT was in part one of the outgrowths of the criticism which gradually emerged as large-scale industrialization and modernization strategies for developing countries seemed to provide few positive results. Development efforts neither improved the severe employment situation in the LDCs nor distributed the benefits of growth in an equitable manner. In reality, the industrialization strategy encouraged migration from the countryside to the cities where there were few opportunities and urban problems were severely exacerbated.

This criticism led to a number of explanations of the causes of the modest achievements of twenty-five years of development efforts. From this emerged the general recognition that the past strategy had focused too much upon the LDCs duplicating the capital-intensive industrial structure of the developed countries through the direct transfer of "Western technology," when their own factor endowments favored labor-intensive and local natural resource intensive production.

It became recognized that technological alternatives had to be examined and chosen with greater care to ensure that those most appropriate to the factor endowments of the locality of an activity were selected. In terms of LDCs, of course, this generally means technologies should be employed which are intensive in the use of abundant factors (labor and natural resources) and light in the use of scarce resources, capital and highly trained personnel. For this reason it is often referred to as "capital light" or "low cost" technology. Appropriate technology, however, has come to mean many things to many people, and there are many issues unresolved with regard to its practical application.

Appropriate technology offered a way of impacting employment, income distribution, and migration problems by focusing production processes on labor-intensive technology. It allowed a focus on the rural, traditional sector with links to agriculture in addition to offering small scale production which would not require concentration of economic activities in the cities, but allow their dispersion throughout geographical regions. And most importantly, it would maximize employment and income distribution goals through the more judicious use of scarce capital by employing more of the poor per unit of capital, especially those who had traditionally had no access to it.

Appropriate technology has been attractive for not only its economic implications, but also for its applicability to other socioeconomic problems proponents have identified as arising from the industrialization strategy. Commonly, AT literature treating the modern sector in which many larger agribusinesses fit tends to focus on the need to either adapt and modify existing techniques or rediscover techniques which used to be employed in the developed countries when the relative labor/capital costs were more similar to those of the LDCs today. This approach has led a number of AT organizations to search for older technologies among small shops in relatively backwards regions of developed countries, believing that this will broaden the technological shelf of information from which the LDCs can draw.

While this approach can undoubtedly be fruitful and has proven to be so in a number of cases, the survey methods outlined in this manual also offer an important approach for identifying firms already applying appropriate technologies. There are many cases where agribusiness firms have little access to capital subsidies and few ties with institutions and companies which promote "modern" technologies, so they of necessity develop more labor-intensive and capital light technologies. The survey will allow an identification of such firms in the same way as for small scale enterprises, allowing for a dissemination of their technologies to other firms.

### *C. Part II: Project Analysis Techniques*

#### *1. Profile or Assessment of the Agribusiness and Rural Enterprise System*

The objective of an agribusiness-rural enterprise profile is to provide an overview of the sector, its structure, general technology level, and to provide a backdrop for rational identification of project opportunities. The Country Development Strategy Statement (CDSS) is the appropriate document for the general conclusions of the profile. Project identification can be commenced in a well done profile, which can also be the basis for determining what additional data would be required for further project development. In content, the profile is similar to what A.I.D. has called Sector Assessment and its intent is essentially the same, to provide a broad view of the sector and its problems.

A profile should contain a general quantitative description of the relative size of the various subsectors defined by product type, by region, by scale, etc. It is important for the project planners to start from a base line of relative size information. The profile should contain a description of the major institutions which provide services to agribusinesses and small and medium scale rural enterprises. The institutional profile should deal with such issues as the volumes of credit for each of the subsectors (product type, scale and regions) by institutional source. Technical assistance provisions should be outlined. The role of industrial associations, cooperatives, craft and trade organizations, etc., should be discussed and their relative contributions to various financial and technical services estimated. The institutional profile will often be the least quantified yet among the most important sections of a profile,

for it is at this point that limits on the ability of A.I.D. to intervene will begin to surface and areas of need will begin to take shape.

The profile should contain an assessment of employment potential of the sector and its subcomponents. The cost of generating additional employment is a vital issue to which a profile can direct its attention by presenting an outline of the labor intensity of each subgrouping. With this information, project planners can assess the relative potential of different product types, scales, and regions.

Profitability is an important concept for the profile because it relates to the financial feasibility of expansion or indeed starting up an enterprise. It contains information on the efficiency of technological and managerial processes, the market demand for products, and the necessity for technical and managerial assistance. A profile of profitability provides the project planner with a rather broad understanding of many factors at once. It is particularly important to utilize all of the groupings mentioned in the "definitions" discussion. Product type, scale and regional distinctions in profitability profiles will illuminate important project design issues.

Since increasing incomes of poor households is the principal aim of most rural enterprise interventions, the profile of income generation is perhaps the most important. The income profile also assists to lay the basis for the selection of a project target group by indicating the types of enterprise households that fit A.I.D.'s rural poor definitions.

Where statistics permit, an over-time trend should be profiled in the growth patterns of output by sector. In most developing countries, rural enterprises employ large numbers of women in worker and manager roles. Rural enterprises have the potential of being the most important avenue for improving the status and welfare of rural women, and it is important therefore that the profile include information on the nature and magnitudes of their role.

Analytical methods for a profile should be limited to simple statistical comparisons and accounting methods. Profitability and productivity ratios represent the most difficult methods feasible given the time and resource limitations of most profile efforts.

## ***2. Project and Target Group Identification***

A.I.D. has outlined an orderly process of project identification which begins with the CDSS document. This process leads in a relatively systematic fashion from general five year A.I.D. strategy to the identification of particular projects. The development of the CDSS and supporting sector assessments and profiles is an important part of identifying projects which will address the overall needs of the poor. Moving from an overall A.I.D. country strategy (CDSS) to analyses of particular sectors (Agribusiness and Rural Enterprise Sector Assessment or Profile) and then to individual project identification (PID) allows for an orderly review of information at increasing levels of specificity and reduces the probability that projects are identified simply because some A.I.D. or Host Country official has a particular project in mind.

Project identification and development is divided into stages by the A.I.D. programming cycle. This project analysis manual is designed to fit into and to complement that cycle. The cycle implies increasing certainty and level of detail at two principal levels, first at the project identification level (PID) and secondly at the project paper level (PP of CAP). Analysis appropriate for the first (PID) stage is outlined in this section, while the more detailed and elaborate analysis appropriate for the preparation of the project paper is treated in Chapters 8-11. All of the constraints analyzed in this section on a preliminary and superficial fashion based on the sector profile would be re-

examined based on enterprise data drawn from actual target group enterprises. It is important that this preliminary analysis be very simple and require at most a few weeks if it is to fit in appropriately to the project identification stage of A.I.D.'s programming cycle.

One of the major purposes of the sector profile and the preliminary constraints analysis is to facilitate the selection of a target group for a particular project or for an integrated set of projects. Two separate steps in selecting a target group are facilitated by the two separate mechanisms:

- a. The sector profile facilitates the process of determining what subpopulations or subgroups of enterprise households qualify as poor by A.I.D.'s definition.
- b. The preliminary constraints analysis should suggest which subgroups have a high potential for improvement with interventions of the type A.I.D. can provide.

These two steps, first determining qualifying subgroups, and secondly identifying subgroups with potential for improvement with A.I.D. interventions, set the stage for the identification of a project implementable target group. In many cases the groups qualifying for assistance and amenable to improvement may be so diverse (both geographically and conceptually) that it is not practical to implement a project to access them. The last stage in target group selection is therefore to search for practical groupings around which a single project mechanism or institution could reasonably implement an intervention.

There is an obvious interaction between determining which groups can be positively affected by an A.I.D. intervention and identifying project. The most important element which must be added which target group identification lacks is the addition of an institutional mechanism. Project planners must conceive of an existing or feasibly creatable institutional structure to make the needed intervention. It should be remembered that most often project planners begin with an institution and a more or less completely hatched project idea before any target group identification or sector profile work is undertaken. In this more common case the information surfaced should not be used to justify that conception, but rather to refine it within the boundaries imposed by the institution selected. The more advisable course is to begin with an overview of the sector in the form of a profile, add to that an examination of the constraints which limit improvement for different groups in the sector, define a target group based on their level of poverty and potential for improvement, and last of all select mechanisms to attack some critical set of constraints.

### ***3. Target Group and Enterprise Analysis***

The purpose of the target group family analysis is to provide project planners with a comprehensive view of the families to be benefited by project interventions. Three major dimensions of family welfare are important in the profile:

- a profile of family income and economic activity
- a profile of family employment patterns
- a profile of other dimensions of family welfare such as housing, health, nutrition, and education.

This analysis would also cover the economic and technical characteristics of the enterprise itself. The enterprise is the vehicle for increasing welfare and it is important to examine its principal characteristics in an adequately structured profile. A topic for the enterprise profile is the concept of efficiency. Efficiency should be broken into financial efficiency or profitability, economic efficiency with capital productivity as its primary indicator and labor

efficiency using labor productivity as the indicator. The second general area for a profile is the structure of the enterprise, its output patterns, resource endowments, etc.

#### ***4. Estimating Project Potential***

In the A.I.D. context agribusiness and rural enterprise projects are undertaken to improve the welfare of the poor majority. Chapters 9, 10 and 11 deal with three basic project issues:

- What will the project benefits be? (What is the magnitude and probability of improvement in target group welfare if the project is implemented as designed?)
- Can the project be implemented as designed? (What is the probability that the project is feasible?)
- Do probable project benefits justify project costs?

Project analysts familiar with A.I.D. and other international donor procedures will recognize the last two issues as the traditional project analysis topics of "feasibility and cost benefit analysis." One of the major intents of this manual is to emphasize the importance and common neglect of adequate analysis of the first issue, which relates to estimating the potential of the project to create improvements in target group welfare. The most common inadequacy in current A.I.D. project analysis is the weak basis for estimating target group benefits which would be caused by the project intervention. Very often projects contain adequate exploration of project feasibility (institutional and enterprise level capacities) and relatively extensive benefit/cost analysis, but lack any systematic evidence that the assumed benefits will actually happen. The potential of a project for welfare improvement depends directly on whether the project intervention addresses an important and correctable need in the targeted enterprises. Identification of critical constraints at the firm level must be an integral part of project design and estimation of project potential.

A second way to explore the relative importance of alternative firm level constraints and potential project interventions is to ask the entrepreneurs themselves in large enough numbers that the results could be expected to be representative. Given the subjective nature of questions about constraints, the method for interviewing is fraught with possibilities of misunderstanding and inaccurate reporting. It is, however, useful to do so since it gives the project designer a reasonably representative view of at least how entrepreneurs respond to questions about their businesses and what factors are holding them back. How the entrepreneur perceives his problem is important project information even if it is decided from more objective data that his perception is incorrect. In the last decade there has been a general and growing consensus that small farmers are rational economic men and very often have correct perceptions about how to manage and improve their businesses. While there is less concrete evidence available on small scale enterprises, the evidence extant would support the idea that the small scale entrepreneur is reasonably rational; his opinions about constraints should be seriously considered.

Estimating the potential of the project to increase income, employment or some other welfare impact will require a different technique for each type of intervention. There are, however, some general principles which may apply to most of the common project types. Most projects propose to provide some added service, input or infrastructure to the enterprise. Each project operates on a hypothesis about change, that the chosen intervention will cause additional welfare. At this stage we are not asking project feasibility questions, we assume that the project intervention is feasible. The issue addressed in this analysis is the magnitude and probability of income or employment impact if the project is carried out as planned.

## 5. *Project Feasibility*

A project may have excellent potential for improving the welfare of the target group and yet not be implementable due to any of the following infeasibilities:

- The institutional structure is incapable of providing the service, input, or infrastructure intended
- The enterprises targeted are not willing and interested in the services or inputs of the project; there is no demand for the project intervention in the way it is offered
- The project intends to expand output and there is insufficient demand for the product or project enterprises cannot price compete with alternative producers.

Each of these situations raises a feasibility issue questioning whether the project can be implemented as designed, can the institution do it, will enterprises be interested, is there a market for the product?

A wide variety of institutional capacities ought to be the subject of feasibility analysis. In many cases, this analysis is complicated by the fact that one of the common project objectives is to strengthen particularly weak aspects of the institutional structure. Where institution building is one of the central objectives of the project, the analyst must first estimate the feasibility of the institution building component (i.e., is the institution capable of absorbing and internalizing the proposed improvement?) and then proceed to analyze whether the institution as improved will be capable of realizing the other project responsibilities. The methods for examining institutional capacity are not standard or systematic enough to be the subject of extensive exposition. Some factors can of course be quantified, yet in the main the subject is more one of judgment than of statistics.

While firm level profitability implied by any intervention is a useful element in many aspects of project analysis, it is never more important than in the feasibility section. If an intervention does not have a very high probability of increasing profits to the entrepreneur, it should not pass the financial feasibility test. This seems so obvious as to not need restatement, yet very few project analyses provide satisfactory evidence of this potential beyond the assertion that the intervention will be profitable. Firm level data based on enterprises in the target area, or at least in similar areas, indicating profitability measures where the proposed intervention has already existed should be presented to support the assertion that the intervention is financially feasible. In addition to concerns about firm level profitability, there is the concern that the particular project proposed will not return sufficient funds to allow the institution to retain its financial viability. This is particularly true of credit operations, but may extend to technical assistance and research programs in that project activities may drain institutional resources without proper allowance for their replacement. Interest rate policies, public commitments to institutional budget allocations are all topics of analytical concern when examining the question of institutional financial feasibility.

Credit interventions depend centrally on the interest of entrepreneurs to undertake additional liability, and there is considerable concern indicated in the literature that small scale rural entrepreneurs may be overly cautious in avoiding risk which may impel them to avoid even wise borrowing. An important project feasibility issue for credit projects or credit components of broader projects is whether there is sufficient interest and willingness to borrow among target group enterprises. The process of estimating demand for a service such as technical assistance or advisory services is more difficult than is the case with credit. The first part of the problem is that it is much more difficult for the entrepreneur to sense the direct need and benefit which may come from technical advice. It is therefore possible that negative responses from entrepreneurs if asked about their interest in receiving technical assistance may not be conclusive evidence that they do not need or would not benefit from such advice.

Even if there is interest in and demand for project inputs, and there appears to be demand for project outputs, there remains the important issue of competitive production from other sources which may invade that demand and prevent project participants from even implementing the interventions contemplated by the project. In order to examine this possibility, some comparative cost analysis needs to be undertaken to establish the feasibility of project productive activities competing with possible other sources of production.

## ***6. Cost Benefit Analysis***

Chapter Eleven deals with the process of comparing the benefit potentials (discussed in Chapter Nine) with the costs of undertaking an agribusiness or rural enterprise project.

### ***a. Estimating Benefits: The Core of Adequate Cost Benefit Analysis***

The most important failing of most cost benefit analyses conducted by or for A.I.D. lies in the inadequate data and method used to estimate the size and probability of expected benefits. It should be remembered that the methodology of cost benefit analysis does not assist in estimating the probable benefit, but only provides a way of comparing that benefit, once known or estimated by other means, with project costs. Little added work is necessary to transform a well developed estimate of project potential benefit into a cost benefit ratio; almost all of the work, effort, time and intellectual energy is consumed in making the original estimate of expected benefit. It is unfortunately true that in most A.I.D. cost benefit analyses, little data and effort have in practice been expended on measurement of the benefit; the time and work have been focused on the arithmetic of cost benefit methodology. In a general sense there are two overall avenues of approach to estimating the probable benefits which would flow from an agribusiness or rural enterprise intervention. The first would be to compare actual with and without situations and measure the final difference in result or benefit to family incomes, health/nutrition and other welfare. The second is to describe the assumed causal mechanism by which final impacts are to be reached and using data (which could range from very reliable and systematically gathered to simple guesses) attempt to estimate the magnitudes of each of these probable causes to the final result.

We cannot normally control adequately all of the factors which could cause welfare in a **with and without** comparison, nor is it likely that we understand how enterprises and households operate in diverse cultural and economic situations and how each possible cause will finally affect the complex enterprise and household systems. The A.I.D. manager is left with a choice between approaches which are both questionable. It is difficult for the project planner to make judgements about the relative inaccuracy of method and the tendency is therefore to simply reject all methods which require substantial time. The approach most often taken is to simply sum the best official guesses as to expected benefits and spend what little time and money are available on manipulating these **best guesses** inside the internally consistent and easily controllable arithmetic of cost benefit computations.

A better alternative would be to carefully review the relative confidence which A.I.D. and outside analysts have in the factors which determine the accuracy of the two alternative techniques and choose one of these approaches for estimating potential benefits. Definitions are given as follows:

**Comparisons:** With and without intervention comparisons of existing enterprises and households. The things compared are final welfare indicators such as income, employment, health and nutrition, housing, sanitation and education.

**Projections:** With and without intervention accounting projections of what is expected to happen to each different probable cause resulting from the intervention. The attempt is to show the expected magnitudes and connection with the project intervention of welfare impacts. Each important probable effect must be estimated.

The comparisons method requires field enterprise and household data from the target group; there is little possibility of conducting this type of analysis based on expert opinions or judgement. The projections method is much more flexible; it can be conducted at almost any point along the continuum from extensive field data to office best guesses, and while the results may vary tremendously in quality depending on the reliability of the data source, the results do not vary in form. By looking at the final analytical result one cannot tell in the projections method a careful and reliable estimate and a "seat of the pants" guess. It is probably the result of this flexibility and not of a systematic review of the alternative which has led almost all A.I.D. project analysts to choose projections as the method for estimating benefits.

**Review of Methods for Estimating Benefits of Agribusiness  
and Rural Enterprise Project Interventions**

The Basic Question is Which Can We Do Better?	Better Method to Choose
1. Identify the ways this set of project interventions will change enterprises and households, how they will react to these changes and how they will in sum affect household income, employment, health, nutrition, housing and sanitation	Projections
2. Identify households and enterprises with and without the kind of interventions proposed but from similar cultural and economic situations	Comparisons

***b. Benefits, For Whom?***

Traditional cost benefit analysis was concerned with total benefits without focus on any special group in the economy. The Congressional Mandate has made it clear that A.I.D. projects must focus on benefits accruing to the "poor majority." Cost benefit analysis conducted for the purpose of enlightening project choice of A.I.D. investment should explicitly focus on the poor who benefit. Integrating considerations of poor beneficiaries into cost benefit analysis is not easy because it departs immediately from one of the attractive properties of the benefit/cost ratio; i.e., that if properly calculated, projects with ratios more than 1 are acceptable investments and those with ratios less than 1 do not have benefits to justify their costs. If only a part of the benefits are included in the numerator of the ratio there is no reason to think that ratios above and below unity (1) have the same significance. As comparative tools the ratios would retain their utility if adjusted to account only for income benefits to the poor, but the significance of the absolute ratio and its position above or below 1 would disappear.

For direct benefits and reasonably immediate indirect benefits it may be possible to keep accounting track of the income level of the beneficiaries so that they can be classified as poor or nonpoor. For truly indirect benefits it is virtually impossible without extensive "input-out" models to make such a distinction. The poor who benefit from agribusiness and rural enterprise projects in a reasonably direct fashion fall into the following groups:

- Poor entrepreneurs or owners of enterprises (benefits come in the form of increased profits, returns to invested capital, or returns to management and labor).
- Poor wage or salary earning laborers who work in affected enterprises (benefits come from increased employment or increased wage rates).
- Poor farm families who own and operate farms supplying raw material to the affected enterprises (benefits come as increased farm profits, return to invested capital or returns to management and labor).
- Poor farm laborers who work for wages on farms (poor or nonpoor) supplying raw material to the affected enterprises (benefits come in increased employment or wage rates).

If it is possible to measure the proportion of each affected group which lies below the poverty line, it will be possible to use one of the methods described in Chapter Eleven to make the cost benefit ratios reflect a direct concern for income to the poor majority.

### *c. Costs in Cost/Benefit Analysis*

The denominator in benefit cost ratios is considerably less troublesome than the numerator; except for a few adjustments the cost side of the ledger can be generated from existing data.

Chapter Eleven examines techniques for selecting discount rates, shadow pricing labor and imported inputs, and the arithmetic of basic cost benefit computations.

## *D. Part III: Data Gathering for Project Analysis*

### *1. Data Gathering Alternatives*

Chapter Twelve elaborates a typology of data utilized in the various stages of agribusiness and rural enterprise project analysis and an inventory of the alternative data sources which can provide the necessary data. A considerable description of data and data gathering methods is dispersed throughout the other chapters; the role of Chapter Twelve is to gather these dispersed data uses into a limited number of general types and indicate alternative sources. It is unfortunately true that most of the sources which may be relied upon for existing data for enterprise analysis fail to provide the necessary household information for A.I.D. project analysis. The focus of the Congressional Mandate for A.I.D. is on the household, its income, employment and other welfare dimensions. Agribusiness and rural enterprise projects may be important contributors to household welfare, but they are only a part of the system which impacts on households. Household members usually work in more than one employment type; farm employment and enterprise employment are important complements. To analyze enterprise employment in the absence of other household employment activities would be too partial for adequate project analysis.

Only two data gathering alternatives hold significant hope of providing the necessary household data for project analysis. These two are an A.I.D. initiated sample survey or a case study effort. Existing census, survey, institutional and secondary data sources are unlikely to contain the household welfare information which is required to link agribusiness and rural enterprise analysis with household benefit, and household resource allocation issues vital to A.I.D. project analysis.

## **2. Case Study and Informal Data Methods**

### **a. Case Study Methods**

Two major compromises are involved in selecting the case study approach to generating enterprise and/or household data. The first is that the statistical reliability of the data is uncertain; the second is that with a limited number of cases, the richness of comparisons is very thin. Both of the weaknesses focus attention on the method by which cases are selected for inclusion in the study. Utilizing a census or survey to classify (or stratify) the enterprises into classes, the case study can draw one firm from each general type with some confidence that the resulting cases have some desired level of coverage of the sector or target group as a whole. With some overall data to use as a weighting scheme, the relative importance of the findings of different enterprise case studies can be roughly estimated. For example, if small baking enterprises represent only 4% of the target group, the case study on baking will be placed in its proper perspective. If the 4% position of baking is not known, the relative importance and weight which ought to be given to its case study will likewise not be known.

Selection of cases for maximum representation is therefore accomplished by stratifying the population into its major components based on the best global data available. If the cases must be drawn in a truly haphazard fashion, there is no way to know how to interpret the results. In saying that careful stratification will increase the representative nature of a series of case studies, it should be remembered that there is little basis for choosing the enterprise or household to be studied inside the stratum, and it is not likely that one single case could possibly be statistically representative of the group as a whole. To achieve any stable kind of statistical reliability from case studies there would have to be at least 30 cases from each stratum, and by the definitions used in this manual the study would then be a "sample survey" and not a case study. A continuing emphasis in the data requirements of project analysis has been the need for "comparison" data of many types. Data with and without project interventions, data to compare before and after project interventions, and data to compare and look for differences which may give rise to possible project interventions with significant potential. The selection of cases will have a direct impact on the ability of the analyst to make these comparisons and should be kept in mind during the case identification process.

If the case study method is adopted, for example, in an evaluation context to provide data for estimating project impacts, then cases would need to be selected which matched participant cases with nonparticipants, or which treated "before" cases and "after" cases on the same enterprises or households. If the case study method is adopted to estimate project potential, selected cases would need to include enterprises with and without the proposed interventions. The comparison use of case studies can contribute added detail for analysts and should be seriously considered whenever micro analysis is chosen.

### **b. Informal Data Methods**

The central burden of A.I.D. project data gathering has always been, and continues to be borne by field trips and interviews with host country officials. While these methods are generally inadequate because of their inability to provide even token reliability and are subject to personal bias, there are situations in which they are the only acceptable mode of data gathering. The gradual focus of A.I.D.'s interest in household level impacts and in

enterprise level interventions in which the poor participate in their own development has increased the difficulty of working with field trip and informal discussion as the basic vehicle of data and information gathering.

Where the data to be gathered are about the commitment of an institution to a proposed project intervention, the best way to gather that information is by direct discussions with the institution concerned. There may be objective indications in the form of documentary commitments of funds or other indicators, yet direct discussion is probably the best method for ascertaining intent. Institutional capability may be assessed most adequately in these informal ways with experts whose long experience in similar situations qualifies them to draw capacity conclusions from the face-to-face interchanges. Outreach capacity is an exception to this general rule; statistical evidence of the historical outreach accomplished is superior to discussion as a source of data. Informal methods have the advantage that they can fit almost any project development time frame, work with almost any problem, in any season, and require only limited administrative support. Their flexibility is at once their principal advantage and disadvantage.

There is an old axiom which is held in many different forms in different A.I.D. missions, but means the same thing: You can almost always predict the result of a consulting visit if you know the consultant well, know his field and his interests and opinions. This is an important disadvantage of the less structured methods of data gathering and project analysis; and field trips and host country discussions are the least structured of all. In these methods the biases of the analyst may surface virtually untrammelled by actual data. To be sure, if the analyst is a particularly unbiased person this may not be damaging, yet even professional training gives economists, engineers, extension specialists, agronomists and all other competent professionals a particular outlook or focus or approach to problems. It is not difficult to understand why the sociologist fails to identify the engineering obstacles as the central issues, or why the engineer does not usually identify the religious attitudes as binding.

While informal methods may seem inexpensive because the total cost is a completely manageable figure, if the amount of data gathered per dollar is calculated the method turns out to be one of the most expensive ways to obtain information. To most practitioners the field trip would not be justified as a "data gathering" exercise; most field familiar professionals who think that field trips are very beneficial (the author included) would argue for them based on the "field sense" that is obtained by simply spending time probing haphazardly around. While it may be easy to argue for this, it is difficult to justify field trips as a cost effective method for obtaining project analysis data.

### *3. Sample Survey Methods*

The most comprehensive method for obtaining project analysis data which are representative of the target group population as a whole, and of its principal components, is a sample survey. By a sample survey we mean a carefully selected subgroup of enterprises and/or households whose resemblance to the total population can be predicted with standard and well practiced statistical techniques. Information from the sample will represent at some measurable reliability the characteristics of the enterprises not surveyed.

There are many decisions to be made regarding a sample survey. Chapter Fourteen is decision-oriented—its objective is to provide the A.I.D. project team with the necessary level of understanding that they could write a scope of work for a survey, and then monitor the process. It is not possible to condense into a treatment of that size all of the necessary information to allow managers to become survey research statisticians, but it is possible to raise the level of awareness such that the A.I.D. manager can interact with survey experts to make certain that he gets what he wants.

At each decision point in a survey project there are options; this chapter attempts to outline those options and without detailed description suggest the pros and cons of the major alternatives. There are six principal areas of choice in a survey. They are:

1. A method for selecting the sample must be chosen.
2. The number of visits at each observation must be chosen (one visit, return each week, etc.).
3. If a control group is needed, how will it be selected?
4. The instrument must be chosen (Recall Questionnaire, Record Keeping, Direct Measurement).
5. The methods of selection, training and supervision of field workers must be chosen.
6. The approach to coding and data processing must be selected.

Each of these topics is discussed in a separate section of Chapter Fourteen.

## *E. Part IV: Implementation and Evaluation*

### *1. Implementation*

Implementation is here defined as the period of a project's life after design is completed when planned activities are carried out in the field. It is the direct action phase. While volumes have been written on methods for project design and evaluation, comparatively little has been written on the methods for improving implementation. Allison has referred to the analysis of implementation as the "Missing Chapter in Conventional Analysis" and though a careful recent review of the implementation literature by Ingle identified copious documentation on the subject, yet implementation remains the project stage which has been most ignored by analysts.

Chapter Fifteen distinguishes between two types of activities which take place during the implementation phase of a project. The first of these is termed "implementation," the second, "monitoring." Implementation is taken to be the project activity itself, undertaking project tasks; while monitoring is defined to be the information gathering and reporting which provide project monitors and managers with the necessary knowledge of project progress to make improved implementation decisions.

#### *a. Project Implementation Problems: Prevention vs. Cure*

If the analysis process outlined in Chapter Ten (Examining Project Feasibility) is followed before projects are approved, many of the problems which later surface during implementation will be prevented. Institutional feasibility analysis conducted during the project design phase should suggest areas where implementation bottlenecks are likely to arise and where increased staff, staff training or added resources and assistance will be required to prevent implementation crises. There is great benefit in early identification of problems; in many cases the sheer momentum of a large project in motion prevents the solving of problems which were not identified early enough. Changes made in the project design phase are relatively painless, while modifications made later are costly, and in many cases impossible to make. One way to get a project design which is implementable is to include the people who will have to implement the project in the team elaborating the project design. Those who are faced with the responsibility of actually undertaking project activities are often more serious about making certain that the design is institutionally feasible.

### ***b. Experimental Approach to Implementation***

Three decades of development assistance projects without adequate evaluation have left a legacy of uncertainty about which technical assistance and direct investment approaches work. In this environment it is not easy to design projects around tested principles, yet the project review process demands a decisive and definite tone in project proposal documents. Project designers feel compelled to claim to know the right way even if they are uncertain. While there is in reality much that is experimental in almost all agribusiness and rural enterprise projects, project design teams rarely express the experimental nature of proposed activities, and more importantly, almost never design the implementation process as an experiment.

At a variety of decision points in the design process, analysts face two or three alternatives in the project design, none of which are clearly superior. Instead of establishing the project as a format for finding out which of the design alternatives work best, most design teams select one with very little reason. Implementation experiments need not be elaborate scientific structures; they can be as simple as trying one vehicle per rural loan officer in one area and three officers per vehicle in another to see if the added investment really results in sufficient added lending activity to justify it.

### ***c. Institutional Mechanisms***

Most of the work of implementation may be divided between "accessing" the enterprises and "intervening" in the enterprise. If the number of enterprises is small there will be relatively less implementation work in building and refining access channels. If the project involves large numbers of small scale rural enterprises, service and resource delivery systems will be a large concern of the implementation process. In most cases there are private and public alternative channels for the delivery of project services and resources. For example, in the case of enterprise credit there are public development banks, and in the private sector there are private banks, moneylenders, product purchasers, etc. Care should be taken to explore both of these alternatives. Where viable private channels are available, there are significant implementation advantages in utilizing and improving them. In many cases, however, public channels are the only viable alternatives.

Another implementation method is the linking of private U.S. intermediary mechanisms to LDC food and fiber delivery systems. Examples include both nonprofit and profit organizations, multinationals and medium size firms. In various ways these institutions link government, rural, and agricultural development goals with corporate profitability and operational abilities. In certain specific cases, Missions and host countries should examine the feasibility of utilizing these mechanisms to implement the project in regard to training, technology transfer, generate employment, increase agricultural production by small farmers, establish viable small business and satellite industries and promote cooperatives and associations.

A number of intermediate organizations have created some promising new initiatives to utilize the skills and resources of large corporations in food systems and rural development. In essence these organizations serve to link corporations to the local political and social environment and to the needs and aspirations of the host country in which they operate. The new processes they have developed use local labor, capital and natural resources, plus modest outside capital, to create viable enterprises which would not otherwise come about. Their projects all emphasize the transfer of technological and management skills to host country nationals. Most, though not all, manage to operate on relatively modest budgets.

Sources frequently overlooked in the implementation phase by field Missions, but ones that have been successfully adopted in some countries, are local institutions. On all projects, a determination should be made regarding local capacity to resolve most, if not all, of the barriers to rural development. This would include hiring or contracting under the project the service of local business schools, development and regular commercial banks, credit unions, marketing and production cooperatives, subsidiaries of multinational firms, indigenous private sector firms and universities. All these are possible sources of managerial and technical personnel and could be utilized in both the design and implementation phase.

#### *d. Project Management*

Implementation requires management skills and in this respect stands in sharp contrast to the other stages in a project's life which require analytical skills. Project management presents many challenges, some of which an international development agency like A.I.D. is not inherently equipped to confront. Management presents a problem due in part to the concern that for many projects, indigenous management is not sufficiently trained to handle the project implementation process.

A common thread running through much of the recent legislation and literature of development policy involves the topic of local "participation." As it relates to agribusiness and rural enterprise projects, "participation" means the participation of beneficiaries (entrepreneurs and benefited families) in both the benefits and the management process of the project. Project decisions should involve participating entrepreneurs and producing families to the extent possible. A number of both theoretical and field studies have indicated the importance of participation in insuring eventual project success. The most obvious gap in all implementation processes is the availability of capable and motivated people to manage. Even a poorly designed project in the hands of effectively trained and motivated managers has a very good chance of success. It is important that the dominating influence of individual managers not be overlooked.

While the capacity of local managers is an important constraint, it is also true that there are many capable people in most developing countries who may be drawn to project management tasks if there is sufficient incentive and initiative on the part of the project itself. While it is unlikely that there is any simple solution to this problem, an important contribution is a personnel management plan integrated into the project design. It is unfortunate that while almost all development analysts recognize the importance of personnel management, it is rare indeed that a project design devotes much time or energy to a personnel management and incentives plan. "Personnel" as a subject matter is dealt with as one of the four or five standard blocks of management knowledge taught at management schools, yet as a subject in project design it is almost always ignored. There is seldom any systematic plan for insuring that the best knowledge in the "personnel" field is employed to contribute to project success.

Where capability of management and implementation personnel, however selected, is weak, a training component will be a vital part of the project design. Funding and planning will be required to make the training component an efficient and effective tool for improving project implementation. Implementation is more likely to be affected by its success or failure in attracting competent management than any other single factor. Analysis of institutional competence will not substitute for personnel analysis. The competence of the handful of individuals who end up managing the project, and not the general competence of the organizations involved, will probably be the predominant factor influencing the success of project implementation.

### ***e. Project Monitoring***

An important element in most agribusiness and rural enterprise projects is an institution building focus which seeks to strengthen an existing institution, or in some cases to build a new one. Monitoring the progress of these institution building objectives differs so widely, depending on the particular institutional aspects to be assisted, that general guidelines on method would be virtually useless. Specific objectives and targets should be set and the performance on these targets should be tracked.

The project log-frame contains the basic logical structure for fleshing out a monitoring design. Most project log-frames provide the basis for a sufficiently complex monitoring system to adequately track the "intermediate" part of project objectives. Tracking the final impacts of projects during the implementation stage has a number of problems. First, it is probably true that the final impacts on households would not mature in the early stages of project implementation. Secondly, even after they do begin to mature, it is largely inappropriate to evaluate such impacts as a part of the monitoring system, since such a mid-course evaluation is probably already built into the project evaluation plan. The role of monitoring final impacts during project implementation may be seen, however, as providing a different perspective on final results than a mid-course project evaluation. It may, in fact, be very useful to begin gathering data on final impacts even before it is expected that there will be any resulting from project inputs. As the project progresses over time the monitoring results will blend into the evaluation design. Not only will final impact measurement enhance implementation by signaling changes in focus, but it should build a serious basis for evaluation.

## ***2. Evaluation***

The most immediate purpose of evaluation is to determine the effectiveness of a particular project. The evaluation should be planned around the Logical Framework which states project purpose and goal level indicators. These log-frame indicators should be used to evaluate project performance and to provide a structure for the evaluation effort since in a sense the log-frame may be viewed as a plan for evaluation at a general level. Evaluation efforts may be undertaken during the course of the project to provide project managers with mid-course information on project performance and may lead to changes in the ongoing project as mentioned in the monitoring discussion above. Beyond the obvious need to ongoing and final information on project performance and success, there are other potentials in the project evaluation process.

### ***a. Project Design Guidance from Project Evaluation***

Designing effective projects requires a wide variety of information about project potentials and implementation mechanisms which will work in practice. All international agencies have expended considerable effort to improve their project design work. Additional analysis is conducted before making project funding decisions to assure that the project has a good chance of making a cost effective contribution. There are, however, many strong factors which hinder pre-project analysis and have rendered it relatively impotent in practice. Chapter Sixteen argues that for both practical and conceptual reasons, adequate evaluation of prior projects of similar type usually benefits project design more than an analysis undertaken during the project design. In project design the analyst wishes to

determine what will work, to estimate the potential impacts of doing one project as opposed to another, or doing the project one way as opposed to another. In the design stage, project potential can be estimated either by the educated guesses of experts or by the analyzed experience of past interventions. Certainly time will not permit the project designer to analyze past interventions carefully if that work has not already been done; s/he must rely upon his/her own best guess, which can hardly be classified as design "analysis." If effective project evaluation information is not available, project design analysis must be shallow because there is no analytical setting for the design analyst to test his/her bald hypothesis. Effective evaluation would gradually build a reservoir of project impact and design information which would reduce the burden of pre-project analysis and would help alleviate the bureaucratic and practical problems which beset the A.I.D. programming cycle. Many A.I.D. officials have spoken about the need to develop an institutional memory which learns from its experience. Project evaluation analysis is the core of this vitally important activity.

### ***b. Evaluation of Final Project Impacts on Target Group Households***

For the purposes of evaluation, it is useful to outline a chain of events which causes a project intervention to have a favorable impact on target group households. While any causation chain involving human behavior is endlessly complex in reality, simplified versions which are admittedly lacking in accuracy may help to structure an analytical process. The general project chain for agribusiness and rural enterprise projects outlined below is divided into impacts or changes which occur at three different and sequential levels:

1. Institutional level—an institution lends credit or provides technical assistance.
2. Enterprise level—the enterprise increases its output with the increased credit, or its efficiency with the technical assistance.
3. Households level—the household members obtain more net income or live in a better home as a result of the increased efficiency or output.

This particular conception of the causation chain is most useful because it provides a structure for evaluation and fits neatly into the Logical Framework which is an already functioning part of the project programming cycle and documentation. Each of these levels should include an evaluation component so that results can be used to draw judgements about the performance of the project evaluated, and to provide project design guidance for the future. The congressional mandate requires that A.I.D.'s projects seek to demonstrate an improvement in the welfare of poor families. Too many decades of effort have gone by with attention to institutional changes, but with insufficient evidence of improvements at the family level. Family or household level impact analysis should be the core of any A.I.D. project evaluation.

### ***c. Data for Evaluation***

The importance of original project data for evaluation cannot be overemphasized. Almost all evaluations proceed without any direct data on project enterprises or households. Data gathering from households and enterprises in developing countries is a difficult and painstaking process; as long as evaluations are accepted which avoid this extra effort, there are few incentives to undertake it. A review of most project evaluation documents reveals that evaluators saw their role as interviewing host country and C.I.D. officials to glean their opinions as to what

happened. This collection of official impressions and opinions, linked with at times insightful observations about the institutional process have come to be accepted as adequate "Project Evaluations." There are exceptions to this general rule, and it is important to note that these exceptions are more distinguished from the rule by the data they gathered than by the methods they used to analyze it. The gathering of the basic data, not its interpretation, is the hardest part of an adequate evaluation. More effort needs to be made in developing usable data gathering methods than in refining statistical techniques for evaluation analysis. If the data gathering effort is poorly structured and inadequately controlled, no amount of sophisticated analysis will be able to salvage usable results.

The core of a good evaluation is an appropriately designed and carefully managed original data gathering process at the enterprise level. While many other elements are necessary, this segment will carry the system if done correctly, and ruin it if done incorrectly. The central issues which A.I.D. rural enterprise project evaluation must focus upon are few and should not be lost as discussion seeks its simplest outlet in institutional and organizational examinations. The objective of evaluation should be to determine if target households and enterprises obtained increased income and non-income welfare as a result of the project intervention. Since the impact to be measured is at the household and enterprise level, the achievement of these objectives requires household and enterprise level data.

#### *d. Comparison Methods for Evaluation*

The most practical method to determine whether project objectives have been achieved in target households, enterprises, or institutions is by using comparisons. This is both an analytical and a data gathering method. The data themselves must be gathered in such a way as to permit the correct comparisons. The comparing task is that of gathering comparable data and comparing the right things at the right time. The analytical methods described in the next section add very little to the comparisons which could be made in the raw data if it is gathered correctly.

There are basically two types of comparisons which can be harnessed to provide conclusions on project impacts for evaluation purposes. The first is comparisons of project participant households, enterprises, or institutions over time in "before and after" fashion. The second is comparisons between participants and nonparticipants with similar characteristics. In the first type (over time comparisons) we are attempting to see if the project has changed the participant entity from what it was before, with the implication (later to be examined) that the difference is "caused" by the project. This type of comparison of the same household, enterprise or institution over time is termed a "longitudinal" comparison. In the other case, where participant enterprises are compared with similar non-participant enterprises, we wish to observe differences, which by implication are "caused" by the project, since it is the only difference between the two enterprises. This comparison made at the same point in time between two different households, or enterprises, is termed a "cross-sectional" comparison.

In both the longitudinal and the cross-sectional comparison, the analyst and data gatherer are trying to isolate project influences from the endless other influences which may change households or enterprises, in order to identify changes which are reasonably "caused" by the project. Since no one believes in single factor causation, that is that any effect is "caused" by any single factor, the project evaluator is not looking for what a logician may term true "cause." Instead, evaluation analyzes "project associated impacts," "changes related to this project," or changes "strongly influenced" by the project. The process of isolating project influences from all others is an imperfect one, but it is an inescapable struggle if project choices are to be enlightened by project experience.