

PROJECT ANALYSIS: TOWARDS AN
INTEGRATED METHODOLOGY

by

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PREFACE:

Development project analysis, during the past decade, has assumed more responsibility for taking into consideration non-economic and non-technical factors. These changes have predominantly been a response to the growing information needs of project planning and design. One aspect of development projects that is becoming much more obvious is that they are characterized by uncertainty. There will undoubtedly be an increase in this concern over the uncertain nature of development projects as the proportion of activities involved in social-change increases.

During the 1970's the focus and scope of many development projects changed considerably. There was a shift in attention from economic growth to income distribution, from production to the satisfaction of basic human needs, from technology to the development of human resources. This change is partially represented in the "New Directions" mandate for USAID in 1973 when the intended impact of a development project, instead of continuing to be narrow in scope with benefits filtering down to various groups in society, was redirected within a strategy where it was to be "focused" on specific groups. This process of giving attention to specific people and specific task environments logically highlighted the social dimension of a project as success was heavily dependent on the ability and willingness of those involved, from planners/managers to beneficiaries, to change and adapt. In earlier projects, undertaking physical, infrastructural development, the social aspects were seldom given explicit consideration.

This attention to the social and human dynamics of development projects has provoked a review of project analysis methodologies, specifically of the relative importance of the various components in the project analysis process. It is now frequently suggested that, unlike the heavy dependency on economic and technical analyses of an earlier time, current development project success will be determined more by how well identification and elaboration of the project concept and implementation strategy takes into account the social context in which the project will be implemented. Considerable interest has focused, therefore, on a process to understand those social forces, especially at the task environment level, that will have a significant impact on project success. The "human factor" with its related personal, social, cultural and institutional dimensions has, for many development workers, become the critical factor in planning and designing projects.

Operationally, this interest has produced extensive literature on the process of project implementation and on the design of organizations and organizational arrangements, expanding our understanding of how project intentions can be converted into expanded opportunities for those involved. Specifically this undertaking has forced development workers to think about ways that the various components of project analysis can be integrated to develop a unified information system that assists development activities.

Many people have helped in the putting together of this report. Numerous informal discussions and interviews provided not only new perspectives but much support. Special recognition, however, goes to the staff of the Development Project Management Center, especially Morris Solomon and Marcus Ingle whose ideas and criticisms were always appreciated. The content and organization, nevertheless, remains the responsibility of

the author and does not necessarily reflect the position of the
Development Project Management Center.

I. INTRODUCTION

Defining the task, scope and intent of development projects has received considerable attention from development workers for some time. Development projects have been referred to as "privileged particles"¹ of development and sometimes as "the cutting edge"² of development. This paper also attempts to address several issues relating to these operational questions with development projects. National development plans reflect larger aspirations and the overall direction in which a nation aspires to go. Also, they provide the context in which more specific planning can take place.³ Development projects are concerned, in a more immediate way, with social, political and economic opportunities and constraints.

During the 1970's a considerable segment of the international development community shifted its approach to organizing and supporting development projects. This shift might be represented in the "New Directions" mandate for USAID in 1973 when the intended impact of a development project, instead of continuing to be broad in scope with benefits filtering or "trickling down" to various groups of the poor, was redirected within a strategy where it was to be "targeted" on specific groups of the poor. The impact of this targeting is to spread, from the local level, laterally to a larger population.

The implications of this shift on the various components of project analysis (social, financial, economic, technical, bureaucratic/administrative, and so on), however, have not been uniformly understood and certainly not uniformly agreed upon. Successful "targeted" or

"poverty-focused" projects are much more dependent on participant behavioral change, which is difficult to predict. In rural development, population, nutrition, or education projects the traditional input-to-output calculations that are important to economic analysis, while they continue to be important, must be supplemented by other considerations.⁴ Sometimes these other considerations are referred to as "the human side" of development projects.⁵ "Human side" in this situation refers simply to the socio-cultural variables that have a significant impact on development project results. Due to the increased attention to such things as participation and behavioral change, this "human side" of development projects has been receiving more attention. Starting in 1973, for example, USAID has required all projects to carry out a "social soundness analysis." This interest in socio-cultural feasibility has received progressively more attention as problems with project implementation have become more pronounced.

Projects requiring considerable social and behavioral change, as is typical with "poverty-focused" projects, have usually encountered more problems during implementation than larger infrastructural, physical projects. The salient issues and needs surrounding rural development, education, nutrition or population projects are significantly different from those important to the infrastructural projects of the 1950's and 1960's.⁶ All too often, however, the way project analysis is carried out during the design stage has not changed sufficiently to accommodate the overall shift in development project goals. Too often cost-benefit estimates are treated as representing the certain impact of a decision to undertake investment in a project even though considerable uncertainty, due to behavioral, cultural, social or bureaucratic variables, surrounds a project's implementation.

In this paper we will look at the growing need for more integration among the various components of the project analysis process, especially as it relates to social, financial and economic analysis. We are interested specifically in rural projects that have a poverty-focus, although the implications of our comments need not be restricted to such a narrow focus.

II. BACKGROUND, SCOPE, CONCEPTUAL APPROACH AND METHODOLOGY

A. Background: Why An Integrated Approach?

The term "social context" is used here in a broad sense to include the behavioral, cultural, political, bureaucratic and other social factors that make up the total project task environment. These factors have been implicitly considered in most development projects (e.g., in market studies, socio-economic and institutional studies, studies of labor productivity, and social cost-benefit studies). In the case of poverty-focused projects, the socio-cultural gap between (1) project sponsors, designers or managers and (2) beneficiary agency staff and ultimate beneficiaries, is usually greater than in more conventional projects.⁷ There is a need to consider the social context of the task environment more explicitly, a need to give these factors, in project analysis, the kind of attention that reflects the impact they will have during the implementation stage. There is a tendency for engineers, agronomists and economists to regard projects primarily in technical or economic terms with less regard for social, political and bureaucratic considerations. While ideas for a project can, theoretically, originate from technical developments or economic considerations, it can be argued that social, political and bureaucratic objectives are more important, and that economic and technical inputs are merely means for achieving these goals. This concern is especially relevant for projects that are focused on poor people. At the same time, political, social and bureaucratic objectives are poorly served if they are not

pursued with due regard to economic and technical possibilities. A well designed project reflects all considerations that are relevant for the decision-maker and also takes into account the factors that will be present during implementation.⁸

In order for a project to succeed, these factors will have to be integrated in a meaningful way in order for successful implementation to take place. The need to redesign the project during implementation is something that is familiar to many project managers. However, there needs to be a greater effort to understand how the design stage, specifically during ex ante project analysis, can better take into account this process of integration.

Many ideas as to how this effort can be improved on have been expressed. Rondinelli states that projects are often designed inappropriately or ineffectively for local conditions because of the failure to address problems unique to the country in which they are to be undertaken. Project design decisions, he says, are often based on preconceived or generalized notions of problems rather than on country and situation specific analysis.⁹ Cochrane emphasizes that the conceptualization of rural development has to start with a locally appropriate mode of production and locally appropriate distribution of goods and services. It must relate to and fit into the existing coping system.¹⁰ Bryant, on the other hand, looks at the role that a Government bureaucracy plays in a project's task environment by emphasizing the model of a learning organization, one that is open to its environment. She holds that decentralization increases the possibilities for such openness for taking advantage of local opportunities, and for learning from mistakes.¹¹ The bureaucratic/managerial impact on the project and the project task

environment needs to be seen as an important element in analyzing the dynamics of the social context.

An integrated approach to project analysis, and especially project analysis for projects with a poverty-focus, therefore, must contain a process whereby all relevant information is identified and taken into consideration.

B. Scope of the Paper

Although the term project analysis implies a set of tools and procedures for studying all facets of a project, this paper will be restricted to a review of the potential for integration primarily among social, financial and economic analysis. USAID's Project Assistance Handbook 3 identifies six different types of analyses: social, financial, economic, technical, administrative/managerial and environmental analysis.¹² It is assumed, however, that the ideas expressed here would be equally applicable to analyses other than just social, financial, and economic.

A project social analysis is the process of discovering and analyzing the social factors that may affect the structure and success of a project. Project selection procedures should include an evaluation of these social aspects. For example, the costs of a project may be perceived to be a cost by those who are affected by a project and by others the costs may be perceived as a benefit. It is crucial to the success of a project that the project image, held by these different groups and individuals involved in and influenced by a project, be identified. The subjective images that these groups have, regarding the effect that the project may have on them and their environments, should be taken into account to the best of the project planners' ability.¹³ An under-

standing of these project selection dynamics is a basic requirement in analyzing a project's potential for changing traditional social relationships, equalizing power relationships, and building sustained local capabilities to address development needs.¹⁴

Two categories of influential actors within the project's task environment could be identified as (1) participants, beneficiaries or target groups, and (2) those who will play an influential role because of their involvement in a supporting agency, government bureaucracy or institution that will be affected by the project.

1. A social analysis, reflecting the dynamics of the first group, would need to be a process that provides information on the following areas:

- Local Culture
- Participant Response and Motivation. Bryant provides the following formula for an understanding of the dynamics of participation: $P = [(B \times Pr) - DC + OC]R$. Participation is a function of the benefits (B) to be gained times the probability (Pr) of gaining them, minus two kinds of costs--direct costs (DC) and opportunity costs (OC), all times the amount of risk they can afford to take. It is readily apparent that the poor will be much less likely to participate than those with more resources.¹⁵
- Local Leadership Patterns
- Change that is Incremental
- Mobility Habits
- Local Organizations
- Access to Benefits.

2. A social analysis also needs to be a process whereby an understanding of the second group, and its interaction with the first, is provided. Specifically it would need to take into consideration the following:

- Government Bureaucracies: Project Implementation and coordination is a highly political process. It is important to take into consideration the career needs of bureaucrats and to appreciate that organizations will want to control a project only if it helps them achieve their purposes.¹⁶
- Supporting Agencies (International Aid Agency or Development Bank): Within these agencies the interorganizational systems of accountability and decision-making will have a significant influence on how interaction with the local actors will take place.
- Contractors and Local Institutions
- Management Estimate: Some projects will be easier to manage than others and, therefore, will have an effect on potential return. Information should be gathered to determine how manageable a project is in comparison to alternative projects.

In order to understand how an organization or agency will perform in its responsibilities in a certain task environment, it is important to examine the organization's goals, its formal and information structures, and the roles of its members. It is also important to consider the resources it receives from other groups such as local government, the public, or the ministry to which it is accountable. All of these factors will influence significantly how it functions within the project task environment.

Financial analysis is undertaken to learn whether the project's cash flow permits its undertaking, and to see whether the return to the participant is sufficient to provide adequate motivation for involvement. Also provided in financial analysis is the ability to assemble control information that will be useful to the project management in soundly implementing and operating the project.

Key questions surrounding financial analysis include:

- How many funds will be required initially and over the early years of the project's full operation?
- When will the needs for the funds develop?

- How long is the need expected to continue?
- How are the needs for funds to be met?
- What degree of reliability can be attached to the cash flow forecast requirements?
- In what way would incorporation of alternative assumptions about the pattern of project operation change the forecast?¹⁷

Economic Analysis concerns itself with the measurement of the benefits from a proposed project to the society as a whole rather than to a particular enterprise or entity in the society. It will determine the size of the income stream likely to be generated over the costs of inputs. However, it is neutral to income distribution and capital ownership, i.e., it does not specify who actually benefits from the project. For example, if there is a surplus of income, part of it may be taken in the form of a tax for use outside the project, part is usually used to compensate capital owners for the use of their capital, part may become an income transfer in the form of a subsidy to the poor who purchase the products or services which are produced as a result of the project. None of these would be identified by the economic analysis.¹⁸ Therefore, economic analysis can provide information about the expected efficiency of capital invested in a project. But the most economically efficient project is not necessarily the most politically, or socially, efficient. Nor is it always the most effective or reliable investment to make. The political will and motivation that the project engenders is very important and can outweigh economic analysis.¹⁹

An integrated approach is needed that takes into account the relative importance of these three systems of analysis. Each weighs, mea-

sures and provides information on different aspects of the activity of a project. Each also omits certain kinds of information. A framework that can hold them in place would provide some of the needed assurance that the necessary information is taken into consideration.

The focus of this report is to identify (1) the need for integration among the various components of project analysis and (2) an initial categorization of approaches to project analysis. Specific attention is given to appraising their potential to respond to the growing demands for integration. The diagram on the following page (Figure 1) demonstrates the extent of this report and also identifies the nature of work yet to be completed. This report stands on its own in that the classifications are based on a review of what has been covered in the literature. However, considerable work involving empirical testing and practical recommendations remains ahead.

C. Conceptual Approach

An integrated approach to project analysis, especially from the perspective of poverty-focused development projects, requires a close look at how a project analysis methodology contributes to the potential for project success. There is a close relationship between planning and implementation. This has been recognized for some time. According to Solomon, however, there is still a tendency to regard planning and implementation as two separate processes, and this confuses an orderly transition from the planning phase to the implementation phase. "Those who plan should have familiarity with problems of action and control. Otherwise their planning will not be realistic. Those who are concerned with action must be familiar with planning as a process and must under-

Figure 1

A. Need for an Integrated Approach

B. Conceptual Approach: Criteria for an Integrated Project Framework

C. Identification of Theoretical Approaches to Project Analysis

D. Initial Classification of Theoretical Approaches

E. Completed Classification of Theoretical Approaches

1. Rank Classifications According to:

- time (chronology)
- type of project
- frequency of use

F. Empirical Research

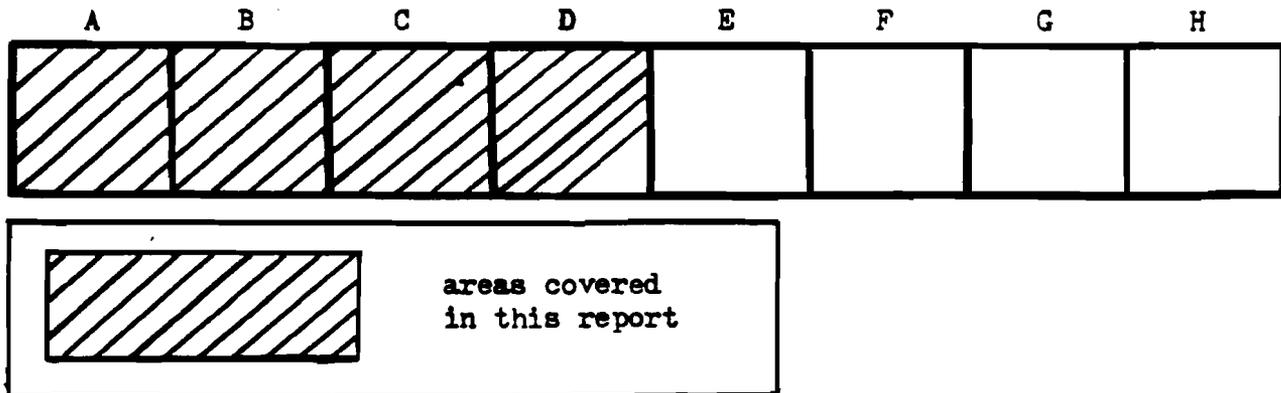
1. Identify Sample of Project Papers

- sample according to era (i.e., 1950-1960, 1960-1970, 1970-1980)
- sample by type of project (e.g., agricultural development project, rural development project, population projects, nutrition projects, area development project, and so on)

2. Identify Nature of Project Analysis Used

G. Statement of Findings

H. Recommendations



stand the particular plan they are to carry out so that they can replan as necessary."²⁰

A priority in an integrated approach to project analysis, therefore, must be concerned with developing a process that takes into account the existence of those obstacles frequently faced during implementation. Implementation, sometimes referred to as the missing link, or the gap, in development project planning, is gradually being seen as a most crucial link in achieving success in development projects. A management system for implementing a project, tailored to the specific needs of an organization or group in society, has a direct impact on project results. Similar attention needs to be given to an integrated methodology for project analysis. Crucial up-front decisions are always made. They will be made on the information (relevant or irrelevant) that has been compiled and synthesized. The planning and design side of development projects needs to receive more attention and questioning in order to make it relevant to the social context in which it functions.

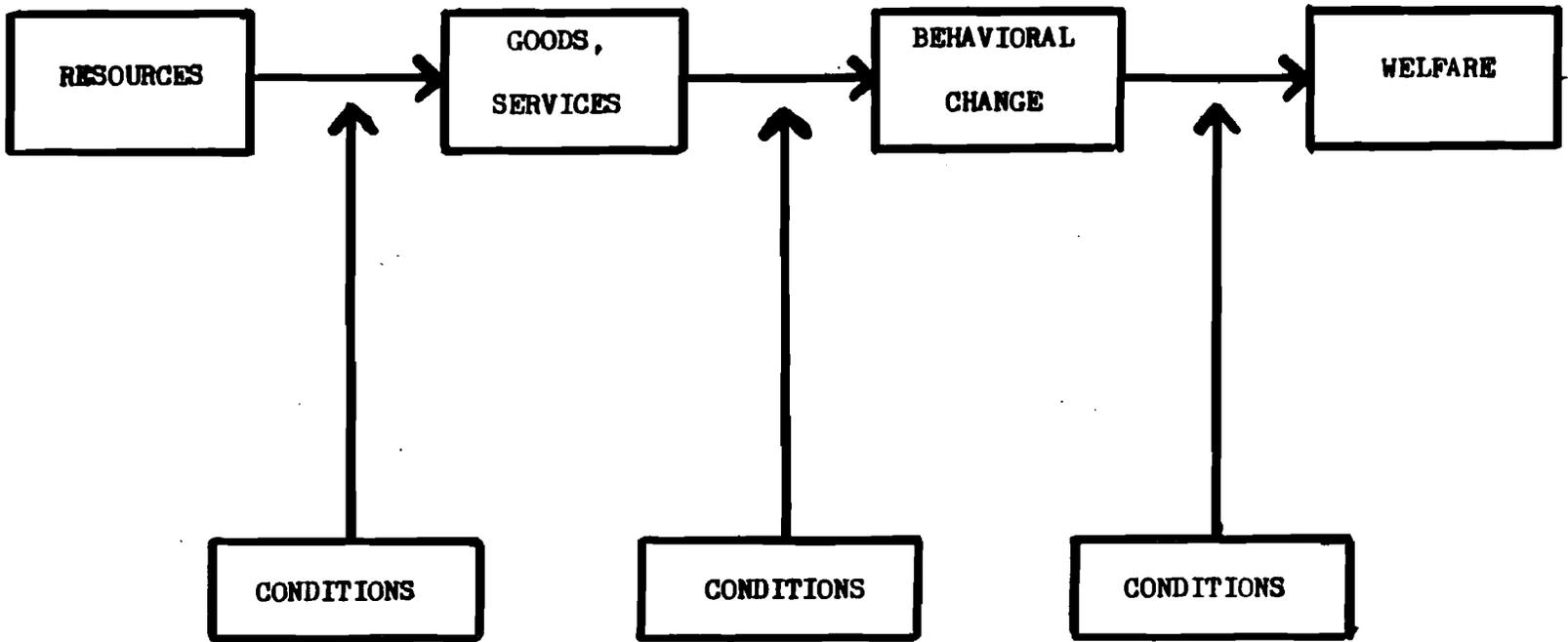
Also, in order to develop an integrated methodology for project analysis more effort must be given to explicit consideration of social variables. There is a danger in project design and planning that important social aspects of a project will be omitted from the analysis because these are not always in quantified form. They may be based on moral judgment, religious beliefs, patriotism, nationalistic attitudes or other social and cultural mores. For example, the failure to recognize the community leadership structure in the project area and its relative importance in relation to other characteristics can and often does lead to the failure of projects. There are many projects that are solidly based in theory and practice in a certain location; but

when transplanted to another locality are not successful because the planner failed to weigh the social factors in the project's design.²¹

Project specific, explicit consideration of social variables assures that the project is grounded as well as possible within the cultural context of the task environment. Woolman describes this process as one of identifying the "cultural energies" of a society,²² making sure that project efforts are in tune with the day to day human responses to social problems. These are the responses that provide societal stability and continuity. Opportunities for successful development projects, especially projects with a poverty-focus, will be determined to a large extent by how well the identification, elaboration and analysis of the project takes into consideration the social context in which the project is to be implemented.²³

1. Identifying Project Analytical Needs: A Framework

In order to understand, conceptually, the general planning-information parameters in a development project, we need a framework that helps us to think systematically about all facets of the project planning process. The diagram (Figure 2) on the following page by Honadle and Klauss is an attempt to identify, progressively, areas where there are assumptions and where information is needed. Any project is a series of hypotheses and projections of what will happen if certain interventions are carried out. This is only an intended sequence of changes, however. It represents the logic of the project, what is expected to happen, but is not necessarily what actually will happen.²⁴ Sometimes resources are applied but the assumption of increased goods and services is proved false. Sometimes goods and services are provided, but the behavioral change needed to make full



Source: Honadle and Klauss, 1979.

use of them does not take place, and consequently the expected level of benefits and increased societal welfare is not met. Therefore, if there is an inappropriate assumption at any point in this progression, the desired increase in welfare may not be what was planned for the beginning.

A development project, then, is a series of hypothesized linkages. These linkages, which are "conditions" that make up the areas where precise cause and effect relationships are not known, are the areas where information is needed in order to reduce the uncertainty and to add weight to the validity of the hypothesis. Obviously, as one moves along this progression, the nature of the needed information becomes less quantifiable. Information about the potential for critical behavioral change will be less "hard" than, for example, information about the possibilities of deriving, technically, certain goods and services from specified resources. Their less quantifiable nature, however, should not indicate a reduction in their importance. In many situations it may be just the opposite. For example, people who desire to change their behavior in order to achieve a goal, who have group consensus on what they want to accomplish, may be able to achieve remarkable successes with scarce resources, or with only a modest increase in the availability of goods and services. On the other hand, increasing resources and available goods and services may not achieve the expected level of increased welfare if there is no desire to change behavior in order to make use of the increase.

An integrated approach to project analysis must be able to relate to and take into consideration the information needs as conceptualized in this diagram. In order to increase the chances that the "conditions" will be addressed and that the uncertainties will be reduced, such a

methodology needs to be able to identify the critical social factors²⁵ as well as information needed for an understanding of the economic and technical factors.

2. Integrated Project Analysis: A Process of Interacting Analytic Components

Just as a development project should be looked on as a sequence of intended changes, project analysis should be seen as a process of interacting components. We will emphasize here the social, financial and economic components only.

The framework for identifying project analytical needs in the simplified form that we have just discussed does not respond to specific questions about how information should be compiled in order to best reflect the dynamics of the task environment. Especially it does not indicate how the various components in social, financial and economic analysis can begin to approach an integrated system. It highlights very well the absolute necessity of the various kinds of information needs, and describes diagrammatically why major project assumptions will be weak if this information is not developed. It depicts a project, logically, as a series of hypotheses and actions and focuses attention on the kind of activities that need to take place if the end result, increased societal welfare, is to be achieved.

In this section we will look more specifically at the kinds of interaction that should take place between social, financial and economic analysis.

Productivity is an essential measure of the output of a development project. If a community or society is to improve the quality of life for its members, more goods and services are needed. This says

nothing about the kind of goods and services, or about how decisions are made between alternatives. It emphasizes only that, given a growing population, more is needed. For this reason careful attention needs to be paid to the economic return of a project investment. Poor communities, especially, cannot afford to undertake activities which create a net drain on available resources.

One difference between the kind of development project analysis needed for the targeted attention given to many projects that have been started since the mid-1970's and that which was needed for larger infrastructural projects is brought more clearly into focus by pointing out that the differences are not over growth, slow growth, or no growth. The difference could better be described as between advocates of a growth that pays more attention to the kind of linkages that are fostered with specific communities and with the actors in specific task environments.

Two areas should be given more attention in project analysis if the link between increased productivity and development projects that are tied organically to a task environment are to be realized.

(1) Woolman describes "cultural energies" as those forces which dictate to and control the routine functioning of a society. "A largely unrealized potential for useful projects," he states, "lies in the efficient utilization of these cultural energies."²⁶ Society's social norms, if co-opted, can be a strong medium through which performance and productivity can be increased.

However, only recently has this approach to project analysis been given more serious consideration. Since World War II, and the rise of economic analysis in project work, the prevailing theory among

project managers for social change has been oriented more to a kind of economic "rationalism," the presumed logic of the situation, i.e., people with no money are presumed to want jobs, those with large families are thought to want contraception, ambitious parents are assumed to want education for their children, and so on. But it is doubtful if such assumptions can be made on a universal basis.²⁷ This approach contains within it the potential flaw of setting up a goal or an optimum situation that is not suited to the task environment. Realism, the process of bringing these goals into line with what might be possible in a specific situation, is often reflected in applying a series of constraints or limitations to the optimum. Cochrane holds, however, that the suggestion of "human constraints" to development is not very helpful.²⁸ The existence of supposedly inappropriate attitudes, beliefs and values avoids the real problem, i.e., a project designed in ways that are socially not feasible.

"The results of this kind of thinking are projects like Hilton Hotels. Each hotel, no matter in what country it is located, has more or less the same construction, more or less the same facilities. The concession that is made to location is to have porters and doormen in colorful local garb and to have a few local rugs and artifacts in the lobby area. In the same way, projects dealing with roads, agricultural credit, and so on, when designed by persons who ignore cultural and social factors, turn out to be similar in most countries."²⁹

Attempting to fit universal project design into a particular culture asks in what way a country conforms to previous experience elsewhere. The more important question is: In what way does a country depart from previous experience. Although theoretically, the difference between these two may seem small, the operational implications may be significant.

(2) If the social context is the primary medium through which performance productivity can be channeled and, hopefully, increased, more attention must be given to a functional understanding of the motivations that will result in project participation and project ownership. A fundamental requirement in an integrated project analysis methodology is specifically the need to develop an information tool which meshes the life priorities of the community/task environment with project management objectives. Failing to do this, project analysis is greatly reduced in its potential as an effective aid in achieving meaningful project results.

3. A Hierarchy of Information Needs

Instead of social factors being considered, as they often are, after the fundamentals of project design have been decided, they should become a more integral part of project design. They are intrinsic variables to project analysis, not extrinsic.³⁰ Following from this idea, an assumption can be made that any task environment (society, group in society, organization, geographical area) contains numerous opportunities for development, as well as constraints to those opportunities. Real opportunities will be a complex mix of those culturally synergistic forces that combine the administrative/managerial support structure to the motivations and desires of local participants. A process that can identify, first of all, those project opportunities within a task environment that mobilize the political and social support that is needed to initiate meaningful change, should be given considerable priority. Furthermore, this process could be broken down into, at least, two component parts: (1) an understanding of community level dynamics that are important and that will have an effect on how the project is

designed and organized, and (2) knowledge of that which needs to happen, interorganizationally, among those who make up the administrative/managerial support structure.

Conventional "economic" analysis tends to flow, conceptually, in an opposite direction. It is usually based on those macro-economic indicators that reflect the health/progress of the economy as a whole (e.g., economic growth rates, foreign exchange balances, sectoral production and employment, and the development of capital infrastructure). From this perspective, problems are defined in performance terms measured against these indicators. Corrective actions, therefore, take the form predominantly of policies and investments designed to spur the growth of lagging sectors. Where social indicators are introduced, they are usually highly aggregated, spotlighting deficiencies in educational levels, health care, nutritional status, and so on. Where these are taken seriously, the natural response is to define the problem in terms of actions to make up the deficiencies and not necessarily in terms of integration within a specific task environment. The resulting programs tend to place unsustainable burdens on public budgets and central administrative systems, as these are their principal source of ongoing support.³² An integrated project analysis methodology, therefore, needs to focus more attention on the specific problems/opportunities/challenges of a task environment. It must be a process that is able to identify what people are willing to undertake and commit themselves to, and that takes into consideration the demands on the administrative/managerial structure that will provide the support needed for routine coordination. From a similar perspective Carner states that in this way the poor become visible, "not as potential welfare cases, but as

hardworking creative individuals sustaining themselves under difficult circumstances."³³ Such an approach to project analysis should be of assistance in moving beyond a mere description of the deficiencies in the outcomes of coping systems and survival strategies, such as is the tendency with a highly aggregated macro approach, to identifying the barriers that constrain those outcomes. The point emphasized here is the necessity of searching for and identifying project opportunities specific to the task environment and then proceeding to define the types of changes and inputs (material resources, funding, organizational changes within the bureaucratic support structure) that will provide the appropriate response.

The following points highlight the ideas discussed here:

- A process to improve knowledge of the dynamics of the social context and the task environment, especially as it relates to productive activities;
- Identifying a range of development opportunities or possible interventions appropriate to the task environment;
- Using financial and economic analysis for decision-making relating to possible project interventions.

Figure 3 lists and describes the salient tasks of an initial analysis of the task environment, i.e., the analysis on which other analytical work will be dependent. Although there is the continual need for an iterative process (information→analysis→feedback) at any stage of a project, meaningful project ideas rest on opportunities that are sustainable at the task environment level.

Figure 4 focuses attention on the role of financial analysis in relation to social analysis. A project that is feasible from a social perspective must be analyzed from the perspective of financial viability. Initial enthusiasm and support for a project will not be sustained if

Figure 3

SOCIAL ANALYSIS

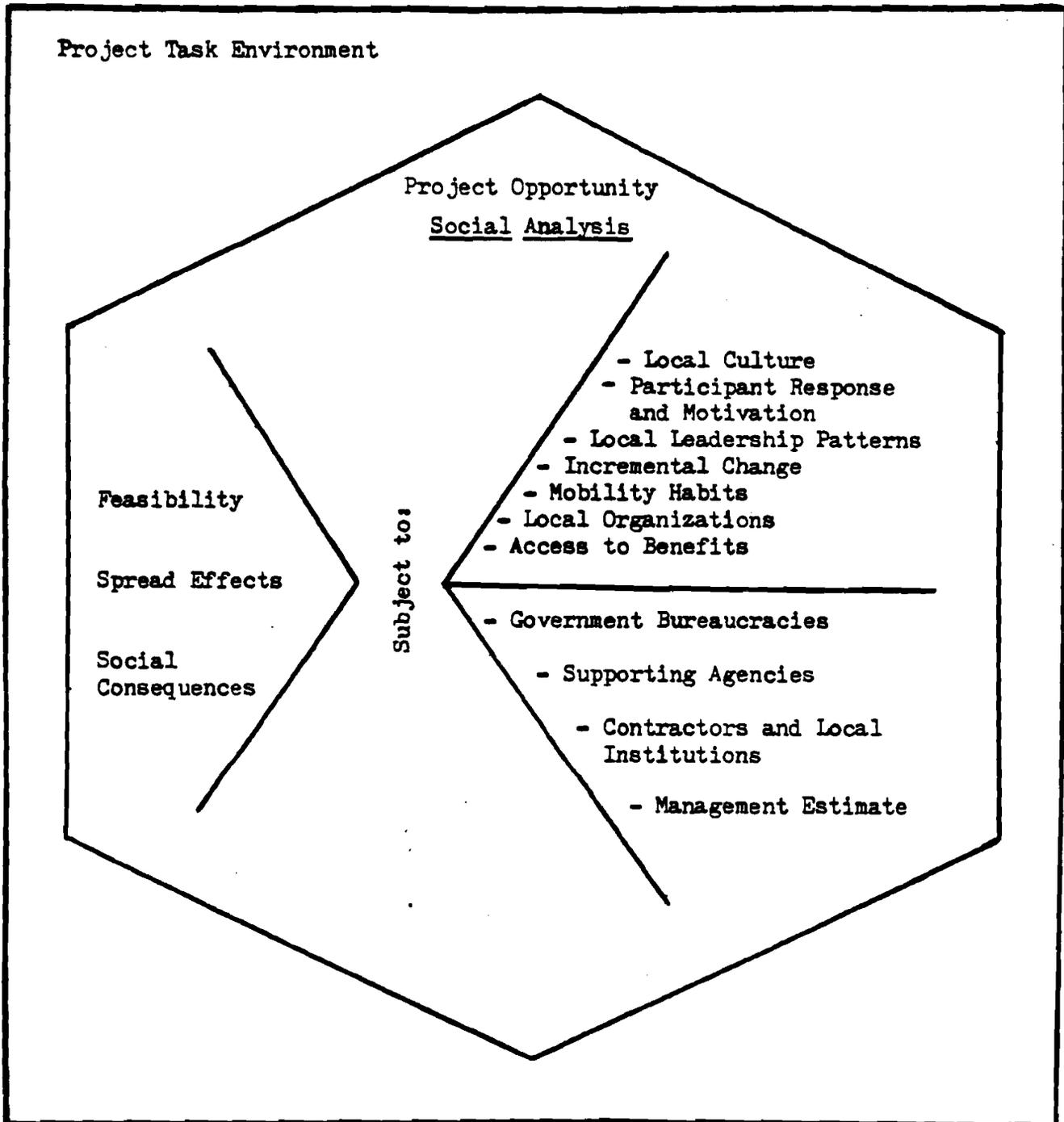
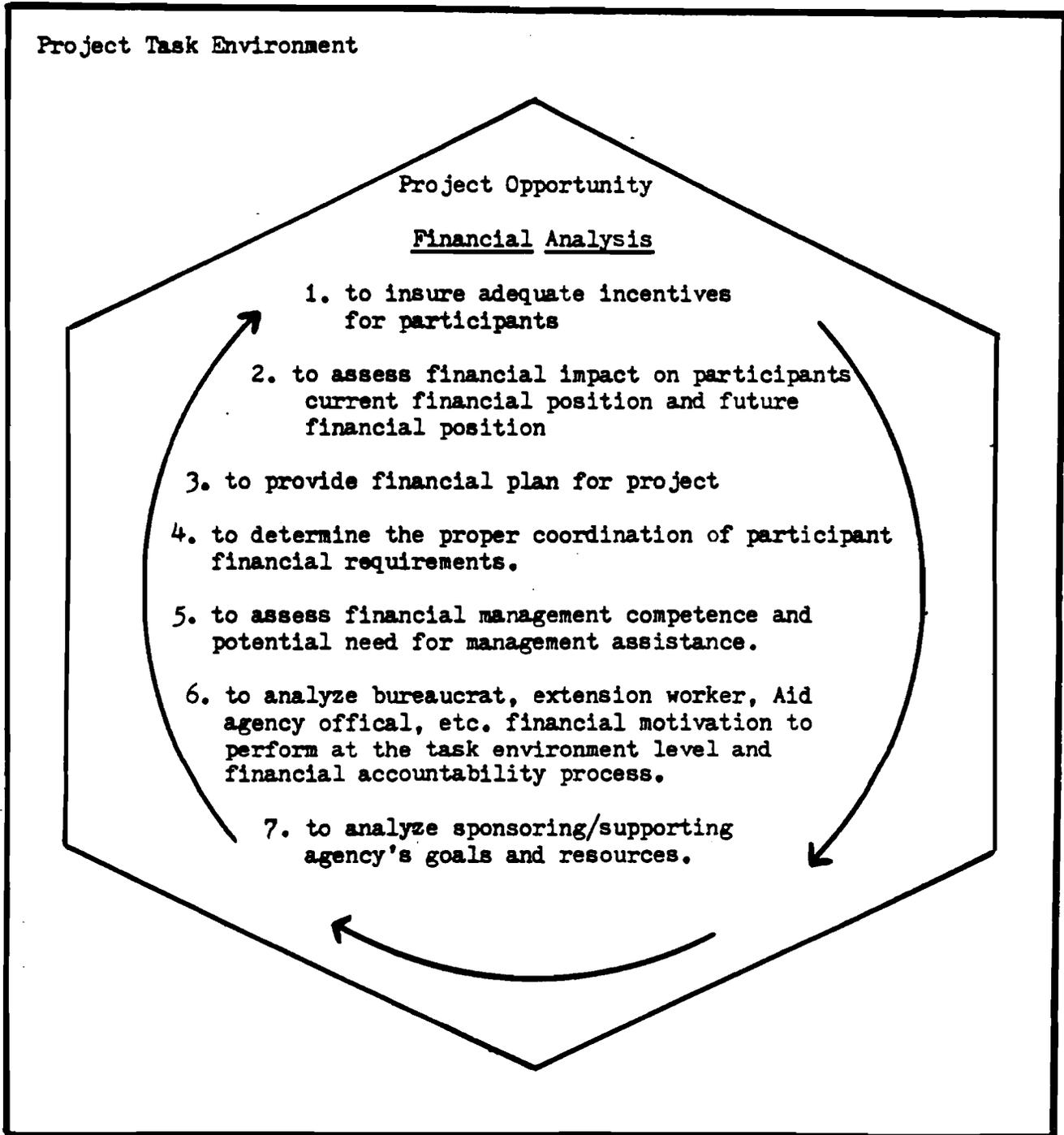


Figure 4

FINANCIAL ANALYSIS



there is little hope for gain or advancement on the part of those whose involvement is needed. It is crucial to assess whether all participants have suitably timed cash flows to provide them the motivation for continued involvement. Failure to anticipate financial requirements may be as disastrous for project success as would be the attempt to impose an unwanted project onto an unreceptive local population.

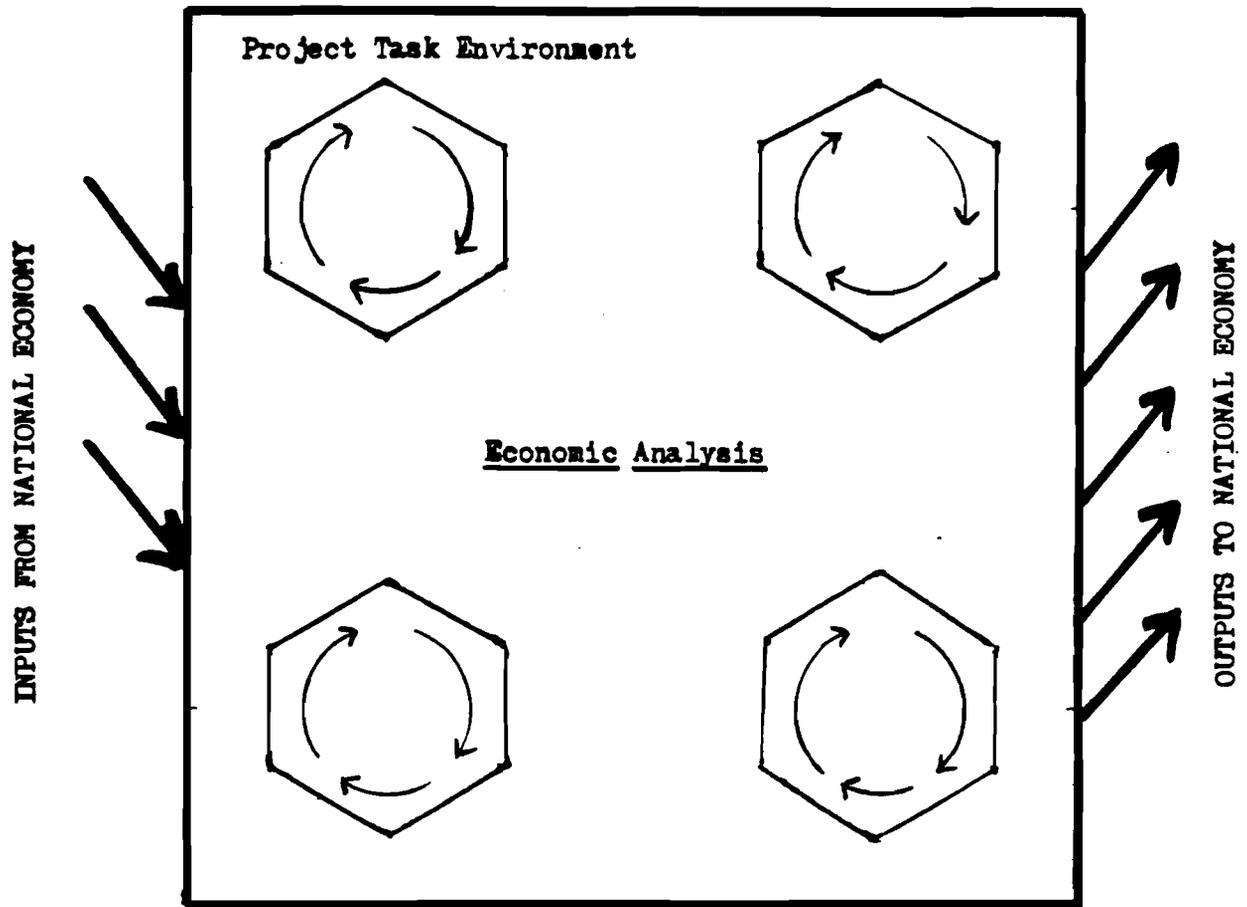
Figure 5 summarizes an economic analysis which is directed toward discerning whether the project is likely to contribute significantly to the economy as a whole and if the contribution of the project is likely to be great enough to justify the use of the scarce resources that will be needed.³⁴ Although this would be a necessary criterion for any project's economic analysis, the difference here is that what is being analyzed is task environment oriented, based on analyzing projects that are tied organically to the social context.

D. Methodology

This report consists primarily of a literature review. The reading was enhanced and directed by discussions with staff personnel at the Development Project Management Center (DPMC) in the United States Department of Agriculture, several persons working with USAID, and individual professionals who have had experience in this area. The ideas compiled and expressed here, however, remain the sole responsibility of the author and do not necessarily reflect the views of the DPMC.

Figure 5

ECONOMIC ANALYSIS



III. PROJECT ANALYSIS: A REVIEW AND INITIAL CLASSIFICATION OF APPROACHES

In this section we will provide an initial classification of past and ongoing project analysis methodologies. The five categories reviewed here are not meant to be definitive or taxonomic groupings. They are an attempt to provide an initial classification of project analysis methodologies that can be built on conceptually and used eventually as the basis for an empirical review of the role project analysis has played in development project design. These five groupings, with summary information, are identified in Table 1. Our goal is to review these methodologies in the light of the criteria discussed (in the previous section as a conceptual approach) for an integrated approach to project analysis.

A basic problem confronting all countries is that of organizing inherently limited resources (such as labor, capital, land, and other natural resources, as well as foreign exchange) for a variety of different uses in such a way that the net benefit to society is as large as possible. Given the limitation of resources, choices must be made among these competing uses, and project analysis is one method of evaluating alternatives. In essence, project analysis is usually seen as assessing, in a variety of ways, the benefits and costs of a project and reducing them to a common yardstick. If benefits exceed costs, with both measured by a common yardstick, the project is acceptable; if not the project should be rejected.³⁵

In assessing the merits of different project alternatives, beyond this criteria of economic efficiency, a project analysis process must be

TABLE 1

Type of Approach	Major Proponent	Main Features
<p>1. Project Analysis within a "Traditional" Approach to Development Projects</p>	<p>Gittinger Harberger USAID Project Assistance Handbook 3</p>	<ul style="list-style-type: none"> • top-down in orientation • limited project scope • analysis reflects concerns of projects that are production oriented . . . measurable primarily in economic terms • analysis not functionally concerned with political/social/institutional considerations of broader development programs • separate from routine administrative activities • focuses on economic analysis • concerned with growth, not distribution • infrastructural development oriented • reliance on skilled experts • set up for tight control of project activities • analysis concerned basically with inner project dynamics
<p>2. Broadening the Scope of "Traditional" Analysis.</p>	<p>Squire van der Tak Marglin Reutlinger Peterson Seo</p>	<ul style="list-style-type: none"> • top-down in orientation • concerned with growth and distribution • related most to capital investment projects • attempts to discount optimum project potential according to risk, uncertainty and social policy • technically complicated . . . requiring experts • biased toward giving most weight to economic analysis criteria • concerned with more than just inner project dynamics . . . concerned with impact on social environment • expanded project scope

TABLE 1 CONT.

Type of Approach	Major Proponent	Main Features
<p>3. Project Analysis within a "Bottom-Up" or "Process" Approach to Development Projects</p>	<p>Lyman Cochrane Perrett Korten Michaelwait</p>	<ul style="list-style-type: none"> • botton-up in orientation • emphasizes social context as <u>explicit</u> analytical component • projects should be an iterative/ learning process • poverty-focus bias • emphasizes participation as particularly important to project success • local level focus . . . concentrates on task environment specific activities • functional power/control is at the local level . . . thus analysis must begin at that level
<p>4. Project Analysis within an Implementation/ Management Approach to Development Projects</p>	<p>Cooley Strand</p>	<ul style="list-style-type: none"> • biased neither by top-down nor bottom-up orientation • provides a framework for integrating factors relevant to project implementation • concerned with total project system • task related information system • applicable but not restricted to poverty-focused projects • incorporates "uncertainty" within total approach • attempts to isolate cause and effect relationships • impact oriented

TABLE 1 CONT.

Type of Approach	Major Proponents	Main Features
<p>5. Project Analysis within a Design/Management Approach to Development Projects</p>	<p>Imboden Smith, Lethem and Thooley</p>	<ul style="list-style-type: none"> • biased neither by top-down nor bottom-up orientation • concerned with the ability to influence and coordinate activities outside the project • assumes a design open to environments multi-faceted influences and tensions • problems are not unitary, but come in interrelated clusters • cause and effect relationships are difficult/impossible to trace • emphasizes identifying power centers within society . . . at any level (national, regional or local) and working out from this point. • attempts to understand problem/organization as a whole, operating in complex interrelationship with its environment

able to place a project alternative in the context of (1) a society's social objectives, (2) available management potential, and (3) local project support and project involvement.

A. Project Analysis Within A "Traditional" Approach to Development Projects

Traditional methods of project appraisal have a bias in emphasizing the growth objective, often to the detriment, if not the virtual exclusion, of the equity objective. This has been justified on the grounds that governments have available to them a diversity of fiscal devices that can be used to redistribute project generated income in any desired direction. It is argued that project analysis need consider only the growth objective, since this would ensure that the available resources yielded the maximum increment in total national income³⁶; other objectives, such as equity, institutional needs, and so on, could be served by a program of taxes or subsidies that would bring about the desired redistribution of that maximum increment in national income.

At the practical level, the policy concern with growth is understood to mean that projects should be selected in the light of their contribution to the maximization of total undifferentiated national income. This simple adherence to the central concern for growth is consistent with larger development goals only if it can be assumed that at the margin all units of project-generated income make the same contribution to growth. To a large extent this assumption has been accepted in traditional practice. As a result, when theorists attempt to derive, and practitioners to estimate, shadow prices that reflect the true value of inputs and outputs to society better than marked prices, they assume that at the margin all inputs of income are equally valuable from the

growth point of view and ignore, or at least feel that no concerted attention is needed for, the equity objective.³⁷

This central concern for economic growth and economic efficiency grew out of a tradition of projects structured primarily toward capital transfer. As development projects moved away from this type of activity into areas of rural development, education, nutrition, and so on, criticism of this approach increased. However, the "traditional" approach to project analysis continues to be found useful and continues to play an influential role in development project work. But one of the central design problems in, for example, many World Bank projects, is what to do about the kinds of institutional structures needed to effect changes with capital transfer. Social and institutional development criteria are, according to Gettenger "impossible to define tightly enough to agree on what achievement represents." Therefore, he concludes that projects should remain well-defined arrangements for transferring funds for specific development tasks which involve no political or social dimensions about development.³⁸ Social and political decisions are to be addressed at the broad program level either before the project is initiated or outside the project structure and organization. Project analysis is basically seen as a tool for the choosing of a high yielding investment and a determination of the contribution of a project to aggregate social and economic objectives. Insistence that a project maintain "efficiency" as its central concern, despite recognition that institutions are a central design problem, is based on the necessity that projects pay for themselves.

Gettenger is not suggesting that factors other than those relevant to the traditional economic aspects of project analysis are not impor-

tant. He argues simply for a very limited project scope, a restricting of project activities to the concerns of managing capital transfer.³⁹

Others have argued that projects have social and political implications important not only in the broader development process but also in the immediate production efficiency of a project. Consequently they suggest that these factors should be included in any project analysis.

Harberger also argues for keeping project analysis limited to a consideration of those economic factors that submit themselves to a more traditional style of analysis. Project analysis should, in his opinion, remain the narrow specialty of the economist. He also does not suggest that other factors (social, political, institutional) are not important, but that these areas introduce a kind of confusion into the economic calculus that is not easily managed. In response to the argument that traditional project analysis should be broadened to include more than economic factors he holds that the complexity of the mechanism by which these extra-economic considerations influence social values and social choices is so complicated and so different that, even if all the necessary information were available, it would not really inform project judgment in any significant way.⁴⁰

Therefore, projects should remain narrow in scope, and project analysis should be restricted to the use of established economic tools. Efforts should be relegated to identifying bad projects and to avoiding the wasting of money on them. Using an economic calculus, one can form an educated opinion about how well a certain project will do in relation to alternative projects.⁴¹ In this way the skills of the economist can be used in a more professional and predictable way.

The USAID Project Assistance Handbook 3 also approaches project analysis from within the general paradigm of the "traditional" approach. Although the kind of information requirements that USAID demands in order to make decisions on projects goes well beyond the economic and financial areas to include social, technical, environmental, and administrative/managerial information, the fundamental bias in approach to project analysis remains well grounded within the confines of a traditional economic approach. For example, Handbook 3 explains the role of Social Soundness Analysis as follows:

"Having established the economic benefits to be derived from the proposed undertaking, those benefits should be traced back to the recipients, designing the project in such a way that the target group will benefit from the project."⁴²

This methodology for project analysis assumes a strong role for the economist as analyst to derive the potential optimum benefit from a proposed project, and thus establishes significant early project parameters. The social analyst's responsibility is then to disaggregate this optimum by taking into consideration social, cultural and institutional criteria. From the perspective of those who argue for the inclusion of more social variables in the project analysis methodology, the USAID Handbook 3 is an improvement over other traditional approaches. However, it has been demonstrated that there are numerous problems with AID's use of "Social Soundness Analysis."⁴³ Because it is frequently conducted late in the project planning process, the potential for it to have a significant impact on crucial up-front design decisions is limited. At times there is a tendency to smooth over the social complexities that are identified in a social analyst's report. Unlike economic analysis, which produces a very concise indication of a project's potential (i.e.,

by relying on the single figure indicators of cost-benefit analysis, an internal rate of return, or a net present worth), social analysis provides a more complex picture of a project's potential, with competing tensions and trade-offs.

B. Broadening the Scope of "Traditional" Analysis

The "traditional" assumption that all units of income make the same contribution to growth has been the recipient of considerable criticism. For example, in an economy where the level of national investment is below what is required to have the desired level of growth, investment may be considered more valuable than consumption. If this argument is accepted, the successful pursuit of a growth objective requires that the distributional effect of a project on consumption and investment be included in the overall assessment of the project's worth, and that any income generated from the project that leads to investment should be assigned a higher value than that which leads to consumption. In this way, the use of investment resources will be biased in favor of projects that generate more investment which, supposedly, will raise national investment toward the desired level.⁴⁴

The validity of this argument is dependent on the extent to which the government is free and able to determine the desired level of investment by means of the economic instruments of fiscal and monetary policy. If the government controls the level of investment in such a manner that, at the margin, society is indifferent between a unit of investment and a unit of consumption--that is either would make the same contribution to welfare--there is no need to differentiate between project generated income that is in the form of investment or in the form of consumption. It can be argued, however, that there is a diversity

of social, administrative and political constraints, especially in developing countries, that may inherently limit the government's ability to increase savings by means of monetary and fiscal policy. If these generally accepted economic policy tools (taxes, subsidies, etc.) cannot successfully break the numerous constraints that a development activity is trying to address, other policy instruments, including the selection of projects, can and perhaps should be used to achieve the desired goal.

Project planners and theorists, therefore, began to turn their attention to other approaches to project analysis. Once there was a recognition of the constraints and limitations on a government's ability to secure the desired distribution of growth income between investment and consumption, it was only a short step to the realization that the traditional separation of growth and equity objectives may not be justified.⁴⁵ On this basis it was concluded that project analysis should investigate the impact of projects not only on the distribution of income between investment and consumption but also the distribution of income between rich and poor. This became known as "social cost-benefit analysis."⁴⁶

Aside from the attempt to broaden traditional analysis by responding to questions of investment and income distribution, there have been efforts to make the traditional economic calculus more relevant by a process of including quantified elements of "uncertainty" (unknowns, where there is lack of information) and "risk" (known probability of failure).

Reutlinger and Peterson both describe methodologies that could more accurately take these non-controllable variables into account. This should increase the probability that any project analysis methodology

would include more accurately those variables that will have an impact on project results.

Reutlinger holds that accepted procedure in project analysis calls for a calculation of the return from each project and for criteria by which to choose from among different projects on the basis of estimated returns. The essence of the uncertainty/risk problem is simply that many of the variables affecting the outcome of a particular plan of action are not controlled by the planner or decision-maker. Therefore, project analysis which takes due account of uncertainty involves (1) judgments about the likelihood of occurrence of the non-controllable variables, (2) a calculation of a whole set of possible outcomes or returns for each project based on probability estimates, and (3) criteria for choosing among projects on the basis of sets of returns from each project.⁴⁷ Rather than treating political, social, institutional or technical variables as assumptions or "controlled" variables, an assessment is made of their potential negative impact, as well as the probability of their contributing to the project in a way that is desired or welcomed. In this way more information is available to planners and decision-makers as to the relative probability of achieving a certain return on a project.

Peterson provides a similar but simplified approach to including elements of uncertainty in traditional economic calculus. In applying his methodology, he begins by assuming that benefits and costs have already been quantified according to traditional methods. He then uses a decision tree approach to take into account elements of risk and uncertainty by calculating (1) the probability of successful initiation (INIT) and unsuccessful initiation ($\overline{\text{INIT}}$), and (2) the probability

of successful implementation (IMP) and unsuccessful implementation ($\overline{\text{IMP}}$).⁴⁸ Estimating these probabilities (for an agricultural development project) can be summarized as follows:

Pr (INIT) = probability of successful initiation = $f(\text{IC}, \text{FO}, \text{R})$

1. IC = initial capital outlay (1 if low, 0 if high)
2. FO = compatibility with existing farm organization (1 if high, 0 if low)
3. R = compatibility with existing attitudes toward risk (1 if high, 0 if low)

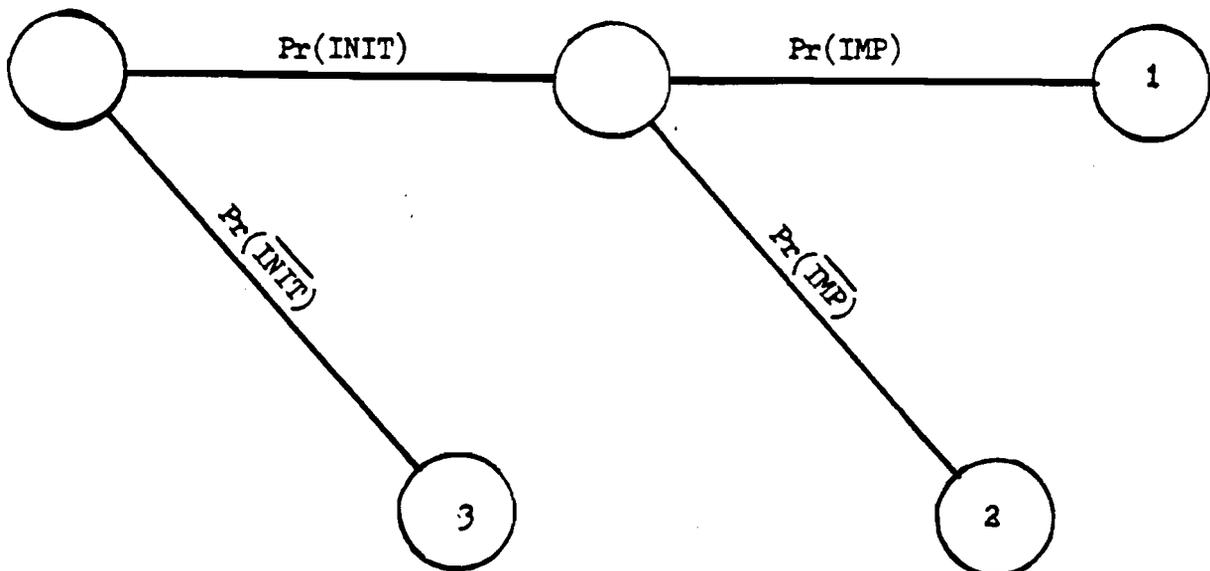
$$\text{Pr}(\text{INIT}) = (\text{IC} + \text{FO} + \text{R})/3$$

Pr (IMP) = probability of successful implementation = $f(\text{IA}, \text{AF})$

1. IA = input availability (1 if satisfactory, 0 if inferior)
2. AF = administrative facilities for proper follow-up (1 if satisfactory, 0 if inferior)

$$\text{Pr}(\text{IMP}) = (\text{IA} + \text{AF})/2$$

Using these probabilities as constraints on optimum benefit-cost ratios or net present worth estimates can be demonstrated by the use of a decision tree.



Where:

$$\Pr (\overline{\text{INIT}}) = 1 - \Pr (\text{INIT})$$

$$\Pr (\overline{\text{IMP}}) = 1 - \Pr (\text{IMP})$$

This tree diagram indicates that there are three possible outcomes:

(1) a successfully implemented project, (2) an unsuccessfully implemented project, and (3) an unsuccessfully initiated project.⁴⁹

Traditional cost-benefit analysis takes into account item 1 (and assumes that the $\Pr(\text{INIT})$ and $\Pr(\text{IMP})$ are each 1) but fails to take into consideration the other two possible outcomes--items 2 and 3. The fact that, in this simplified situation, there are three possible outcomes means that conditions of uncertainty should be identified and that the probability of each outcome must be estimated. Also, according to this scheme, the costs of an unsuccessfully implemented project and of an unsuccessfully initiated project must be taken into consideration.

As with "traditional" approaches to project analysis, these attempts to broaden the methodology remain very top-down in orientation. For projects that have a poverty-focus, they will be helpful to the extent that they are able to include sufficient information that is task environment specific into the calculus. "Traditional" analytic methodologies are made "realistic" to the extent that optimum economic returns are discounted by social, political and institutional information.

C. Project Analysis Within A "Bottom-Up" or "Process" Approach

As the move during the mid-1970's toward "targeted" or "poverty-focused" projects became more understood and more pronounced, it became necessary to take seriously, in an explicit way, the social components of a project's design. Social factors in development projects were

always taken into consideration in one way or another. However, in the case of physical, infrastructural projects where the task to be completed was the construction of a building or a road, the social dimension did not always appear to have an immediate bearing on the work at hand. With projects that were directed toward the improvement of life for a whole community or for some specific target group, and where this group's involvement in the project process was desired, the social dimension of a project played a much more important role. The main orientation of such a project, as suggested by Lyman, "is directed to its particular task environment and to a continuing sensitivity to the interests of that group alone, and of that group in relation to society's larger needs and desires."⁵⁰ This focused attention at the local or task environment level demanded a new approach, conceptually, to the process of project analysis. Many have argued that the reason for this approach was based on the failure of earlier top-down approaches to actually respond to problems in ways relevant to local participant's needs, demands, and style of life. Anthropologists and sociologists were influential in redirecting project planning attention to the local level. The misfit of a project analysis methodology that was grounded in physical, infrastructural projects with the kind of methodology needed to address the demands of a poverty-focused planning process was gradually being recognized. Gradually more attention was focused on the social, cultural and institutional factors of a specific task environment. This "bottom-up" approach, with (1) primary attention focused on the dynamics of the task environment, and (2) relating this to what can happen in a broader context, can be seen as an approach that runs counter to the top-down, heavily economic, approaches of traditional project analysis.

Meeting "basic human needs" and achieving "participation in rural development" became the theme of many projects with a bottom-up focus. More attention was given to projects relating to education, rural development, nutrition and population, and with these behavioral change was usually necessary for achieving successful implementation. This emphasis highlighted a new category of problems and opportunities related to development projects. Often times a major issue with poverty-focused projects was not just poverty per se, but the fact that the people involved in such projects are likely to be more traditional in their way of thinking and in their style of life, often illiterate or poorly educated, and generally quite different from those who plan, design or manage development activities for them. Perrett holds, therefore, that project identification and design should start with and be based on a fairly intimate understanding of the project population and environment. This is necessary in order that participant response to project created opportunities can be more accurately assessed and available local resources (technologies, skills, organizations) used which might otherwise be overlooked.⁵¹ The most important implication for project analysis from this perspective is that (particularly for poverty-focused projects) it should plan not only for the physical and financial access to the opportunities (goods, services) provided, but also for the actual and continued use of these goods and services. Such a shift in the focus needs to allow for a more systematic recognition of the numerous behavioral, socio-cultural, resource and other project level constraints and opportunities.

This emphasis on the attention needed for task environment specific information, sometimes referred to as the "human side of develop-

projects," alludes to a basic hypothesis for development projects with a bottom-up focus--that the success of a poverty-oriented project will be determined by how well identification and elaboration of the project concept and identification strategy has taken into account the social context in which the project must function.⁵²

This conceptual reordering has been encouraged by many as a necessary step to increase a project's capacity to respond to the needs of the poor in specific, targeted contexts and situations. Korten states that just as economics provides the foundation discipline for economic planning, the study of interactions between human and ecological systems may prove to be the foundation discipline for new people centered planning methods. Efforts to make the poor the central focus of planning almost of necessity proceeds from a diagnosis of the dynamic relationships between the poverty groups of concern and their ecological context.⁵³

Cochrane emphasizes that with rural development, population, nutrition and education projects, the traditional economic input-to-output calculations, while still important, must be prefaced by other considerations. A most important characteristic of such projects is that they seek to produce behavioral change. Therefore, calculations about how and when that change can take place are crucial.⁵⁴ They are basic ingredients to successful projects, not just "the icing on the cake."⁵⁵

From a bottom-up perspective within a targeted development project strategy there are several areas which appear especially important for project analysis. First of all, two aspects of the social component are relevant. One is the set of social factors related to normative goals. It is important to know what implications the project has for income distribution, welfare, equity, and employment. The other aspect

of the social component is more value free. It is simply those social conditions which will affect the project: family conditions, attitudes toward labor, kinship relationships, ways of holding and using land and so on.⁵⁶

Economic factors are also very important. However, they need to be based on criteria that has direct relevance to the task environment. One of the most important is the capacity of the local economic system. A proposed project should be capable of integration with the normal routines of a specific task environment, within a reasonable length of time.

A bottom-up perspective holds, therefore, that social inputs cannot be treated as an afterthought, or something that is used to discount a potential optimum economic return. They are basic building blocks to successful projects. Development workers always need to make some assumptions about human behavior in project work: the level of interest people will show in what the project offers or in a new opportunity created; the ease with which they will abandon their accustomed ways of doing things and turn to new ideas and new approaches; their willingness to contribute labor and cash; their preferences and dislikes, and so on.⁵⁷ These assumptions may be accurate, especially when designers and implementers of activities, and the people they serve, come from similar backgrounds. But more often than not, such is not the case. Therefore, many of the social and behavioral assumptions need to be carefully examined during the design stage and checked against actual information about the social and cultural content.

As the project planning and analysis process includes more of these complex, interacting, social and economic dimensions, many of which are

outside the control of the project manager, some development workers argue for a broader scope and definition for development projects. Traditional analysis sets precise time and space parameters around a project. When social change and behavioral objectives are included in the project process, it becomes more difficult to make assumptions about these "predictable" and hard boundaries and to give projects a definite and precise definition. Therefore, considerable attention has been given to defining the project as a "process." Instead of following a prescribed blueprint, a project should be sequential or iterative activity. Michaelwait emphasizes that the design of any project must deal with the following issues: organizational structure, economic and social analysis, feedback or learning systems, and balancing efficiency with equity.⁵⁸ A reaction to the types of project analysis discussed earlier as the traditional approach (the blueprint approach) has been to emphasize the "process" aspect of projects. A process approach has as its core a means of learning from the environment, exploring opportunities, and evaluating different kinds of interventions. One study of twelve rural development projects in ten countries stressed the process nature of project design and listed the following components:

- improving knowledge of the social system and the environment,
- establishing a range of possible interventions,
- testing possible interventions,
- using the results to identify interventions appropriate to the local context,
- applying interventions in a way that will distribute their benefits within the project area, and
- replicating the project methodology in comparable target areas.⁵⁹

The logical sequence here should be described as Research→Experimentation→Action→Replication. The role for an effective project analysis methodology, therefore, is to be able to respond in an iterative way to experience at the project level so that it can inform future action. It is an information system that builds on experience from the bottom-up as opposed to starting from an assumption of macro control and working down to the specific situation.

"Process" approaches to development projects, or an emphasis on development from the "bottom-up," have been influential in redirecting much attention to problems faced by those at the local level, those who are to benefit from a development activity. As a reaction to the failures of earlier macro approaches, it has been effective in strengthening the voice of small farmers, who have all too often been "silent partners" in what should be a dialogue with decision-makers in the upper tiers of a political/administrative hierarchy.⁶⁰ However, it falls short of being an approach that allows for an analysis of the larger problems of underdevelopment. It provides no perspective on how the various levels of actors involved in a specific development activity can complement and interact with each other in more meaningful ways.

D. Project Analysis Within An Implementation/Management Approach

Development activities of the past decade have demonstrated the need for a systematic understanding of how project plans and designs are converted from theory and good intentions to altered relationships, increased opportunities, and an improved state of human welfare for, especially, those whose needs are most urgent. Implementing a development project has become, increasingly, a process of managing a complex maze of social, economic, and technical forces and tensions. A recognition

of the dynamics of this implementation/management process has produced a growing call for reorientation in development activities and for the re-assessment of societal priorities and goals. In general, the implementation/management process has become more difficult because of the shift in development project orientation from economic growth to income distribution, from production to the satisfaction of basic human needs, from technology to the development of human resources.⁶¹ Also, dissatisfaction with partial models to project analysis (whether economic or social) has led to a growing interest in a more unified approach in which social, economic and political factors are considered within an interrelated systems framework.

The Logical Framework, or impact approach, as used primarily by USAID (United States Agency for International Development) and SIDA (Swedish International Development Authority) elaborates a hierarchy of objectives and tries to identify the impact of a project on the development goals of a country. It is basically a tracer study of the benefits to link logically the immediate objective of a project (target) to the intermediate and final development goals. The method not only determines the contribution of the project to the development goals, but also specifies under what conditions and how the project contributes to the development goal.

This methodology of project analysis consists of the ". . . establishment of a Logical Framework for the project which: defines project inputs, outputs, purpose and higher goals in measurable or objectively verifiable terms; hypothesizes the causal (means-end) linkage between inputs, outputs, purpose and goal; articulates the assumptions (external influences and factors) which will effect the causal linkages; and

establishes the indicators which will permit subsequent measurements or verification of achievement of the defined outputs, purpose, and goal.⁶²

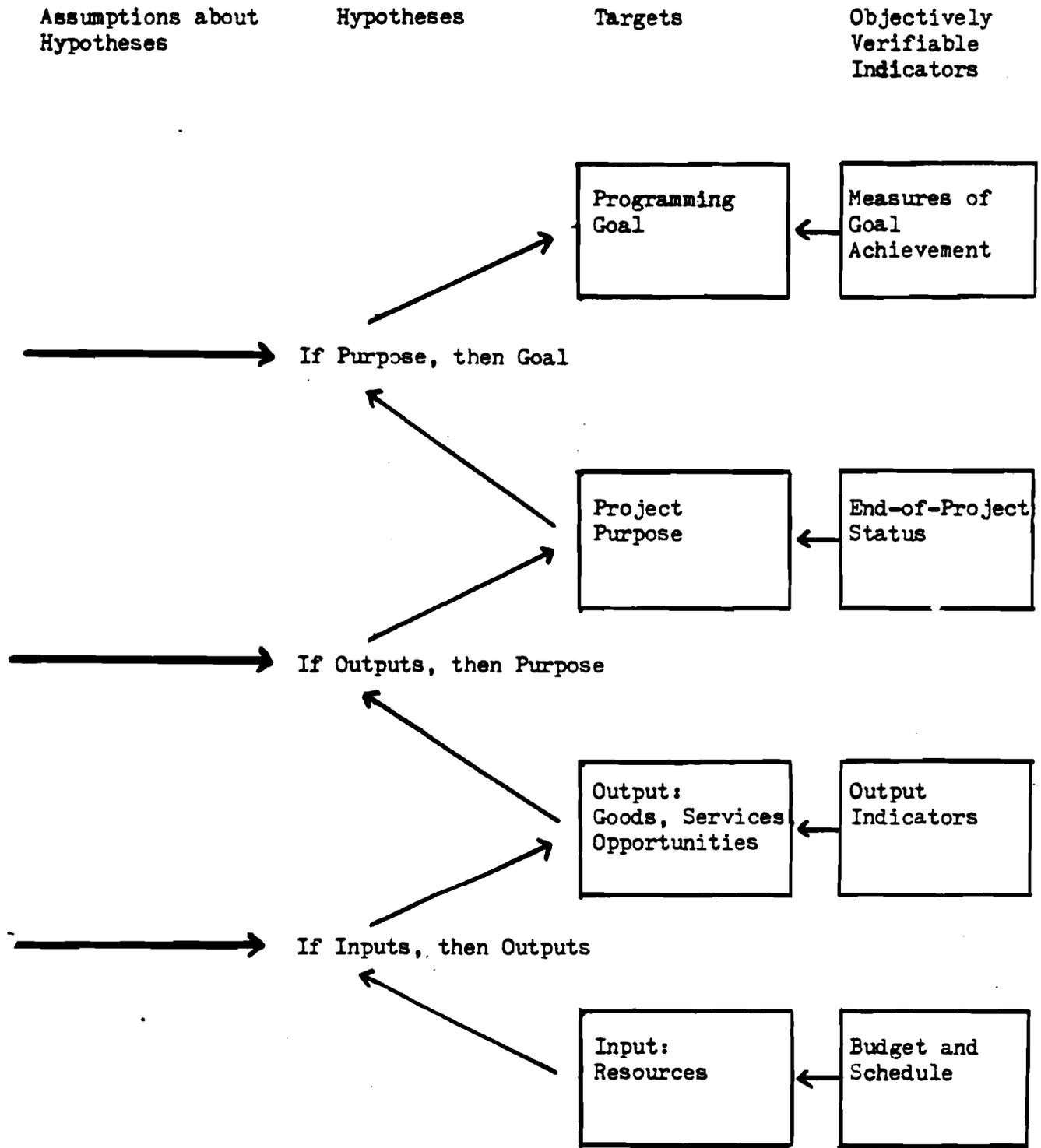
For project analysis this approach has the following advantages:

- It tries to make project analysis transparent by explicitly stating the assumptions underlying the analysis and by allowing a check on the proposed hypothesis and expected results in an ex-post analysis;
- It deals explicitly with a multitude of social goals and does not require the reduction of benefits to one numerical figure;
- It is understandable to non-specialists. It therefore can be used as a tool to clarify the trade-offs among objectives and thus to ameliorate the decision-making process;
- It is flexible with regard to information and skills requirements. It can incorporate cost-benefit analysis, use input-output tables and partial models. But it can also be used with rudimentary information and skills, albeit at the cost of more hypotheses and uncertainties.⁶³

Cooley states that projects are theories about the world. "If we do certain things, we expect certain results will occur. If these results do occur, we believe they will have certain impacts." The Logical Framework helps to make these theories and hypotheses explicit and testable through (1) an analysis of the assumptions and hypotheses and (2) estimates of their expected values.⁶⁴

In the Logical Framework (Figure 6) questions relating to project analysis exist wherever there are sources of uncertainty (i.e., wherever we are unsure of the "facts" or "effects"). In Logical Framework terminology, these facts are assumptions, and effects are hypotheses. The three sets of assumptions and three linked hypotheses thus suggest six possible sources of questions relating to project analysis.⁶⁵ These questions should produce relevant information on economic, financial, political, technical, cultural and social, geological/climatic and mana-

Figure 6



Source: USAID: Project Evaluation Guidelines, 3rd edition, Washington D.C., August, 1974, p.2.

gerial factors, which must then be ordered according to their relevance to the information needs of the project.

Once the "vertical logic" of the Logical Framework has been constructed, and the probable impact of all key assumptions has been determined, all necessary information is available to calculate the expected value of the project. This information can then be used as a basis for comparison of project alternatives. For this there is available an assortment of well established economic tools (cost-benefit analysis, net present worth, internal rate of return, cost effectiveness analysis, or opportunity cost analysis). This methodology also provides the kinds of information needed to consider a project's managerial and social feasibility.

Strand, also approaching project analysis from the perspective of the Logical Framework, provides a systematic methodology for including implementation alternatives in economic analysis.⁶⁶ Here also the Logical Framework provides the structure for considering all dimensions of the impact of a project and on ways of including (via probability analysis) this information to achieve a more optimistic and accurate description of a project's potential for success.

The description of project activity according to the four levels of the Logical Framework--input, output, purpose, and goal--is also amenable to economic analysis. Strand writes:

"Costs are prevelant at the input level and can be divided into factor categories as well as domestic and foreign exchange components. Primary and secondary benefits can be derived from output, purpose (behavioral change), and goal levels. If a project is successful, the resulting behavior will provide direct benefits to the participating agents, for example, by increasing peasant income. Other benefits may also be incurred through multiplier effects (as peasants spend more income) or externalities (as health or literacy

may be improved through the operation of the project). Discounting procedures can be used to obtain needed cost-benefit measures, allowing decision-makers to choose among alternative projects with the same or different goals. During project design, these cost-benefit estimates are often treated as the certain results of undertaking a particular project. Yet experience shows that events intervene between levels and introduce uncertainty during implementation. Also it can be argued that uncertainty increases especially in projects aimed at "the poor majority" because social-change determinants are more difficult to define."⁶⁷

Because of the uncertainty, and the impact it has on project end-results, it becomes unrealistic to think in terms of optimistic single figure economic return indicators that do not systematically take into consideration the influences of these uncertainties. By giving particular attention to project contingencies and implementation alternatives, prior to establishing economic return estimates, it is possible to indicate that "uncertainty, rather than certainty, should surround target estimates made during project designs."⁶⁸ That is, each of the targets set at the input, output, purpose, and goal levels has a conditional probability of success. For example, the probability of output attainment depends not only on contingencies at the output level but also on successful input-target implementation. Similar considerations would hold at other levels of the project. If these conditional probabilities are not emphasized, single cost-benefit estimates may represent only the optimistic hopes of the project designers and have little relevance to the social environment.

Strand suggests a methodology, using probabilistic values within the context of Bayesian probability theory, that develops an expected value, in a Logical Framework, for these elements of uncertainty. This process, as well as that suggested by Cooley, is not dissimilar from

that of Peterson and Reutlinger. However, it is more inclusive in that it integrates all factors relevant to a project's success in a systematic framework.

Project analysis within this implementation/management approach is enhanced considerably in its ability to integrate, within a framework, the various components of a project analysis. It provides a methodology to anticipate the impact, and the response to that impact, on a particular task environment. However it provides little information on the relevance of established goals or on the initial priorities of a task environment. Information of such a nature must precede the initiation of inputs.

E. Project Analysis From a Design/Management Approach

As development projects moved from being oriented primarily to infrastructural development and the construction of physical assets to efforts in rural development, the information demands on project analysis increased. In physical, infrastructural projects the organizational environment was frequently separated from the influences of routine administration. Project analysis could, therefore, assume a certain static quality, measuring with some confidence the anticipated cause and effect relationships. As development projects assumed greater social responsibility and increased integration with the fluid, changing nature of larger society, such static measurements were less helpful in providing the kind of information that could be of assistance to management decision makers.

Attention is growing, therefore, on how the project as an organization, or the project within an organization, relates to its environment, and subsequently, how project analysis can assist in informing this pro-

cess. We are calling this process the design/management approach.

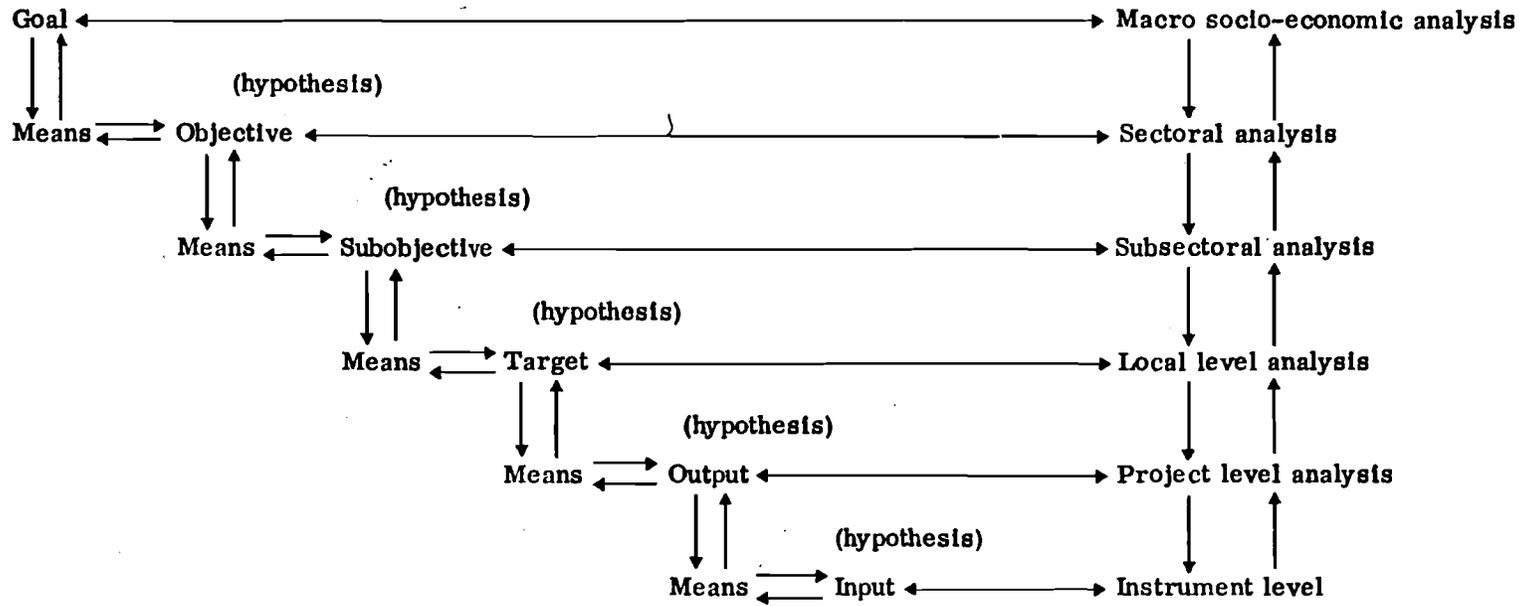
Imboden and a World Bank study by Smith, Lethem, and Thoden both argue that a project must be seen in the context of a larger changing environment. Though the approaches of these two studies are different, both emphasize a design/management approach as the most effective way for putting the project planning and implementation process back into the society that the project must ultimately exist in.

Imboden emphasizes that a management approach to project analysis requires information that goes beyond the project's sphere of direct influence. Project analysis cannot, therefore, be treated in isolation but has to be considered as one element of an integrated system including:

- analysis of the social development of the country;
- analysis of the needs of the country;
- determination of development goals;
- determination of alternative feasible means to achieve the stated goals;
- selection of an "optimal" means to achieve the stated goals;
- execution and evaluation of the policy intervention.⁶⁹

Each element of the information system has to be organically linked to other elements and the analyses have to be executed within the same framework. The macro analysis has to provide guidelines to the sectoral analysis, the sectoral analysis has not only to analyze the problems, but also to identify alternative solutions to the problems. Project analysis, therefore, becomes part of a total hierarchy of interacting analytical steps (Figure 7).

MEANS-GOAL SELECTION, INTERDEPENDENCE ANALYSIS - GOAL SPECIFICATION

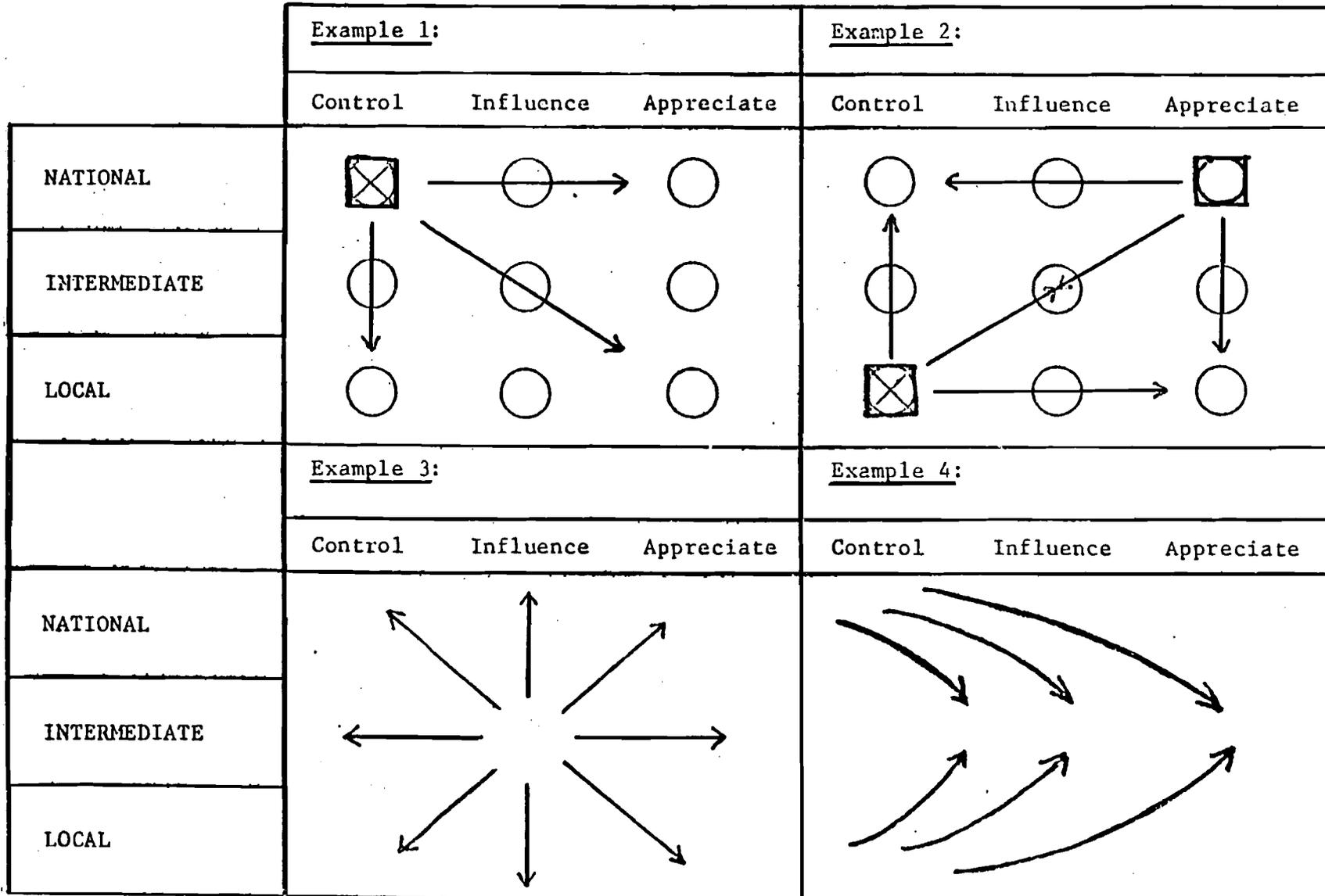


Source: Imboden, 1978.

Within a management system such as is briefly described above, project analysis supposedly becomes a more manageable and narrowly defined exercise. The assumption is that higher levels are operationally concerned with and informed about the needs of the activities that need to be carried out on lower levels. Exactly how this flow of information is facilitated, in a practical way, however, is not explained. One would expect that information would tend to flow easily in one direction or the other, probably most easily from top to bottom, but not in both directions, as this model suggests is needed.

The World Bank study on the design of organizations for rural development has a different focus. Rather than the assumption of a unitary system where information flows, ideally, up and down throughout the total organization, the ideas expressed here, based on a study of six major development projects, is that a system can consist of numerous power centers. Design of a project organization, therefore, should attempt to locate these power centers, whether at the local, intermediate, or national levels, and work out from them in order to achieve an effective management system. The key to success is not to decide on a single approach too soon. Figure 8 illustrates a number of design approaches. Adopting any one of these would be dependent on the nature of the task environment. Examples 1 and 2 represent strategies based on the assumption that it is best to begin with existing sources of power and build outward. Examples 3 and 4 are based on the assumption that there are strategic points of intervention in the rural development system, and, regardless of current distribution of power, the organization should be designed to move the pattern of control and coordination in a specified way.

ILLUSTRATION OF ALTERNATIVE STRATEGIES FOR DEVELOPMENT OF ORGANIZATIONAL AND MANAGEMENT STRUCTURES FOR RURAL DEVELOPMENT PROJECTS



One of the major findings of the study was that many of the problems surrounding development projects labeled "management" are really problems of design.⁷⁰ Many of the factors that influenced management were not in fact subject to management control. The broader environment in which management functions is increasingly being seen as the important factor. The socio-cultural environment of the project area determines, for example, how rapidly innovations will be accepted, how much cooperation is given to project personnel, how project objectives will be perceived by the intended beneficiaries. The design of the project (how it is set up to interact with its larger environment), therefore, can play a very influential role on how well management can be performed.

As project activities have changed from those of highly controlled and precisely defined infrastructural projects to the more open urban and rural development projects, the design procedures have also needed to adapt to reflect the different environments. The dilemma for designers is the problem of balancing the long-term needs, which tend to be heavily weighted toward social and organizational institution building, with the short-term needs of starting a productive activity.

Project identification and preparation missions tend to have a broad time frame, allowing them an historical perspective of past success and failures. However, the appraisal report, with its shorter time focus, tends to become more of a hard blueprint for implementation. The result tends to be an approach to organization and design that is too static, that tends to focus only on the immediately controlled internal aspects of a project, as with earlier, physical projects. The more dynamic demands of a project that is open to and influenced by its environment, however, requires designers to think in terms of a structure evolving out of the existing situation.⁷¹

It is specifically the changing and fluid nature of almost any society that makes many traditional project analysis procedures, within a traditional project management design so difficult to make effective use of, especially if the techniques are being administered by outside experts who are not directly in touch with the direction and pace of society change. Perhaps due to the particular style of the analytical process, which tends to focus on "certainty" and to downplay the less predictable features of a project, outside experts tend to resort to a critique of the internal arrangements of a project design and organization. They usually give little weight in their analysis to those external variables that can be influenced by project activities, though not directly under the control of project arrangements.⁷² The study emphasizes that by doing so they miss an opportunity to link the design of a project organization to the ongoing flow of external events. While continuity of policies and procedures may be desirable from a project point of view, it is not realistic to assume that the environment will remain constant.

Within this approach, the specific analytical tools that are developed, or adapted from other methodologies, is not the critical factor. Many established tools can be made use of. The new dimension is (1) the design of the project in its environment and (2) how that design is able to produce the kinds of information useful for project analysis to be an effective information tool, reflecting a fluid and changing situation.

IV. CONCLUSION: SUBSEQUENT RESEARCH STEPS

In this report we have attempted to draw attention to the dynamic context in which development projects exist. It is an environment that is continuously changing. The demands on a project analysis methodology are constantly working to push it more in the direction of reflecting this dynamic, fluid situation.

The shift in development project orientation during the past decade toward more involvement with rural and urban development projects has highlighted the need for new methodologies for planning and analyzing these projects. Many project analysis tools were developed in the era of the large physical, infrastructural projects. Significant weight was put on aggregate economic return, on segregating the project from routine administration during construction and development, and on the assumption that the benefits would self-distribute. As projects entered the era of "meeting basic human needs" and took on a "poverty-focus" mode, usually within the context of rural development, project analysis methodologies had to be changed. More attention has been focused on "targeting" project benefits, on the complex problems faced during implementation, and on the crucial need to integrate social environment factors with project planning and design activities.

The principal task of this report was to compile an initial classification of approaches to project analysis. Although we identified five categories, it is recognized that considerable overlap does exist. Groups 1 and 2, for example have many shared assumptions about the role and intent of a development project. Group 3, in some ways, can be seen

as a reaction to the mistakes and shortcomings of Groups 1 and 2. Groups 4 and 5 are frequently working on similar objectives although it was felt that there was enough conceptual difference between them that it was helpful to identify them separately.

This categorization is not complete. Considerable work remains to be done. We made no attempt here to rank these classifications. A more thorough listing should give attention to chronology, to applicability for different types of projects and to an understanding of each category's relative frequency of use. This more thorough conceptual undertaking should be completed before empirical research is attempted.

This report is but one step in the study to gain understanding of how project analysis relates to and contributes to development project success.

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APPENDIX: IMPLICATIONS OF INCLUDING NUTRITION COMPONENTS IN DEVELOPMENT
PROJECTS

If past events are an indication of the future, increasing food production by itself will not reduce the problem of malnutrition. Hunger and malnutrition are intricately bound up with the lack of social development as well as with inadequate economic development. As with many problems related to development, malnutrition is a complex issue and requires coordinated efforts of many groups.

Ten years ago the FAO estimated under-nourished people in developing countries to be at something over 400 million. By 1975 this number had increased to over 450 million. FAO predicts that it will continue to increase in excess of the rate of population for the near future.¹ Also, malnutrition continued to expand even though, for the most part, food production (even per capita food production) has been increasing in developing countries. Equally tragic is the fact that the increase in malnutrition among those groups of the population who have traditionally been most vulnerable* continues to increase at a higher incidence than is true for malnutrition generally.²

The nutritional problem, which is already formidable, will consequently become a challenge of growing magnitude in the next few decades for much of the developing world. While it is already at the center of the public health stage in many of these countries, all indications point to a further aggravation of the problem.³

-
- * ● Pre-school children
● Pregnant and lactating women
● The sick, convalescent, handicapped and elderly, most especially these groups among
● The rural poor.

In this Appendix we will look primarily at the process of planning nutrition components in agricultural and rural development projects. Although improved nutrition has long been assumed to be a major objective of agricultural projects, there is growing evidence that this linkage cannot be taken for granted. Nutrition, long an implicit component in agricultural development, needs to be handled in more explicit ways. Assuming that an increase in food from an agricultural project will somehow find its way to those whose food needs should be addressed fails to take into consideration the complex fabric of a society's social relationships, a situation that changes remarkably from one culture to another.

Rural and agricultural development, as was emphasized previously, must be based on an appropriate mode for the production and distribution of goods and services, appropriate to the social environment. Health and education measures will be most effective if they are linked to these productive and distributive activities,⁴ especially if they are linked during the design stage of a project in a way that realistically takes into consideration the context in which they will need to exist. Nutrition needs to be seen not only as a "health" problem, but a compound socioeconomic problem directly related to and a consequence of many competing variables in society.

1. Avoiding the Sector Approach

There have been two general tendencies in nutrition activities: (1) the tendency to split off nutritional concerns to the responsibility of the Health and Education sectors, and (2) when nutritional considerations are given a role to play in an agricultural project, the tendency

to assign it a supportive role in an already established project design structure.

The weaknesses in these approaches are specifically in the way that they have often structurally separated nutrition activities from the social context that is usually the cause of malnutrition. This close relationship to and dependence on socioeconomic forces calls for a more comprehensive and inclusive approach to a planned nutritional intervention activity. For example, a search for causal factors in malnutrition may expose useful points for intervention in the food/health complex that conventional nutrition planning would not be able to. What is referred to as a nutrition problem, may in fact be something else. One could quite likely find programs that attempt to increase food production as a way of indirectly improving the diets of childhood nutritional deficiencies when the problems lie either in disease of parasitic problems resulting in malabsorption of nutrients or in the lack of awareness on the mothers' part as to their children's nutritional needs.⁵ Likewise one could identify situations where the project's benefit distribution system, the pricing policy or even the control of household income were the bottlenecks that prevented the alleviation of malnutrition.

Part of the reason for the tendency to assign nutrition to a separate project entity is explained by the evolution of nutritional activities. Interest in operational nutrition programs emerged and was usually directed by medical personnel. For more than half a century, laboratory and clinical research in low-income countries has been directed to this problem; frequently special nutrition institutes or nutrition wings of other medical research facilities have been established.⁶ Consequently, a medically oriented response to malnutrition grew from this base. Al-

though this approach has had results and has certainly been able to identify crucial problems, it has tended to be piecemeal and curative rather than preventive.

Also, attempting the address of nutritional problems through education has been popular. There is no doubt that an important part of the nutrition gap is the information gap. Although lack of purchasing power, lack of food availability, and medical problems related to nutrition are major constraints, many nutritional deficiencies could be moderated if people knew better how to use the resources already at hand.⁷ Two major unknowns, however, have consistently called into question the role education has often played in alleviating nutrition.

(1) What is the nature of the information gap? If problems relating to nutrition are being addressed apart from the work of other efforts (e.g., projects to improve food supply) that are also working at food related problems in the same context, how should the problem be defined in order to take into consideration the specific demands of that task environment? (2) What kinds of food habit changes does the educational effort require? Eating habits change very slowly. Cultural identification is often closely aligned with eating habits, and traditions in this area retain a meaningfulness that lasts through many of the more obvious modernization changes (e.g., work habits, economic life style changes or changes in one's place of residence).

The attempt to educate people to alter their food consumption habits, in order to take into consideration nutritional needs, immediately confronts some very powerful constraints. The following are examples of especially problematic areas. If the educational message successfully influenced people to realize the benefits that could be

obtained by change, how powerful would that realization be as a behavioral determinant? Many factors--biological, geographical, **psychological**, sociological, religious, economic, technical--govern food practices.

(2) How long will it take to achieve the objective of behavioral change?

(3) What is the cost of nutrition education in comparison with alternative means of achieving the same nutritional objectives? (4) What aesthetic or psychic costs are being asked for and how will these affect the education effort? Particular food practices, for example, are among the few satisfactions available to poor people. The values other than nutrition that food expresses--refreshment, security, prestige--are not frivolous.⁸

A basic issue remains whether nutrition education, as a strategy for responding to nutrition related problems, has been able to respond to these questions. Many would say that it has not:⁹ at least not with the intensity that current and future malnutrition problems are demanding. Current thinking is moving much more in the direction of looking at how nutrition components can be more meaningfully included in agricultural development projects. The assumption is made that (1) the planning of food production projects has a direct implication on how increased population will effect the nutritional status of poor people, and (2) that nutritional components in agricultural projects must be included explicitly in the project design, i.e., a greater effort must be made to take into consideration the strengths and the weaknesses of the social context in which the project must function.

The next section looks at the specific demands that project analysis must respond to in order for a more task-environment-oriented project planning to take place.

2. Nutritional Components Impact on Project Analysis

Designing and executing interventions that will effectively address food consumption/nutrition needs is much more difficult than efforts to generally raise the income levels of the poorest of the poor partly because it requires more detailed data. It is difficult enough to identify programs that will raise the incomes of the poorer segments of societies, but to effectively deal with food consumption and nutrition problems one must, in addition, be able to identify the specific things that nutritional status is affected by. Four general, interacting but very different, influences could be identified:

- the amount and kinds of food available in the market or on the farm (quantity, food output);
- the ability of the household--of which the individual is a member--to obtain available food (price, income);
- the desire of the head of the household to obtain food to which he/she has access (motivation); and
- the utilization of the obtained food by the household and by the individual to meet nutritional needs (household distribution).¹⁰

Neither food balance sheets nor food consumption surveys--the mainstays of analysis in relatively developed countries--are adequate for this task in most developing countries as malnutrition may be a result of deficiencies in any one or more of these four factors. Thus efforts to alleviate existing malnutrition or avoid its future occurrence should include an analysis to determine which are the immediate reasons for malnutrition. Is it a general shortage of food? Is it lack of access to available food on the part of the malnourished? Is it a lack of desire to obtain food to which households with malnourished members have access? Or is it a problem of poor utilization of the food obtained by the household or

consumed by the malnourished. The four factors are interrelated. Changes in one may be ineffective unless others are changed simultaneously. Efforts to expand food availability will have no nutritional effect if malnourished people do not get access to the additional food. Similarly, efforts to improve the ability to obtain food may be of little use if food availability is strictly limited or if households with malnourished members do not desire to take advantage of such improved ability to obtain food but instead translate this ability into the purchase of non-food commodities.

For example, seldom has household distribution of food, or household control of income, been seriously considered in nutrition project design. Some projects have failed to meet their objectives because of this. In Jamaica, for example, men have customarily received the largest share of meat at the family meal. Increasing the household's ability to acquire meat may, in this case, fail to reach those whose needs are most pronounced.¹¹ Also in many societies male control of family income may be a hindrance to translating income increases into a reduction in nutrition related problems. The increased attention to women in agricultural development is, in some situations, a recognition of this reality.

There is a need for the project analyst to pay more attention to the nutritional impact of a project on a specific task environment. Some of the data needed by the project analyst will be project specific, others will not. Project specific data are needed on the effect of a particular project on the production, supply and home consumption of each of the foods affected, the effect on food prices, and the effect on incomes separately by malnourished and well-nourished households. Non-project

specific data and analysis are then needed to estimate what the effects are on households with malnourished members and how their calorie and protein consumption will be influenced. The data and analysis need to be disaggregated on households with malnourished members and households without. Additional disaggregation among the malnourished according to severity and other characteristics may at times be useful.¹²

There are two important things to note at this point. First of all is the importance of constructing a methodology that allows one to follow the crucial multiple impacts of a specific agricultural project activity. Overall averages are of little use in estimating the nutritional consequences of agricultural projects.¹³ Knowledge about who is malnourished, the character of the malnutrition and the principal causes is a precondition for the above analysis. Secondly, if improved nutrition is to receive the same recognition as other goals of agricultural and rural development projects, it must enter into the decision-making on project identification and design at an early stage.¹⁴ Project analysts should consider nutritional variables as part of the project's building blocks, as part of the socio-cultural assumptions upon which other project components will be built. Again, because nutrition cannot be measured in quantities of food produced, such that the more food, the less malnutrition, it makes sense to treat it first of all as a social problem and only later as a problem that can be operationally understood through technical or economic indicators.

In order to look more systematically at this process from the perspective of project analysis, the following three areas will be reviewed:

- Nutrition Project Planning/Analysis: The Need for New Guidance
- A Conceptual Framework
- Economic Analysis Consideration.

a. The Need for New Guidance

As was stated earlier, problems of malnutrition have traditionally been approached through direct nutrition intervention programs. However, limited success and high costs of these programs have prohibited their widespread use. During recent years, it has become increasingly clear that the worsening problem can only be diminished or solved in a sustained way through the explicit incorporation of nutritional goals into a larger economic and social development strategy.¹⁵ While direct nutrition intervention projects may be effective in solving selected nutritional problems, the overall problem can only be solved by including goals in projects, general strategies, development plans, and so on.

It seems clear that a reliance on the general economic development process is unlikely to effectively deal with existing and potential future nutrition problems. If nutritional goals are not explicitly stated, they will be met only by coincidence.¹⁶ But if improved nutrition is stated as one of a set of development goals, trade-offs between this and other goals must be explicitly considered and projects should be designed accordingly.

Many attempts to introduce nutrition considerations into the design of agriculture and rural development projects have been abandoned because of excessive data requirements. Usually no clear distinction was made between project specific and non-project specific information. In cases where non-project specific information is absent, total information requirements are visualized as project specific.¹⁷ The judgment is made--and probably rightly so--that the cost, time and resources required to obtain such information cannot be justified. Hence, nutritional considerations are dropped or merely given lip-service.

But non-project specific information may be useful for the design of a number of projects. It is basic information, without which project specific information on factors affecting nutrition is of little use. USAID, for example, is currently experimenting with an attempt to maintain Social/Institutional Profiles (SIPs), a categorization of a country or region's most significant social and institutional factors. This could provide a base of, among other things, nutritionally related non-project specific relationships and parameters.

Lynch provides a survey of past and ongoing efforts for the generation of similar information as it related to nutrition planning. He groups the methodologies into four types while emphasizing that the groups are meant to serve merely as "an ad hoc working categorization."¹⁸ These four types and some related characteristics are shown in Table 2. Lynch discusses and compares the various methodologies and presents a number of cases where they have been applied. Common for all the methodologies is their emphasis on the identification of (1) the nature of the nutritional problem and (2) the population groups affected. Such identification is essential for successful incorporation of nutritional considerations into agricultural and rural development projects. Unless we know what the nature of the nutrition problem is, we cannot assess how it will be affected. Furthermore, the earlier mentioned disaggregation of the analysis must be based on knowledge about which population groups are at risk.

These methodologies are all based on the premise that nutritional deficiencies are to be tackled as a development problem rather than a disease problem. While nutrition planning is not always focused on specific agricultural and rural development projects, it provides an

TABLE 2

Type of Methodology	Major Proponents	Main Features	Institutions using the Methodologies	Countries Employing Methodologies
"Systems analysis" approach	Berg, Muscat, Pines, Call, Levinson	<p>Systematic problem solving process.</p> <p>Analysis of nutrition problems and their causes using readily available data.</p> <p>Formulation of specific time-phased, costed-out objectives (quantitative, if possible)</p> <p>Selection of interventions using cost-benefit analysis.</p> <p>Evaluation and reprogramming.</p> <p>Pragmatic approaches.</p>	<p>The World Bank</p> <p>AID</p>	<p>Columbia, Brazil, Philippines, Indonesia.</p>
"Nutrition-based development planning" approach	Joy, Payne	<p>Emphasis on malnutrition as aspect of deprivation syndrome.</p> <p>Scientific diagnosis of nutrition problems</p> <p>Development of "functional classifications" and "typical profiles"</p> <p>Establishment of goals, objectives, and targets.</p> <p>Choosing of interventions.</p> <p>Area-level planning.</p> <p>Emphasis on elegance and completeness.</p>	FAO	<p>Philippines, Sri Lanka.</p>
Policy formulation approach	Toro	<p>Formulation of food and nutrition policies for inclusion in development plans.</p> <p>Stimulation of awareness of nutrition factor.</p> <p>Problem diagnosis, policy definition and program area determination.</p> <p>Incorporation of nutrition objectives, policies, and programmes in national and sectoral plans.</p>	PIA/PNAN	<p>Nine Caribbean and Latin American countries.</p>
Community nutrition approach	Wilson	<p>"Bottom-up" not "Top-down"</p> <p>Systematic approach/local level</p> <p>Community involvement/action</p> <p>Co-operatives formed</p> <p>Self-help approach</p> <p>Community members extension workers</p>	FAO	<p>Columbia, Philippines, Chili</p>

Source:
Lynch, 1979

essential framework within which the nutritional effects of such projects may be assessed. Of particular interest here is the identification of the nutrition problem, the groups affected and the principal causes.

b. A Conceptual Framework

Agricultural and rural development projects are frequently designed to achieve a number of simultaneous objectives. Expanded food and non-food production, better resource utilization, and higher incomes to participating farmers are likely to occupy a prominent position among such objectives.¹⁹ Other frequently found project objectives are increased employment and improved standards of living for small farmers. While improved nutrition may be an expected outcome, nutritional goals have usually not been introduced in such a way that they have influenced project design.

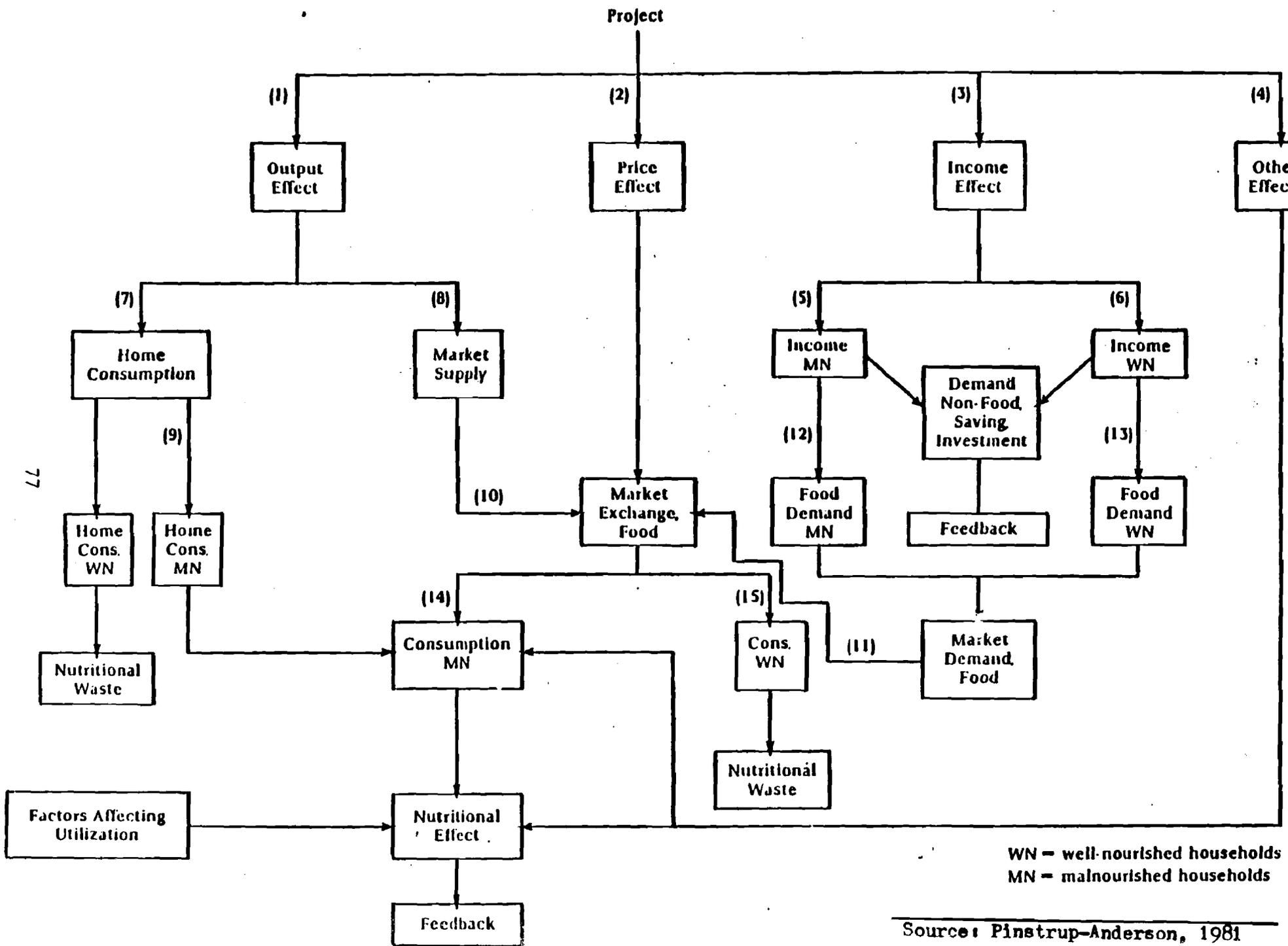
Whether nutritional considerations are best dealt with in project design or in complementary measures will depend on the particular set of circumstances that the project must relate to. In either case, it is important to pay explicit attention to the nutritional effects of projects if the achievement of nutritional goals is a high priority. Modifications in project design or introduction of complementary measures may have significant nutritional effects without causing unacceptable changes in the achievement of other project goals. Which trade-offs related to the achievement of conflicting goals are acceptable is, of course, a political question. But to deal effectively with this question, the trade-offs must be known and explicitly considered. Merely assuming that increasing food production will result in improved nutrition or that increasing population of non-food crops will have adverse nutritional effects is to avoid the issue.²⁰ Positive nutritional

effects may be greatly enhanced and negative effects avoided if nutritional issues are considered along with other issues in project analysis.

Pinstrup-Anderson presents a conceptual framework for tracing the nutritional effects of an agricultural or rural development project (Figure 9). Its purpose is to show the most important linkages between a project as well as the key parameters for which data should be sought and analysis performed.

An agricultural or rural development project may influence nutrition through changes in food output, food prices, and incomes. The output effect may be direct, e.g., expanded production or change in the nutritional composition of a commodity towards which the project is aimed, or it may be indirect, e.g., commodity substitution or output effects of input oriented projects. The output effect on nutrition may be positive, neutral, or negative. Changes in output are reflected in either home consumption, market supply, or both. Changes in home consumption may or may not affect households with malnourished members. Changes in market supply may, in turn, influence prices and consumption by malnourished and well nourished households.²¹ The key question from a nutritional point of view is not how aggregate output of nutrients is affected but the resulting change in the consumption by malnourished households.

The most significant nutritional effect of agricultural and rural development projects is probably brought about by changes in the incomes of malnourished groups. Low-income farmers and agricultural workers are some of the obvious potential beneficiaries. Changes in incomes by these groups affect their demand for food which, in turn, alters their competitive position in the market and, as a result, their food consumption.



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WN = well-nourished households
MN = malnourished households

Source: Pinstrup-Anderson, 1981

c. Economic Analysis Considerations

Unless there is an effective project analysis methodology that is built on a disaggregated analysis of direct effects, economic analysis will provide little reliable information for estimating nutritional consequences of projects. Statements on the aggregate input and output effects of a project will not help in making project decisions that attempt to respond to the needs of malnourished households. More often than not, the attempt to make such decisions without adequate disaggregation will produce misleading results. The suggestions in this paper for a project analysis methodology built on information that is task-environment-specific are consistent with the kind of process that needs to be followed in order to anticipate the nutritional implications of an agricultural development project.

APPENDIX FOOTNOTES:

1. FAO, The State of Food and Agriculture, 1978, FAO Agricultural Series No. 9 (Food and Agriculture Organization of the United Nations, 1979).
2. Laura Jane Harper, "Important Nutrition Concepts and Their Relevance to Agricultural Education," FAO/USAID Workshop, University of Philippines, Los Banos, January 12, 1981, p. 1.
3. C. Gapalan, "Nutritional Problems in Developing Countries," in H. M. Sinclair and G. R. Howat, ed., World Nutrition and Nutrition Education (Oxford University Press, UNESCO, Paris, 1980, p. 38.
4. Cochrane, op. cit., p. 67.
5. Marvin P. Miracle, "Evaluating Development Assistance Programs Sensitive to Food Consumption/Nutrition Needs, Special Considerations in Tropical African Countries," (Unpublished Paper, October, 1980), p. 6.
6. Alan Berg and Robert J. Muscat, The Nutrition Factor: Its Role in National Development (The Brookings Institution: Washington, D.C., 1973), p. 198.
7. Ibid., p. 74.
8. Ibid., pp. 76-77.
9. Ibid., p. 80, and Gopalan, op. cit., p. 38.
10. Per Pinstrup-Anderson, "Nutritional Consequences of Agriculture Projects," (World Bank Staff Working Paper No. 456: Washington, D.C., May, 1981), p. 5.
11. See Ann P. Hartog and Arnold Bornstein Johnson, "Social Science, Food and Nutrition," in David Pitt, ed., Development From Below (Mouton: The Hague, 1976).
12. Pinstrup-Anderson, op. cit., p. ii.
13. Cochrane, op. cit., pp. 81-82.
14. Pinstrup-Anderson, op. cit., p. iii.
15. Ibid., p. 1.
16. Ibid., p. 26.

17. Ibid., p. 30.
18. Lowell Lynch, "Nutrition-Planning Methodologies: A Comparative Review of Types and Applications," Food and Nutrition Bulletin, Vol. 1, No. 3 (1979), p. 2.
19. Pinstруп-Anderson, op. cit., p. 14.
20. Ibid., p. 15.
21. Ibid.

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