



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

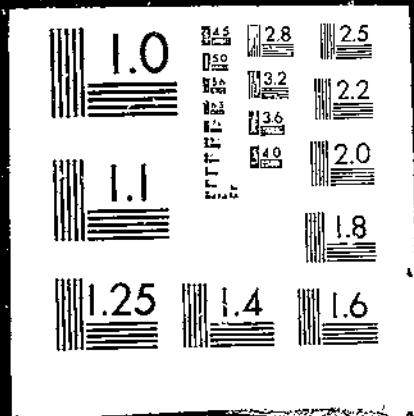
AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

USDA/FAER-93

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES: AN APPROACH TO IDENTIFYING PROBLEMS AND STRENGTHENING TECHNICAL ASSISTANCE. (Foreign Agricultural Economic Report). Washington, DC: Economic Research Service. Feb. 1972.
(NAL Call No. A281.97Ag8F)

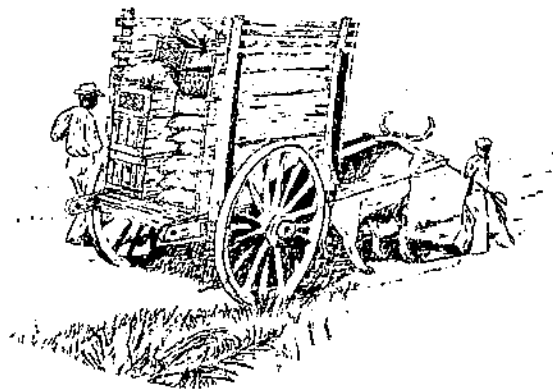
1 OF 1 USDA FAER-93



Foreign Agricultural Economic Report No. 93
(Formerly FEOS Staff Paper 7)

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES

An Approach to Identifying Problems and Strengthening Technical Assistance



Economic Research Service • U.S. Department of Agriculture
Cooperating with U.S. Agency for International Development

ABSTRACT

Improvement in food marketing in developing countries is seen as an important factor in the war on hunger and in sustaining the application of high-yield technology for increased crop production. This report provides a systematic approach to the analysis of marketing in developing countries and points out where research and technical assistance would be useful. It focuses particularly on means of measuring marketing efficiency and on identifying problems that need to be dealt with in improving efficiency. The report discusses the implications of alternative marketing policies, including socio-economic issues and the problems of organizing marketing reforms.

Key Words: Marketing; Technical Assistance; Research; Economic Development; Agriculture; Developing Countries.

FAER 93 is a reprint of Staff Paper 7 published by the former Foreign Economic Development Service in February 1972.

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES

An Approach to Identifying Problems and Strengthening Technical Assistance

Economic Research Service
U.S. Department of Agriculture

in cooperation with

U.S. Agency for International Development

February 1972

PREFACE

This report is part of the work undertaken by the U.S. Department of Agriculture under a special Participating Agency Service Agreement (PASA) with the U.S. Agency for International Development (AID) for activities concerned with the improvement of food marketing in developing countries. Under the PASA's plan of work, a major part of the first year's effort was directed toward developing a more systematic approach to the identification of marketing problems and to a consideration of technical assistance and research which would contribute to resolving impediments to marketing improvements. This report is in line with these objectives. While published at this time, pursuant to the PASA, we feel this to be an interim paper and welcome comments from all concerned with economic development in low income countries.

The PASA monitor is Dr. Lawrence Witt, AID/TA/AGF. This report owes much to his assistance at critical points of development. Others at AID, notably Drs. Douglas Caton and Milo Cox, were most helpful at different times. Dr. Dana Dalrymple, USDA/FEDS, and Dr. Charles Slater, University of Colorado, also made valuable contributions.

The authors are indebted to Mr. David Winkelmann for editorial suggestions, and to Mrs. Lois Bennou, Mrs. Florence Dudas, Mrs. Delores Miles, and Mrs. Judith Woodland for stenographic help.

Martin Kriesberg
Howard Steele

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES

An Approach to Identifying Problems and Strengthening Technical Assistance

<u>CONTENTS</u>	<u>Pages</u>
Abstract	i
Preface	ii
Summary	v
Introduction	1
I. <u>Toward a More Systematic Approach to Identifying Marketing Problems</u>	2
A. Factors Affecting the Evolution of Marketing Systems and the Nature of Food Marketing Problems	5
B. Marketing Problems in Three Types of Economies	12
1. Traditional subsistence economies	12
2. Transitional agricultural economies	13
3. Market-oriented agricultural economies	17
C. Delineating and Defining Marketing Problems	20
II. <u>Policy Considerations and Marketing System Objectives</u>	25
A. Role of Marketing in the Economy	25
B. Trade-Offs	29
1. Farmers versus consumer welfare	30
2. Economies of scale and of capital versus employment	31
3. Export earnings, domestic need, and import substitution	33
4. Government versus private enterprise	35
C. Socio-Economic Issues	37
1. Marketing changes and employment	37
2. Improving diets for the very poor and for vulnerable groups	39
3. Marketing efficiency and its effect upon income and levels of living	43
III. <u>Evaluating Performance in Marketing</u>	44
A. Alternative Measures	44
1. Micro versus macro measures of performance	44
2. Efficiency versus effectiveness of marketing systems	45

	<u>Pages</u>
B. Evidences of Market Performance	46
1. Prices and margins as reflections of costs	46
2. Input-output measures for specific marketing functions	48
3. Product loss and waste in marketing	49
C. Developing Criteria for Evaluating Performance	50
D. Calculating Economic Costs and Benefits	56
1. Quantifiable benefits and costs	56
2. Internal rate of return	58
3. Indirect benefits and costs	58
4. Employment effects	59
IV. <u>Organizing Marketing Reforms</u>	67
A. The Problem of Resistance to Change	67
1. Sources of resistance to reform	67
2. Strategies for overcoming resistance	69
B. The Problem of Capital for Marketing Improvements	71
1. Operating credit and equity capital	71
2. The magnitude and mix of capital requirements	72
C. Human and Institutional Capability	74
1. The private sector	75
2. The public sector	76
D. Resolving Conflicts and Establishing Priorities	78
V. <u>The Role of Research and Technical Assistance</u>	80
A. Technical Assistance	80
B. Research in Marketing	81
FOOTNOTE REFERENCES	83

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES

An Approach to Identifying Problems and Strengthening Technical Assistance

SUMMARY

The report is designed to accomplish three purposes: (1) To provide a systematic approach to the identification of marketing problems; (2) to provide a framework of considerations for evaluating alternative remedial actions and for setting priorities; and (3) to suggest the kinds of research and technical assistance needed to bring about the marketing improvements sought.

Marketing systems evolve through three inter-connected stages of development: Traditional agricultural economies, transitional agricultural economies, and market-oriented agricultural economies. At each stage there are forces exogenous to the system which influence its development. Among political and economic factors are public policies, the general stage of technology, and income levels and their distribution. Among social and cultural factors are urbanization, education, and population growth and its characteristics. Other factors working more directly on the marketing systems include the kinds and quantities of commodities available for market, and consumer demand and commodity preferences.

Each stage of development gives rise to characteristic marketing problems as the forces exert pressure on the marketing system and as it, in turn, influences them. While marketing functions such as buying and selling, transport and storage, and financing and risk bearing are involved at each stage of development, there are qualitative and quantitative changes in the marketing activities. For example, as marketing systems develop, more perishables may move to market as well as more grains, and more sales transactions take place through impersonal exchanges. Research and technical assistance under each stage of development may be needed in connection with new policies, facilities, and marketing services.

The identification of marketing problems needs to take into account (1) the stage of development of the economy and the obstacles which inhibit the orderly evolution of the marketing system, and (2) the necessary linkages between the particular marketing problem and other elements in the marketing system that affect it. The report includes a check list for evaluating marketing system linkages.

Marketing system objectives and policy considerations influence priorities among marketing problems to be tackled. Policy trade-offs that need to be taken into account include farmer incomes versus consumer welfare; economies of scale and of capital versus employment; export earnings, domestic needs, and import substitution; and government

versus private enterprise in marketing functions. Research and technical assistance are needed on the socio-economic issues of how marketing changes affect employment and whether the commercial marketing system meets the needs of the very poor and vulnerable groups in the low income countries.

Evidences of marketing performance include price and margins as measures of marketing costs, pricing or economic efficiency, and operating or technical efficiency. Product loss in the marketing channels is also a measure of performance, and research and technical assistance in this area would likely have visible near-term benefits in developing countries.

The problems of bringing about reforms in marketing systems so they might perform more effectively (in terms of objectives) and efficiently (in terms of input-output criteria) need further study. The report deals with the problem of resistance to change - sources of opposition and strategies for overcoming them, the implications of marketing reforms for employment, the problem of providing adequate operating credit and equity capital for marketing improvements, and the magnitude and mix of capital requirements. The problems of human and institutional capability affect marketing reform and hence deserve high priority in technical assistance efforts.

A final section of the report discusses the role of research and technical assistance in improving food marketing in developing countries. Technical assistance and research on marketing can provide new insights and impetus, not only for agricultural development but also for linking gains in agriculture to the other sectors of the economy. Marketing is not a passive adjunct to production, but a motive force in the development process. Among specific functions of technical assistance are identifying marketing problems and analyzing alternatives for dealing with them, upgrading individual and institutional capability for decision-making, and program management. As marketing becomes more complex and the need for coordination more compelling, research needs increase. Among areas of need are research on marketing systems and market structure, research on marketing mechanics and operating efficiency, and research on market development and market performance. Research and technical assistance are closely related; each contributes to the value of the other.

IMPROVING MARKETING SYSTEMS IN DEVELOPING COUNTRIES

An Approach to Identifying Problems and Strengthening Technical Assistance

INTRODUCTION

This paper examines how technical assistance may be used more effectively in helping improve food marketing in developing countries. Included in the term "food marketing" are the physical aspects of moving food from producer to consumer; the economic aspects of buying and selling; the institutions which perform marketing functions; and the institutional arrangements which link the parts together in a marketing system. Policies of government agencies and of private firms and the means for bringing about marketing reforms are also considered.

This report is based, in part, on an analysis of AID-funded marketing studies performed in the past decade. A review of these efforts (summarized in an annotated bibliography also prepared under the marketing PASA with USDA) indicates that a preponderance of them dealt with only one aspect of a country's marketing system - often a single commodity (usually rice or wheat), a single marketing facility (a central market or a slaughter house), or a single marketing policy (usually a price incentive to increase production of one commodity). Very few studies dealt with the linkages between the individual commodity or facility and other aspects of a country's marketing system. Virtually no study considered marketing systems as evolving with country economies as they progressed to new stages of development.

This report has three purposes: (1) To outline a systematic way of analyzing market processes in developing countries in order to better identify marketing problems; (2) to provide a framework for evaluating alternative remedial actions and establishing priorities; and (3) to suggest how research and technical assistance may help bring about marketing improvements.

To improve the use of technical assistance in overcoming marketing problems, it is necessary to identify clearly the nature of the problem and how it fits into the marketing system. The problems, in turn, need to be seen in relation to the country's goals. Will marketing improvements mean more income for farmers? Lower food prices for consumers? Greater encouragement for private enterprise? In relating marketing improvements to national objectives, it is useful to consider the trade-offs between different economic interests in the society and different views as to how the economy should be operated. For developing countries, socio-economic considerations also need to be taken into account; e.g., widespread underemployment, poor income distribution, and nutritional deficiencies. When the marketing problems are identified and alternative solutions examined in terms of costs and benefits and national objectives, it is necessary to examine how proposed changes or reforms in the marketing system may be brought about. Technical assistance and research may be helpful in implementing marketing improvements as well as in identifying problems and formulating solutions.

I. TOWARD A MORE SYSTEMATIC APPROACH TO IDENTIFYING MARKETING PROBLEMS

A systematic or orderly approach to identifying marketing problems requires: (1) A definition of what constitutes marketing; (2) a delineation of the objectives that might appropriately be set for it; (3) an analysis of the institutions and other elements of the marketing system, of the interrelationships between the parts; and (4) some evidence of how existent marketing activities are not meeting those objectives. [The steps taken in applying a systematic approach are given on the next page.]

A simple definition of marketing would include all the activities involved in moving commodities from the producer to the consumer. Included also are all the exchange activities of buying and selling; all the physical activities designed to give the commodity increased time, place, and form utility; and all the auxiliary activities such as financing, risk bearing, and disseminating information to participants in the marketing process. The objective(s) may be stated in different ways; e.g., improving income distribution between rural and urban or within the rural sector; accelerating or sustaining economic growth; or assuring better diets for more people. Within any of these objectives there might be a number of subgoals. Objectives and subgoals will vary between countries and within countries over time. If we set as an objective of the marketing system a reasonable balance between supply and demand for a major food crop such as rice or wheat, then evidence of malfunctioning might be gluts in some markets and shortages in other markets within the country.

In order to analyze marketing problems it is useful to conceptualize marketing activities as constituting a functioning system. A system implies that the activities are linked together in some meaningful way, that there are interactions among them, and that inputs into the system will be associated with some kinds of outputs. This conceptualization has the value of guiding an observer of marketing processes in a developing country into seeing how each activity is associated with others and how actions taken to affect one activity may affect some that have gone before or are likely to follow afterward within the system. The concept of a marketing system also suggests that functions take place internally and that there may be forces external to the system which influence its functioning. Hence, there are possibilities for identifying points of leverage which may be useful for moving or reforming the system.

The concept of a marketing system is applicable to a single commodity or to an array of foods that are consumed in the country, a single region or a city, or a country as a whole. A system for a single commodity may begin with the production process, commodity uses by the producer, its flow through different intermediaries, and processes until it reaches the final consumer. A system to describe the entire flow of foods from producers to consumers in an urban area would be much more complex. But movements of the major commodity groups may be

charted to indicate special facets of the marketing system such as places where loss and spoilage occur, or places where the commodities may be modified to make them more nutritious.

A systematic approach to marketing sub-sector analysis includes the following steps:

(1) Define the objectives; i.e., what should the marketing system seek to achieve and what groups in the population are to be served?

(2) Identify the system(s) relevant to achieving the objectives or overall goals; e.g., the entire agribusiness system or the marketing portion of it or the rice marketing sub-system.

(3) Determine the components of the system; e.g., a price stabilization agency within the rice commodity system or a market information network.

(4) Define the environment within which the systems to be studied must operate, including the factors which restrict and condition the functioning of the system. The environment includes political, economic, social, and cultural forces as well as the general levels of economic activity, managerial capability, and technology.

(5) Define the output of the system -- the measures of performance of the system, involving such elements as the amount of product moved through commercial channels, the number employed, and the marketing services provided. Performance, discussed on pages 25 to 29, includes the efficiency with which resources are used in providing marketing functions and the effectiveness with which the system meets the objectives set for it.

(6) Determine, conceptually, the types of interrelationships which seem likely to exist among the parts of the system; e.g., higher prices are likely to increase supplies of a commodity; lower prices are likely to increase demand for it.

(7) Delineate alternative courses of action; these should be feasible alternatives in terms of the operating environment, the resources available, and the time period in which target outputs are to be reached.

(8) Attempt to evaluate the possible consequences of alternative actions in terms of the output and performance of the system. It may not be possible to do this with only a conceptual idea of a system, but the effort will at least bring out what is known and not known. It will suggest something about needs for information and additional research.

In practice, there is usually too little time and too little information for rigorously following each of the above steps in making country sub-sector marketing analyses. Fortunately, in many countries analyses have already been made by mission people and their national counterparts, and the complete sub-sector analysis can begin somewhere within the eight steps outlined above. However, the steps provide a useful check list of considerations that should enter into the analyses.

For example, in South Vietnam, rice is a principal component of the country's economy and of the diets for a large proportion of the population. If analysis of the rice marketing system discloses that Saigon has ample supplies at moderate prices, but the cities to the north are chronically short, we may focus our analysis on the causes of the problem and possible means for moving more rice into those areas. This concern may be expressed in terms of an objective; namely, to have the marketing system provide a better balance of rice supplies as between Saigon and the northern cities. In giving our analysis this focus, we recognize two different sets of facts: (1) Looking into the problem of rice marketing for the urban areas in South Vietnam's northern provinces cannot be divorced from the overall production-distribution system for rice throughout the country (and from the linkages to U.S. supplies and local slippages); (2) focusing on rice and resolving problems of availability in the selected cities leaves many other marketing problems unmet; e.g., supplies to some rural communities, protein levels for the urban poor around Saigon, etc.

Marketing systems are not static. They evolve over time and are closely associated with overall conditions in a country and its stage of development. Marketing systems are an integral part of a country's demographic, geographic, and technological condition; the system reflects the political/economic and social/cultural forces within the country (and in turn influences them). Hence, a first step in analyzing marketing systems is to relate them to their environment.

The underlying premise of this approach is that there is a pattern to the development of marketing systems. These systems evolve as part of the overall socio-economic development of a country. The "growing pains" which accompany changes in marketing systems may be diagnosed by knowing what to look for. By treating these ailments as part of an evolutionary process with certain antecedents and likely aftermaths, one can help in the healthy development of marketing systems rather than impede the progress.

At each stage of development of a marketing system there are characteristic marketing activities, and certain kinds of problems are likely to emerge as the system seeks to respond to changing production or consumption factors or to different forces in the environment. This

suggests that one may make a first delineation of marketing problems by a close analysis of the marketing system's stage of development.

A. Factors Affecting the Evolution of Marketing Systems and the Nature of Food Marketing Problems

There are wide differences in marketing systems as they operate in different countries. This may be attributed to the fact that marketing is an integral part of the larger agricultural sector and the nation's overall economic system. A modern marketing system is neither feasible nor useful where agriculture is largely subsistence and where the overall economy is operating at a low-level of technology. Similarly, a modern farm production system cannot be sustained without a marketing system capable of adequately supplying needed inputs and taking increased output.

Among the countries referred to as "less developed countries" (LDCs), the differences that may affect food marketing systems include, at least, the following:

- . The stage of technology in its agricultural production system and in its overall economy; the rate of agricultural growth.
- . How nearly the country is able to meet its food needs from domestic production, the extent to which a very few crops make up the bulk of the people's food supply, and the extent to which the country is dependent on external food aid.
- . The extent of urbanization-- the proportion of the people who are dependent on a commercial marketing system.
- . The level of income and distribution of income enjoyed by the people, and the elasticities of demand for food as incomes rise.
- . The size of the country, the population distribution within it, and the rate of population growth.
- . The socio-economic structure of the country and its politico-economic ideology; the environment for private investment and the ease of entry into marketing enterprises.

If these are among the principal variables influencing marketing systems, and since several will be interrelated, we may group countries into a number of general categories for purposes of identifying likely needs for improving marketing systems. Three categories of developing countries might be identified for purposes of analysis, even though the categories might run together and any given country will differ with others in the same category. A thumbnail description of characteristics in agricultural development, in rural-urban population distribution, and in other key variables will help in this categorization:

1. Countries with traditional subsistence agriculture -- population largely rural: Often 65 percent or more of the people make their livelihood from farming activities. Productivity and incomes are low. A two-track system of agriculture exists -- the commercial export crops and the subsistence food crops. There is an absence of new technology and government policies supporting agricultural development in the food crops. Change is taking place slowly in agricultural production processes, little is marketed, and most of the food crops sold move short distances. A few basic grains, root crops, or pulses make up the bulk of the peoples' diets. Marketing systems and facilities expand more or less automatically to meet limited expansion of marketable food supplies. A single city within countries at this stage of development may have elements of a more advanced marketing system. [Country examples: Indonesia, Paraguay, Ethiopia.]

2. Countries with transitional, production-oriented agriculture: Often urban populations are as large as rural. Production of food crops is a priority sector in development plans. Commercial agriculture in food crops is growing; public and private capital is going into farming and agribusinesses to support it. Temporary surpluses may appear for some food crops; marketing and distribution constraints emerge. With advances of income and shifts in population, more food crops are moving greater distances to market, taxing facilities, and exchange arrangements. Underlying demographic differences and economic ideology will influence the way marketing systems develop. [Country examples: West Pakistan, Kenya, Guatemala.]

3. Countries with market-oriented agriculture -- urban population dominant: Urban populations may be 60 percent and more; commercial agriculture becomes the dominant form in food crops as well as in traditional export commodities. Problems of resource allocations to and within the agricultural sector emerge; producers and governments face new problems of balancing supply and demand. Problems of diversification and the development of new markets have high priority. Problems of food supply begin to shift from issues of production to distribution, from commodities to nutrition. Improvements in incomes and technology continue and become more general throughout the economy. More food is processed and packaged; a food industry emerges keyed to consumer preferences for new food products. A national marketing system may be possible. Underlying demographic differences and economic policies continue to influence the way marketing systems develop. [Country examples: Taiwan, Costa Rica, Southern Brazil, Venezuela.]

The following diagram is designed to portray the evolution of marketing systems in developing countries.

EVOLUTION OF MARKETING SYSTEMS

With Economic Growth of the Agricultural Sector

TRADITIONAL
Agricultural Economies

TRANSITIONAL
Agricultural Economies

MARKET-ORIENTED
Agricultural Economies

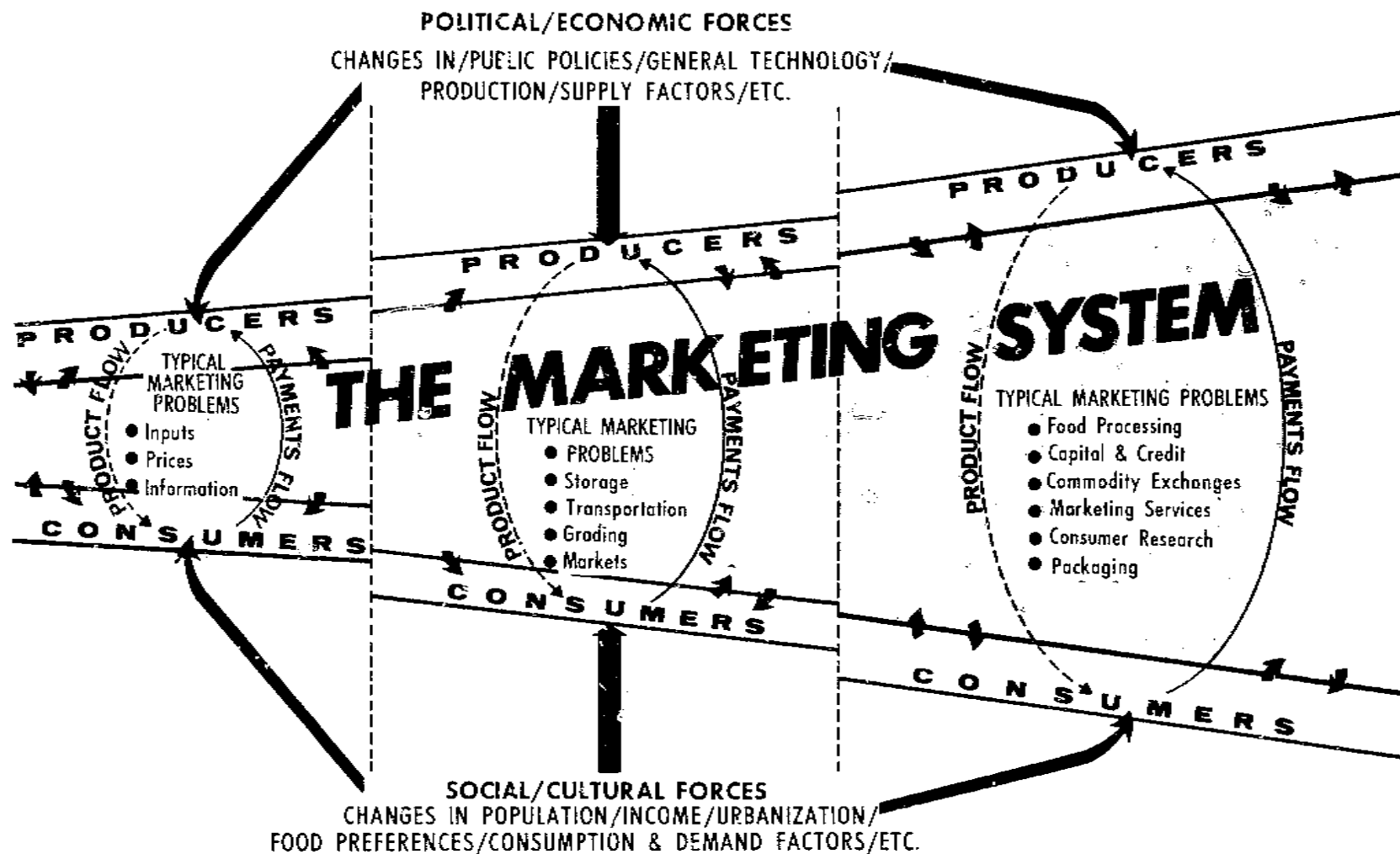


DIAGRAM ON STAGES OF DEVELOPMENT IN MARKETING SYSTEMS

A number of elements in the diagram require explanation in order to better understand the theory of market development and how this theory may serve to identify emerging marketing problems.

The diagram portrays three stages in a continuum. The three stages are identified as traditional agricultural economies, transitional agricultural economies, and market-oriented agricultural economies. These stages may represent countries, or regions within a country, or even individual commodities. In each case there is a development process -- beginning with traditional subsistence production activities through the transformation to more modern agricultural economies, culminating in the third stage of market orientation.

As the marketing system evolves, it includes a larger proportion of producers and consumers; more activities are involved and more commodities flow through it. The diagram is designed to suggest these changes and the growing importance of commercial marketing within the agricultural system. Greater size also implies growing complexity of marketing activities which make up the marketing systems. Greater specialization among marketing activities and the individuals and institutions that perform them is a factor making for complexity and the need for better coordination within the system.

A great many forces are at work in bringing about changes in marketing systems; at the same time, the marketing system exercises a reciprocal influence on these forces. Two sets of forces are shown, with market development evolving in line with these forces and, in turn, influencing them.

Political/economic forces: These forces include such factors as the political and economic ideology of the country with the implications for central planning of the economy versus encouragement of private enterprises within a relatively free market. Also included here would be the influence of a purposive political-administrative bureaucracy within the economy versus a passive government system concerned largely with continuing the status quo. These forces may act directly on the marketing system or on the other factors noted below.

Production factors: The state of production technology, the structure of the agricultural production system, and the amount of production made available for the market influences the development of the marketing system. The marketing system will also influence the production function.

Consumption factors: We include here not only market demand and the factors which affect it, such as population and income, but also non-market requirements for food and the physical and economic factors affecting non-commercial food distribution.

Social/cultural forces: These would include such factors as population growth/income distribution, the kinds of people who serve as middlemen and traders in the economy, and the patterns of consumption (which kinds of taboos, status, or myths surround the consumption of different kinds of food). These forces may affect the marketing system directly or through the other factors noted.

The diagram suggests a system of interacting elements. At each stage of development there are a number of characteristic aspects of the marketing process. The marketing functions -- buying and selling, transportation, storing, etc. -- remain substantially the same in each stage, but there are qualitative and quantitative changes in how these functions are carried on. At the same time, each stage of development faces a number of critical problems if the system is to satisfy the needs in the society at that stage of development and is to evolve into a higher level of marketing performance. The value of this conceptualization is that it helps those concerned to anticipate what will be happening in the marketing system and the problems likely to emerge. The insights provide lead-time for taking actions to overcome the problems.

Marketing problems arise in each stage of development. For each problem a number of hypotheses may be suggested as the reason for the problem occurring. An examination of the specific country situation is then called for to determine which of the likely hypotheses is most relevant for improvement in marketing processes.

For example, a major problem in the first stage of development is likely to be getting more products to the market. Among the hypotheses that would need to be investigated to determine how this problem might best be tackled are the following:

- . Lack of incentive for farmers: The price that the farmer receives for a product does not encourage increased production. He may lack information as to what price he can get for his product in markets available to him; the price set by a government agency may not be the price he gets from the person to whom he delivers his product; he might not have confidence in the market's ability to absorb the increased product, or in the government's purchasing program.
- . Inadequate physical facilities: Transportation may be lacking to move increased production from the farm to the purchaser. Mills may be inadequate to deal with increased production as rapidly as it is brought off the field, etc.

- . Legal/political constraints: There may be limits on the free movement of commodities from a production area to a potential marketing area. There may be costs or licenses connected with the move which inhibit products coming to market, etc.

* * * * *

On the following page, Figure 2 represents a "cross-section" of a marketing system as it might appear at a given stage of development. The core of marketing functions is shown, together with the flows of product and of payment. As indicated, the amount of product moving to market is affected by the amount retained by the producer for his own uses. Forces exogenous to the marketing system are shown to have an influence on it and on specific marketing functions. The marketing system itself is shown as having a reciprocal influence on political and economic developments in the country and on social/cultural changes.

AGRICULTURAL SECTOR AND MARKETING SYSTEM CROSS SECTION

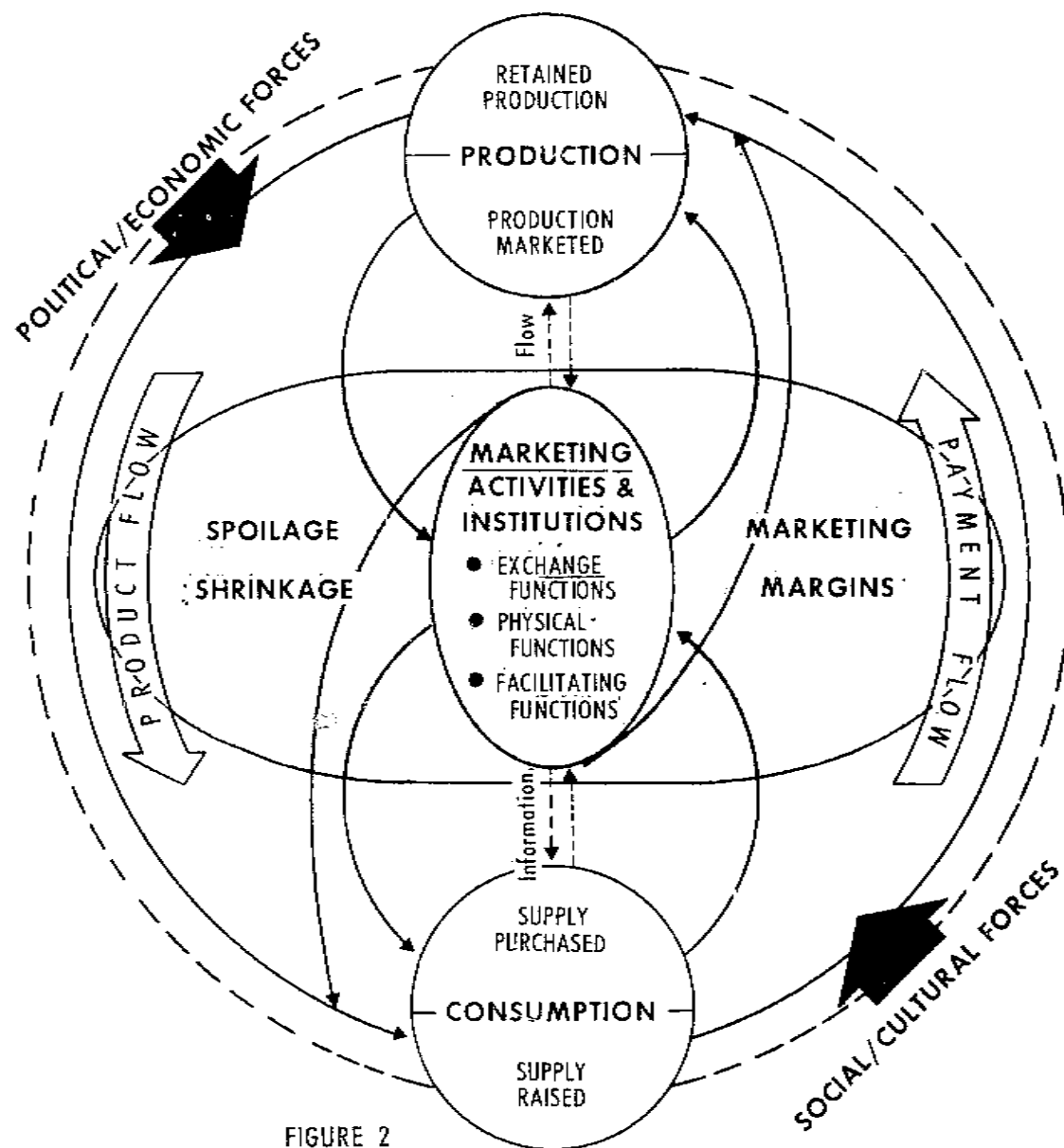


FIGURE 2

The "core" of marketing functions identified in the cross-section diagram includes the following:

1. Exchange Functions

- . Buying
- . Selling
- . Pricing

2. Physical Functions

- . Transportation and handling
- . Storage
- . Processing and packaging
- . Grading and standardizing

3. Facilitating Functions

- . Financing and risk bearing
- . Marketing information and news
- . Demand creation
- . Research

While most of the functions take place at any stage of development, they are performed differently as the system evolves. The differences are both quantitative and qualitative; i.e., more product moves through the system in more advanced systems and, at the same time, the kinds of commodities marketed will also differ and more varieties will be offered in the market.

B. Marketing Problems in Three Types of Economies

1. Traditional subsistence economies

In these economies, most of the people earn their livelihood from the land; they eat what they produce and have little left over to market. Changes in the production system are taking place slowly and marketing services, practices, and facilities are likely to accommodate themselves to needs as they emerge. 1/

In many countries or regions thus characterized, the distance between producer and consumer is small, physically and culturally. Because little is transported to market, the means of conveyance and the condition of the roads are not overly important. Time may not be highly valued, particularly when not committed to the demands of a commodity's production cycle.

Transactions in the market are often made directly, as between the farmer's wife sitting in the market-place and another farmer's wife or a village housekeeper. While differences over price and quality of product will be discussed by both parties to the transaction for some time, this is more in the nature of a game played out by each than of basic differences, lack of confidence, or outright hostility. The product can be seen, smelled, weighed, and tasted, so that the chances of error, misunderstanding, or malfeasance are minimized.

Moreover, there is a limited variety of commodities brought to market and an equally limited variety making up the bulk of the consumers' diets. Hence, there is a familiarity with the products and variations of size, appearance, and taste may be recognized as being within an acceptable range. The range of acceptance is likely to be broad because expectations are not high. For these reasons, regulations on the quality of commodities entering into commerce are not a critical factor in product movement or consumption. For similar reasons, the demand for other marketing services is not strong. The producer may, at time of harvest, wish there were more ample storage facilities on his land or in the village so that more of his production might be held off the market and preserved for a longer period of time. And, as production increases, this may be one of the first needs the individual farmer or a group of them will seek to satisfy.

2. Transitional agricultural economies

Developing countries are becoming increasingly urbanized and hence more market-oriented. Estimates are that shanty suburban populations are growing at the rate of 15 percent annually in many African and South American countries and most analysts do not see signs of slowing down. ^{2/} Indeed, if increased production of basic food crops on larger commercial farms makes more small farms marginal, one can anticipate a continued swelling of urban populations. In short, increasing urbanization will continue to force more marketings over greater distances for many LDCs.

With a larger proportion of a country's food crops needing to go to urban markets and more production available for the commercial market, certain kinds of problems, characteristic to the stage of development, become evident. A general expansion of the marketing system is needed, requiring new policies and more facilities and services.

. Policy considerations

Government policies establish a framework within which marketing systems work and influence how the product of the society is distributed. Public policies may provide positive direction and government agencies may take on many of the marketing functions. Or, the

government may leave much of the direction and operation in private hands, although allowing the marketing activities to be performed with little intervention on the part of government is itself a decision with wide ranging influence on the structure and development of marketing systems. At each stage of development in the country's agriculture and its associated marketing system, the government may be concerned with important decisions or trade-offs between alternative courses of action; e.g., should price policies provide an incentive for farmers to produce more or a means for consumers to buy more? Should priorities on crops encourage those for export and foreign exchange earnings or those that may satisfy domestic food needs? Should credit policies further the production of crops or encourage the development of a food processing industry? There are also policy considerations concerned with broad socio-economic issues affecting marketing. Should the government have a food and nutrition program specifically concerned with improving the diets of the very poor and the most vulnerable groups? Should policies deliberately favor labor intensive rather than capital and scale efficiencies in the development of marketing enterprise? Some of these questions are discussed in Chapter II.

Policies of LDC governments contribute to changes in marketing and are also a reaction to changes that take place in the marketing system. In either event, public policies need to be closely associated with the modifications in marketing systems as they evolve. For example, price policies at an early stage of development may be largely concerned with providing production incentives to obtain increased output to meet domestic demand. At the transitional stage, price policies need to be flexibly geared to maintaining a reasonable balance between the amount that may be produced and effective demand. The policy purpose is not then to increase production per se but to balance it against demand. Again, government policies on agricultural credit may, at one stage, give first priority to facilitating the purchase of farm production inputs; at a transitional stage, priority may go to commodity stabilization programs or financing marketing cooperatives or other private marketing enterprises.

. Facilities

Inadequate facilities are among the principal problems in the transitional period. Transportation is often a critical bottleneck. The magnitude of the task of transporting agricultural commodities grows more rapidly than production itself. When a significant portion of food needs among food deficit countries is met by imports from food surplus countries, commodities are unloaded from ships and moved directly to the large coastal cities where need is usually greatest. Little internal transport is required to accomplish this. When a larger portion of the food crops needed in these countries is

being met by their own production, a more extensive transportation system needs to be built to bring commodities from the principal producing areas to the cities which are the principal consumption areas. [A similar (but reverse) system is needed to move manufactured inputs for farms from the cities where they are produced to the farms where needed as part of the high-yield technology.]

Animal transport no longer suffices when commercial farmers have greater quantities to sell and need to seek larger markets at greater distances. Hence, the need is for roads and transportation systems that can move more products, more rapidly, and at low cost. Greater speed and lower per-ton-mile costs are vital since more commodities move greater distances. Transportation is a significant factor in the spread between prices the producer gets and the consumer pays for farm products. If the transport system is inadequate and contributes to increased spoilage, consumer and producer prices are likely to reflect the losses incurred.

Among the issues raised by requirements for better transportation is which commodities or growing areas or consumer centers should get highest priority in a planned network of roads. How can policies on imports of vehicles and parts contribute to the maintenance of an efficient transport system? How are policies and priorities for the transportation of agricultural commodities related to those of other sectors in the economy? And, since transportation networks require considerable capital investment, how might such requirements, connected with domestic food movements, be weighed against capital requirements for such related facilities as ports, central markets, etc.?

Storage is almost as pervasive an issue as transportation when commercial production of crops increases and significant amounts of grains and/or perishables are produced above immediate market requirements. There are several critical issues in attempting to meet storage requirements. First, which commodities should have priority access to storage? In many countries one or two food grains are involved and the storage for one commodity precludes the building of storage for another. A second issue is that of locating facilities. In countries where imported food grains were an important part of their supply and demand situation, modern storage facilities were often built at port cities, thereby facilitating off loading and feeding of needy populations. As countries produce more of their own crops, it may be more desirable to have storage facilities close to the production areas. This is particularly important where the storage is associated with cleaning, grading, and milling operations. But the location of storage facilities may also determine which producing or consuming regions of a country are likely to be favored with more stable supplies and prices. And, at times, location may favor large producers over small producers (or vice versa). A third issue pertains to ownership of the storage facilities: government agency, private trader, or farmer organization. Ownership of storage facilities provides

a measure of control over the price the farmer receives and the price the consumer pays. Private traders may influence actual price by their interpretation of a commodity's quality (against government standards) so that, even where there are minimum prices, the farmer may get something less. Traders may also influence prices paid by limiting how much of a commodity they will accept for storage or the terms under which acceptance is made. Ownership by farmer groups often means control by larger producers and may aggravate differences between them and the small farmer. Capital and credit requirements for building and operation need also to be taken into account in policies to give producers or others more control.

. Services

The demand for more services in connection with commodity marketing arises not only from increased volume but also from the altered relationships among producers, distributors, and consumers. In many instances the buying and selling will be done by intermediaries, and the personal knowledge, understanding, and trust that could be anticipated in face-to-face transactions will be absent.

The need for better market news and information about prices and commodity flows increases as crops move greater distances and may be shipped to alternative urban markets. Informal information systems no longer suffice. At the same time, market news, to be meaningful, requires widely known and accepted standards of quality and containers for commodities being marketed. Such standards need not only be promulgated but also policies made to assure conformance and continuing confidence by all parties to the transactions. At issue then is not only the rules and regulations laid down but how widely they are known and adhered to.

The amount and kind of marketing services demanded as agriculture becomes more commercial and populations more urban will vary with the variety of commodities coming to market, the income levels of the population, and the extent to which the population is concentrated in one or more cities. Each commodity requires its own complex of services to facilitate transactions and movements. With higher incomes, people are likely to spend more on marketing services to increase the convenience or quality of the commodity. More wheat will be wanted as bread, more milk will be bought in pasteurized form, and more fruits and vegetables will be eaten in lieu of food grains; these changes involve more handling in the marketing process.

A full array of marketing services and an abundance of marketing facilities are not likely to be needed in the initial stages when countries move from a largely subsistence to a more commercial agriculture. What is needed are incremental additions to existing services and facilities. These additions should be designed to avoid bottlenecks in the changeover and to facilitate the growth of a commercial, consumer-oriented agriculture. Hence, the question needs to be asked as to what kinds and forms of services add to the efficiency of the marketing system in the period of transition from traditional to commercial agriculture.

3. Market-oriented agricultural economies

At some point in the development of a country, there is a shift associated with changes in the distribution of population from rural to urban areas that carries with it many related alterations in marketing institutions, the kinds and scales of marketing enterprises, and the role of government as facilitator and regulator of marketing processes. Marketing analysts should note such signs and thereafter devote more attention to marketing from a consumer point-of-view.^{3/} Analysts need not pinpoint the time of such a shift; it is not susceptible to close identification nor will it be the same for all countries. But the importance is one of concept and condition rather than of timing.

One of the important differences that occurs is that the interdependence between rural and urban economic activities becomes more evident and the interconnection may be visualized more clearly as a system of transfers^{4/} or movements of goods, services, and capital resources. Transfers become more evident because of the greater specialization of families in urban and rural areas as both production and consumption units. The interdependence of these varied units and the need for coordinating mechanisms bring about profound changes in marketing systems.

As incomes rise and technology advances, the change in marketing that takes place is both a qualitative and a quantitative difference in per capita consumption of food. A much larger proportion of the food that will be eaten goes through one or more stages of processing. A large proportion is handled (in economic as well as physical terms) by more people representing a wider array of institutions (some only tangentially associated with the product being marketed). Of the foodstuffs consumed, a larger portion is likely to be of animal derivation: meat and dairy products, poultry, and eggs. And the handling of these kinds of foods involves more marketing services and costs than grains.

The part played by the traditional middlemen also changes: more of the transportation function will be performed by truckers associated with one or another integrated operation, less by individual entrepreneurs; a larger portion of the purchases from farmers will be done by wholesalers or processors who reach back as well as forward in the marketing system. Issues arise concerning the kinds of marketing system wanted and what rules or regulations are needed to bring it about. Other issues occur in terms of the impact on individual farmers and consumers of the larger, more integrated intermediary enterprises.

The organizational changes, in turn, influence farming practices as well as consumer shopping and consumption patterns. On the supply side, production needs to be geared to processing schedules and processing equipment, as well as to commercial tolerances of grades and standards. The security of a market contract has an opposite side in the obligation to deliver quantities and qualities called for. Issues involved include those concerned with size of the farming operation and the ability of small farmers to meet commercial requirements and to compete on a cost basis. On the consumer side, there is the likelihood of better quality and greater variety in the foods available. On the other hand, there is a dependence on the integrity of the processor and merchant and the regulatory power of government because the consumer has lost personal touch with much of the foodstuffs that are purchased.

The growth of marketing firms themselves are an important force for reciprocal change affecting relations with producers and consumers. The backward vertical integration, or market coordination activities of discount supermarkets or other large consumer-oriented marketing firms or cooperatives, creates improvements in dependability of markets. The reduction of risks associated with market participation by producers dealing with these larger institutions can be a critically important force in the development of modern marketing institutions.

It is not clear whether the changes in farming methods are the lead factors, or changes in the technology surrounding the agricultural system, or changes in the marketing institutions brought on by the

imperatives of urbanization and related factors. Students of marketing processes feel that the distribution channels do not readily respond to changes in quantity that may be available for the channels.^{2/} Traditional methods and vested interests inhibit a rapid accommodation. It is usually the specialized producer or distributor (or groups of them) who sees the need and reaches through the system to simplify the channels and reduce market risks for all involved. This thesis borrows from the concept of the "change agent," the individual or institution that can bring together the elements into a new combination with properties more conducive to efficient marketing.

The changes suggested will have an impact on the kinds of government policies, and services, and the kind and scale of facilities that will be required. On the policy side, for example, consumer orientation of the marketing system will give rise to additional regulations governing standards, not only to facilitate trade, but also to protect the consumer from misrepresentation and malpractices. Producer organizations are likely to become more involved in and sophisticated about consumer and retailer preferences and will aid their members to adjust production accordingly.

Consumers are an important element in the changing demand for marketing services. Although the proportion of income spent on food declines as incomes rise, there is still increased demand for marketing services of all kinds. An increasing portion of the food bill is taken up by the cost of providing these services. A critical issue in developing countries, where the cost of food is the principal part of the cost-of-living, is what marketing services may be added without increasing the price for food. And a distinction needs to be made between services which are added to meet basic consumer needs of place and form utility and those which are designed largely to differentiate one producer's product from another. There is need to approximate costs of specific marketing services and to measure their likely impact on commodity prices for consumers as well as producers.

In some developing countries a principal city or two may dominate the market flows of commodities and processed foods. In these circumstances, as in earlier stages of development, two marketing systems may go on side by side; one for the large metropolitan areas and another for the villages and small towns. The communications systems are then likely to be particularly important to producer, consumer, and distributor to assure close balance in food needs for the different markets. If there are four, five, or more large cities, the marketing system becomes even more complex and coordinating mechanisms need to be well tuned. A national market may be organized for a few basic food grains such as rice or wheat, while for other commodities the market may remain regional or local.

One of the activities that needs to be undertaken as marketing systems undergo substantial change is research on the marketing process and specific marketing functions. Research is necessary for policy makers in government agencies and private enterprises, and it is necessary to improve the utility of new marketing facilities and enhance the value of marketing services.

Little of this kind of research has been done in developing countries, and the work that has been carried on has been largely for traditional export crops like coffee and bananas. As food crops acquire commercial importance and marketing emerges as a limiting factor for sustained growth, the need for research to meet marketing problems becomes more evident. The paucity of people trained to do research on marketing problems suggests that technical assistance in this area should have high priority.

C. Delineating and Defining Marketing Problems

Each stage of development is characterized by certain kinds of rural-urban transfers and the emergence of certain kinds of marketing problems. There are often 'tell-tale' evidences when a particular function is not being performed well. For example, storage: experiences in many regions indicate the amount of spoilage likely to occur at various points in the marketing channels and with different kinds of facilities. Excessive price fluctuations for food grains during the period between harvests and from one region to another may be traced to inadequate storage capacity, improper storage location, or related factors. Some of these relate to operational or technical efficiency, while others relate to pricing or economic efficiency. Hence, there are criteria by which the storage function may be appraised.

Likely marketing problems at different stages of development in marketing systems are suggested in Table 1 on page 21. Areas of research and technical assistance that may be necessary for public policies, services, and facilities in connection with the marketing problems are also shown in Table 1.

After a preliminary identification of marketing problems and probable technical assistance and research needs, a further delineation is called for. The process of further defining marketing problems and setting assistance priorities requires an exploration along two lines: (1) The linkages of the particular problem with other activities in the marketing system; and (2) the extent of "readiness" among the individuals and institutions principally involved in the marketing changes or reforms required. The setting of priorities also requires a consideration of possible trade-offs and of the social issues involved in bringing about significant changes in marketing systems. [See the discussion on pages 29 - 43.]

IDENTIFYING FOOD MARKETING PROBLEMS IN DEVELOPING COUNTRIES

DEGRABLE TECHNICAL ASSISTANCE AND RESEARCH NEEDS IN MARKETING

<u>NATURE OF AGRICULTURAL PRODUCTION AND MARKETING SYSTEMS</u>	<u>NATURE OF URBAN-RURAL TRANSFERS</u>	<u>SOME LIKELY MARKETING PROBLEMS</u>	<u>TYPES OF POLICIES</u>	<u>TYPES OF FACILITIES</u>	<u>TYPES OF SERVICES</u>
I. <u>Traditional agricultural sector - population largely rural</u> Slow change in agricultural production process	Few interactions, little interdependence. Transfers take place largely in connection with export crops.	Providing incentives to increase amount of crops for marketing. . assured distribution of inputs . assured prices on products . assured markets	Price support policies, geared to price of inputs Assured purchases of outputs	Storage facilities Roads and Transportation Rural assembly sites	Grades and standards for farm inputs and products Low cost credit more widely available for inputs
II. <u>Transitional agricultural economies - production orientation</u> a. Village - Atomistic b. Urban-rural population - dual marketing systems Food crops get higher priority. Agr. development steady and variable	Commercial inputs: seeds/fertilizers/pesticides/machinery go for food crops mostly to larger farmers.	Product losses in marketing Quality standards for agricultural inputs and outputs Storage to meet expanded production Transport, fair-to-market roads and conveniences Market information	Price stabilization policies geared to balancing supply/demand Policies to facilitate imports of marketing "hardware" Policies to facilitate entrance of entrepreneurs in the marketing system	Storage network Transportation network Urban central markets	Grades and standards - market news/information Research on marketing processes and product protection Legal/administrative arrangements e.g. warehouse bonding, firm licensing, etc. Low cost credit and other aids for marketing cooperatives, etc.
III. <u>Developed-market oriented agricultural systems - urban populations dominant</u> a. A principal city - dual marketing systems b. Many cities - national marketing system More general and more rapid change in economic development.	Commercial inputs - wider variety of types and services for more diverse crops Marketing of food crops, greater varieties quantities/distances More transfer of capital into agriculture and labor out of agriculture	Capital and credit availability for marketing improvements Developing markets for diverse agriculture Developing labor-intensive, economic marketing services Providing more and better food for those on edge of market economy Food technology	Import/export policies to facilitate market modernization Fiscal policies to increase capital flow to marketing enterprises Food distribution policies programs for urban poor	Laboratories for food technology research Controlled temperature warehouse facilities Wholesale, retail facilities including super-market operations	Consumer information Market development research Nutrition research & regulations Research on marketing structure, resource flows, employment in marketing, etc.

For example, if a preliminary analysis indicates that storage of perishables is a high priority problem, the kinds of linkages that are to be explored in reviewing a request for assistance may follow the lines suggested in Figure 3, page 23. Specific marketing activities are indicated in boxes, and linkages to public policies, institutional changes, personnel capability, and research are noted.

A check list may be prepared in which each of these factors is evaluated as supportive of the proposed improvements in the storage of perishables or are likely to obstruct the changes. There may be situations in which action on a problem of somewhat lesser priority may be undertaken because the other needed elements are in place for it. On the other hand, action on a high priority problem may need to be postponed until the state of "readiness" is better.

The outline shown in Table 2 is a type of check list useful in evaluating marketing system linkages and priorities described above. Note that on the left side of the table an evaluation has been made of the priority marketing functions shown in Figure 3, and those linkages deemed to be adequate for the current stage of development have been identified. On the right side are listed the inadequate linkages requiring action. Where linkages are inadequate, the question needs to be raised as to whether the individuals and institutions involved are ready to take necessary remedial actions.

* * * * *

Thus far we have been concerned with the identification of marketing problems within the framework of a country's marketing system. We have suggested that problem identification be made in two steps, a first approximation based on the stage of development of the economy in which the marketing system operates, and a further delineation based on the linkages between the problems identified and other elements within the system. This is in line with the systematic approach suggested early in this section of the paper.

Having identified a critical marketing problem, it is necessary to take a wider look before going ahead with marketing reforms that may be indicated. This wider perspective is concerned with what the marketing reform may mean for the larger national development objectives. What are the trade-offs that may be involved in seeking a more positive role for marketing and what socio-economic considerations need to be taken into account? These matters are discussed in the following section of this paper.

MARKETING SYSTEM IMPROVEMENTS

Problem Linkage Example

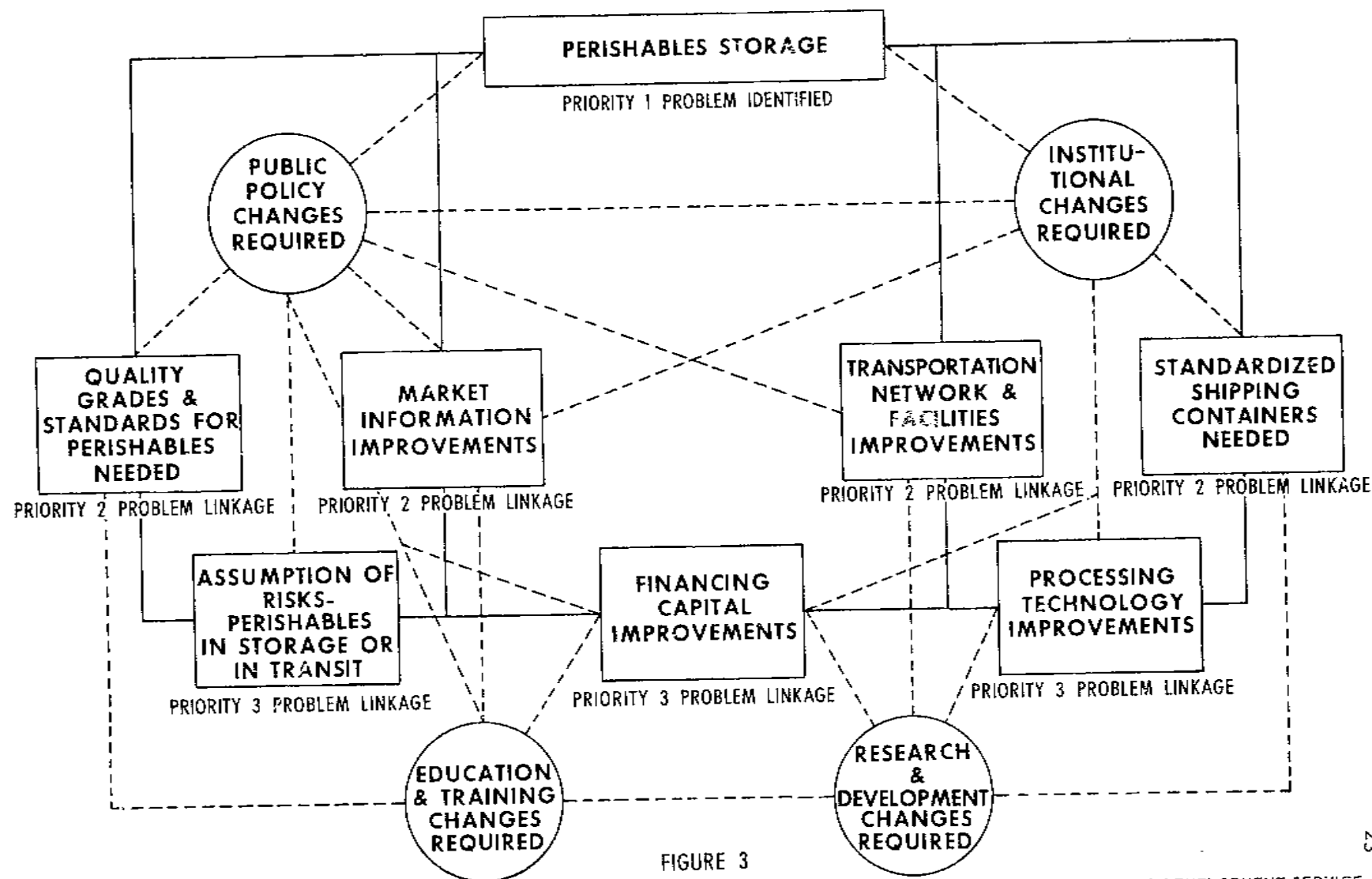


FIGURE 3

TABLE II
MARKETING SYSTEM IMPROVEMENTS
PROBLEM LINKAGE EXAMPLE - EVALUATION

STORAGE OF PERISHABLES

ADEQUATE LINKAGES

PERISHABLES STORAGE:

1. Terminal Markets, until 1975.
2. Secondary Markets, until 1974.

TRANSPORTATION NETWORK:

1. Farm-to-Market Roads, Interior Markets 1, 2, & 4.
2. Interior Markets 1, 2, 4, & 5 Linked by Hard Surface Roads; R.R. Links 4 and 5.

GRADES AND STANDARDS:

(Informal System Adopted in Terminal & Secondary Markets by Traders Adequate for their Purposes).

MARKET INFORMATION:

(By word-of-mouth between traders in terminal and secondary markets in interior markets and with farmers; only adequate for some purposes).

STANDARDIZED SHIPPING CONTAINERS:

1. Used in Interior Market 4 only.

ASSUMPTIONS OF RISK WHILE

PERISHABLES IN STORAGE OR TRANSIT:

1. Adequate in Terminal and Secondary Markets (assumed by large traders having adequate capital).
2. Insurance carried on perishables by truckers and railroad.

1. PUBLIC POLICY CHANGES REQUIRED:
 - a. Public interior markets enabling legislation.
 - b. Warehouse facility construction bond legislation.
 - c. Farm to market road construction appropriations.
 - d. Grades and standards enabling legislation and inspection service.
 - e. Market information service and facilities legislation.
2. EDUCATION AND TRAINING CHANGES REQUIRED
 - a. More academic marketing training in colleges.
 - b. Technical marketing short courses at the ministry.
3. INSTITUTIONAL CHANGES REQUIRED:
 - a. Division of Markets in the Ministry.
 - b. Tax incentives to encourage marketing firms to locate in new interior markets.
4. RESEARCH NEEDS:
 - a. Quality controls in handling perishable foods.
 - b. Cost and return analyses for perishable marketing efficiency changes.

INADEQUATE LINKAGES

PERISHABLES STORAGE:

1. On Farms, 5 Regions.
2. At 5 Regional Assembly Markets.

TRANSPORTATION NETWORK:

1. Inadequate Farm to Market Roads, Interior Markets 3 & 5
2. Inter - Market 3 Isolated from other 4.
3. Lack of Truckers, Interior Market 3.

GRADES AND STANDARDS:

1. Formal System Needed at all Markets and on Farms; Immediately Needed at Interior Markets.

2. No Legal Basis for Formal System.

3. No Trained Inspectors.

MARKET INFORMATION

1. Rapid system of gathering and disseminating price and quantity data needed at all market levels.
2. Micro-wave, telex and radio network needed to link interior, terminal and secondary markets.
3. Trained market news gatherers, analysts and reporters needed.

STANDARDIZED SHIPPING CONTAINERS:

1. Adequacy of types used in interior market 4 need to be evaluated.
2. Needs in all terminal and secondary markets should be evaluated; adoption for use in harvesting on farms evaluated; program implemented.

FINANCING CAPITAL IMPROVEMENTS:

1. Credit to build storage on farms; by whom; terms of repayment;
2. Financing of Interior Market Facility Constructing by whom, cost and return analyses.

ASSUMPTION OF RISKS WHILE

PERISHABLES IN STORAGE:

1. No warehouse receipts system.
2. No warehouse receipt discounting system.
3. No low cost storage insurance.

PROCESSING TECHNOLOGY IMPROVEMENTS

1. Raw Products Standards for moisture content, sugar content & acidity have not been established.
2. Temperature control humidity control and light exposure standards for raw products in storage not developed.

II. POLICY CONSIDERATIONS AND MARKETING SYSTEM OBJECTIVES

A. Role of Marketing in the Economy

What is the role of marketing in national economic development? Marketing is viewed by many planners and most farmers as an adjunct to production. The marketing process is assumed to adapt itself to the kinds and quantities of commodities produced. The supplying of farm inputs and the pricing and stabilizing programs for farm outputs are seen as providing the means and the motivation for increasing production. Hence, in development planning for the agricultural sectors, investments have been primarily concerned with the production process: irrigation systems, fertilizer plants, pesticides, farm machinery, and credit for the purchase of these things. Most aspects of marketing have been given relatively little attention.

The writers of this report question the assumption that marketing services will automatically expand to meet the needs generated by increased production. Recent experiences in India and in Kenya suggest otherwise. 6/ There appears to be a need for positive actions by public agencies to provide some of the basic services and to create an environment conducive to private marketing firm expansion. There is also a question whether spontaneous development of marketing firms, in the absence of facilitating policies and programs, will provide efficient and equitable linkages between producers and consumers.

A few, concerned with economic development, have been arguing that marketing has a positive rather than an adaptive role in agricultural systems and the overall economic growth of a country. Rostow, in a widely cited paper 7/, notes that a national market is essential for economic growth in both agricultural and industrial goods, and that rural people must be brought into the money economy to make for national markets. His concern is with a market broad enough to purchase increased industrial as well as agricultural products. Some, like Drucker 8/, assert that marketing is a motivating force in economic development, that marketing provides innovative and entrepreneurial elements in the economy.

Collins and Holton contend that distribution can play an active role in economic development by holding down costs of food and increasing demand, thereby encouraging expansion in farming and related economic services. 9/ If there is an ample and low-cost supply of food, wages in manufacturing and other industries may be held down, thereby contributing to lower production costs in other parts of the economy. The additional services involved in an expanded and modernized marketing system offer possibilities for new jobs (and better earnings than that of subsistence street vendors). A paper by Moyer draws upon conclusions of other studies and lists a number of ways in which marketing can contribute to development. 10/

The view of this paper is that an efficiently functioning marketing system is a necessary factor for sustaining economic growth in countries where agriculture is becoming commercialized and the population urbanized. This proposition appears to fit the conditions such as those found in parts of Africa and much of Latin America, where there is rapid growth of urban areas due to migration from the rural countryside and larger-scale market-oriented farming of domestic food commodities. The thesis may not be as applicable in densely populated areas such as south and southeast Asia where labor intensive agriculture may continue to be critical to supporting a large and immobile rural population. While the market may not function as a mainspring in primitive communities where tribal traditions may dictate distribution of agricultural surpluses, improvements in marketing functions are likely to speed the process of agricultural commercialization in many of these regions also.

Marketing, as associated with food crops, is made up of several different areas of activities. There are the tasks of providing production inputs for farming, such as fertilizers, pesticides, and farm equipment. These activities are usually referred to as "factor marketing." Agricultural producers have a very real interest in the efficiency with which the "back flow" of industrial and semi-manufactured goods and supplies to be used as production inputs is accomplished. The efficiency with which these things are marketed to farmers will influence the prices they pay, the timeliness of their availability, and ultimately, the extent to which new technology will be used in the production process.

The activities and functions most people visualize as "agricultural marketing" are those related to the movement of food and fiber commodities from primary producers through to ultimate consumers. Some farm commodities move directly to ultimate consumers, but most require some additional grading, storing, and processing before they are ready for consumption. Transportation and handling takes place as commodities move from one stage to another in the marketing system. Storing and processing may take place at several different stages. Many people in developing countries see these activities as being performed by middlemen who add nothing of value. Hence, many feel that by eliminating "middlemen" the activities might also be eliminated. Close students of food marketing in these countries have sometimes reported excessive "hands" in the marketing process, but most recognize that the marketing functions of transporting, storing, and processing, and the provision of place, time, and form utility, are essential -- whoever performs them.

Another area of importance in agricultural marketing is concerned with exports of commodities in their natural or processed state. For most developing countries, exports of one or a few agricultural commodities with little processing have been, and remain, a principal source of all export earnings. While this study is not primarily concerned with commodity exports, it recognizes two important interrelations with domestic marketing: (1) Most commodities need to move through a domestic marketing system before being ready for export;

(2) countries have trade-off options in which they may use more of a crop to meet domestic demand or save more for export, thereby influencing the quantities (and often qualities) moving in the domestic market. This, in turn, will influence the internal marketing of imported commodities also.

Public policies and programs, the services and regulations of government agencies that encourage or inhibit marketing activities, are also part of marketing systems. An efficient, viable marketing system cannot be realized without institutions which provide financing, assume risk, aid exchange by impartially mediating contract disputes, set weights and measures, grades and standards, and help to disseminate market facts. While not directly a part of marketing systems, efficient functioning requires supporting infra-structure activities like building and maintaining highways, seaports, and educational facilities; maintaining a sound money and banking system; stimulating orderly expansion of communications facilities; inspection services to protect the public's health; and others.

Looked at another way, the marketing system performs a number of functions within the overall economy of a country.

First, the marketing system performs the reciprocal function of providing an outlet for producers and commodities for consumers (households and processing firms). The system operates to move a variety of farm and food products to consumers in the desired forms and conditions and to deliver them at prices people are willing and able to pay. In all societies, local tastes and preferences for food need to be accommodated. But, at the same time, food is expected to be nutritious and free from disease-carrying impurities, and a marketing system needs to be concerned with these ends. Moreover, in much of the world, food is such a large share of the people's expenditures that the prices they pay for food affect their overall living standards directly and decisively. In La Paz, Bolivia, the average family spends half its income on food; in New Delhi, India, the proportion is higher. Hence, marketing functions need to be performed efficiently in the interest of keeping food prices as low as possible.

Secondly, marketing systems provide a livelihood for people who perform the various marketing activities, and should yield reasonable returns to the capital and management skills devoted to them. Often, marketers or middlemen are looked upon as parasites in the economy. They do, however, perform essential functions and the system should permit equitable earnings for those performing needed services. Transportation and storage provide place and time utility -- bringing food to the people where and when they want it. Processing increases form utility -- preserving the life of commodities as food and making them available in more convenient ways. It matters little who performs these kinds of functions -- the farmer himself or his wife who sells their commodities in the market place, his cooperative association or a

marketing board, the trucker or miller or baker. All have a right to expect payment for their services and some return on their investment in facilities needed to perform the services. As marketing organizations grow in size, requiring more capital and specialized management, returns on investment and payment for management skills become increasingly important in the interest of efficient market performance.

Third, the marketing system is a process for signaling those engaged in the production, distribution, and consumption of agricultural commodities of actions they should take in their own interest. Marketing as a communications system may be seen by several examples. Whenever producer, middlemen, and consumer come together to change ownership of the commodity, signals are given off in the form of prices.^{11/} The prices suggest whether they should buy or sell the commodity at that time and place or to consider alternatives.

The "market" is at the heart of a marketing system; it is a sphere of influence where exchanges are made between parties to a commercial transaction. The market is a conceptual rather than a physical thing, and is one of several processes by which ownership of goods are transferred. Students of marketing point out that other arrangements include a status exchange system which operates within a pattern of custom, roles, and social position; an administrative exchange system which is based on regulations and actions of political authorities; and a bargained exchange system which operates within a set of ad hoc rules in which the parties to the transaction are presumed to be equal. In most countries of the world, food marketing includes some of each of these systems, the exact form or proportion varying among different cultures and politico-economic systems. ^{12/}

The market has an allocative function that goes beyond the simple types of transactions indicated and the microeconomic decisions described. The market has an influence on the allocation of resources: on capital and labor and on many macroeconomic decisions within the economy. National decisions affected by the market include the amount and types of credit made available to the agricultural sector and different commodities within it; the research policies that should be pursued and for which crops; the facilities that should be constructed and where located to meet commodity production plans; etc. Of course, the market does not function freely along the lines suggested by classical economists; i.e., with free and perfect competition and prices acting as arbitrators.^{13/} There are informational and institutional impediments, and economic power, however derived, is a pervasive force in most market situations. Politico-economic ideologies as well as socio-economic values will influence both public and private market operations. Hence, decisions at both the farm and firm level and at the national level will be guided by the set of circumstances and conditions which prevail in the country and which modify the workings of the market.

The manner in which the marketing system for food is organized and operated in a country is influenced by its socio-economic objectives. These objectives or goals are, in turn, shaped by traditions and the diverse interests and aspirations of a society. National objectives reflect compromises within the society and some balance between internal (and external) forces at a given time. The priorities accorded to national objectives and the manner in which a nation organizes its resources to achieve them is a function of many political, economic, and cultural factors, as well as the stage of the nation's technology.

Objectives change as economies evolve; a concern with providing food for urban populations is less important in a subsistence economy than in transitional or market-oriented economies. In practice, goals or objectives are part of the "givens" in a country situation. The objectives are part of the political-economic and social-cultural environment in which marketing problems are encountered and reforms or remedial actions are undertaken.

The proportion of the populace that participates in setting goals or priorities may be small or large. But, however arrived at, the goals are expressed in the government's policies (or absence of them) regarding marketing operations. Policies which increase prices for farmers or hold down prices for consumers are widely evidenced examples of government intervention in marketing systems to achieve particular ends. The operation of the marketing system may itself influence policies and the extent of government involvement; e.g., malpractices in storage operations may lead to warehousing regulations or government operation of storage facilities.

But policies influencing the marketing system may, or may not, be conducive to achieving the objectives sought. For example, the objective of holding down food prices for urban workers may be sought by holding down farmer prices which, in turn, may inhibit increased production and bring about higher scarcity prices for consumers. Also, marketing system improvements may be unable to accomplish national objectives without changes in other socio-economic conditions. A national objective of improving the diets of the citizenry may founder because of underlying problems of income and education as well as shortcomings in marketing systems.

B. Trade-Offs

Given limited resources and conflicting interests, low income countries cannot do everything to attain all national objectives. It may be possible to make progress toward only a few of the objectives for which food marketing is an important factor. Priorities must be established and trade-offs made between major objectives and various alternatives for achieving them. Four of the major trade-offs which affect marketing development are discussed below. While the factors tend to be placed in polar opposition, actually a continuum is usually involved with one alternative fading into or overlapping another. The trade-offs are more a matter of relative emphasis than mutually exclusive choices, but one needs to reckon with who gets what and how much out of alternative policies.

1. Farmers versus consumer welfare

In developing countries, marketing policies have traditionally taken the form of price controls on food to hold down costs for urban workers or price supports on commodities for farmers to encourage their use of high-yield technology. It is not often that policies are designed to achieve both objectives at the same time. The idea that marketing functions might be performed more efficiently with savings being passed back to farmers and on to consumers is also infrequently expressed in public policies. The decisions as to how much weight is to be given to each side may often be based on political as well as economic considerations. Here, the focus is on economic aspects of the issues and some approaches for their resolution.

Because commodity prices are a principal factor affecting the level of living of both producers and consumers in developing countries, it is often desirable to increase the returns to farmers and also lower costs to consumers in order to help both raise their standard of living.

Increased returns in the countryside will encourage investments in productive factors which will increase production and lead to shifts from subsistence to commercial agriculture. Expanded output is of vital long-run importance in making supplies available at moderate prices. On the other hand, lower food prices for consumers are of particular importance for the large number of poor people in low income countries. The number who suffer from severe nutritional deficiencies is so large in developing nations that it is a matter of immense social and political as well as economic concern. Moreover, the price of food to urban workers is a factor in the cost of production for many goods and also in the amount of income that workers will have to buy the goods produced.

For these reasons, the decision of which way to lean in setting prices as between producer and consumer is not an easy one. Key elements to be considered include national economic goals, relative emphasis given to the short and long-run gains, characteristics of the crops involved (elasticity of supply and demand, and extent to which they can be stored), degree of government control over the market, export alternatives, etc.

Most LDC governments have some sort of price support or purchase program for major food crops. Lowering of support or purchase prices to farmers runs the risk of lowering their incentive to produce and inhibiting the employment of high-yield technology. A lower price may also reduce the proportion of the crop marketed or lead to a reverse shift from commercial to subsistence agriculture. Or a change in price may lead to shifts in production and marketing patterns, not all of which are desirable.

Still, there are exceptions. Support prices for certain grain crops set at high incentive levels may be reduced where production has expanded without sharply cutting back output. An example is the support price for wheat in India and Pakistan. The problem is that returns for poor farmers as well as the more affluent would be reduced. An answer might be differentiated support prices: in Mexico the support price for wheat and corn is less in irrigated than in non-irrigated areas.

Commodity prices are only one factor affecting income of farmers. Cost of production is the other side of the coin. Many nations have programs to reduce farmers' input costs by subsidizing the cost of fertilizer or other farm chemicals or reducing import duties on capital goods for farmers. Whether this is the best way of reaching the low income farmer as well as achieving higher production, however, is open to question.

The matter is similarly complicated at the retail level. A reduction in price may not necessarily be the most efficient way of improving the nutritional levels of the most needy groups in the population - pregnant and lactating mothers, preschool children, etc. Nor is it certain that controls at retail can be effectively administered. Balancing the trade-offs between farmer and consumer through the price system in a less-developed nation is a difficult task requiring sophisticated economic analyses. There are no easy answers. Income transfer through means other than the pricing system should also be investigated.

2. Economies of scale and of capital versus employment

As more commodities move through marketing channels and the system expands to accommodate the increased volume, there are opportunities to improve marketing efficiency by expanding the scale of marketing enterprises and/or introducing labor-saving machinery. But if economies resulting from increased scale or capital are obtained by reducing employment, there may not be a net gain in the developing countries. In most less-developed countries there is chronic unemployment; labor is normally in surplus (except possibly during peak harvest periods in the countryside) and low in cost. Many marketing operations which might be performed by machines are done by hand in the LDCs. And, labor may well be the lower cost alternative. It may be less expensive to mechanize, in terms of private cost, but the possible social cost needs to be considered: those who are replaced by the machines may add to an already large body of unemployed and hence be a drag on the society.

What operations are involved? If we accept the commonly used definition of marketing as that body of processes extending from harvest to consumption, and think in terms of off-farm movement, we have the following steps for grain: threshing (or combining), sieving, sorting, bagging, storage, milling, wholesaling, and retailing. Transportation and handling is involved at every point. Mechanical devices and/or improved techniques can reduce the labor component at every step, thus moving more product with little or no additional manpower.

Improved techniques of operation can bring about other benefits. The increased use of mechanical power such as trucks can reduce the amount of animal power needed for transporting commodities and thus release former forage land for food production. Quality of the product can be better maintained through speedier harvesting and handling of the product. In turn, land may be more quickly freed to grow other crops (multiple cropping). Quality of the milled or processed product may be improved. Services may be improved and bottlenecks in the marketing system alleviated.

New technology, if it requires more machinery and capital, often calls for larger scale operations in marketing. At the same time, as the amount of commodities moving through marketing channels increases, larger, more centralized markets come into being and the opportunities for scale economies improve. Marketing in the smaller towns tends to be on a smaller scale. Small lots are transported by burro or bicycle. Wholesalers and retailers may sell just one item, such as potatoes. Consumers go to many shops to assemble their food supply. And since they usually have no refrigeration at home and do not have the purchasing power to buy canned goods, they have to shop frequently. But how inefficient are these marketing practices given prevailing wage rates and environmental conditions? Would there be significant economies from larger scale enterprises?

Over the longer run, new technology and larger scale enterprises may indirectly contribute to increased employment. If, by its adoption, economic growth is stimulated, new jobs may be created elsewhere in society. And with improved incomes, resulting from greater labor productivity, the demand for marketing services - some of which necessarily involve a human component - may expand. This has been the pattern in the more developed countries.

But in developing nations that have chronic unemployment, it is important to assess the possible labor displacing effects, if any, of the new capital technology or larger scale enterprise. An attempt should then be made to determine how the benefits of economies or efficiencies in marketing operations may be distributed, both in the short and the long run. Are they likely to fall solely to the owner of the marketing firm or will they, through competition, eventually be passed on to producers and consumers? Will they make

a significant contribution to long-run economic growth? What will be the long-run effects on over-all employment? At the same time, it will be desirable to try to determine just how many people may be displaced in the short run; this may not be easy since we know very little about the structure and composition of the labor force engaged in agricultural marketing in most IDCs.

If the pros and cons can be sorted out, then the final and most difficult job remains of weighing them and making a decision. Much will depend on national goals and values and/or short-term political considerations. But the important thing is that employment be balanced with efficiencies that may result from the addition of more capital and larger scale in marketing enterprises. Country-level studies are needed to help local policymakers reach such decisions and to build up a body of knowledge and experiences which may have general applicability.

3. Export earnings, domestic need, and import substitution

Another policy consideration which affects the development of marketing systems is the relative weight to be given to production and marketing efforts for commodities destined for export versus those for the domestic market (and those that might be used for import substitution).

Export expansion and import substitution form only extreme possibilities in a continuum of possible tradeoffs between export and internal markets. And even the extreme forms do not necessarily apply to a whole economy; both may be used at the same time, one for one group of commodities (e.g., export expansion of primary commodities), the second for another group (e.g., import substitution of food grains). Trade objectives for a group of Asian nations, in fact, involve such a mixture of techniques that in order to meet an expected 8.8 percent increase in demand for imported products, 5.4 percent might be met by exports (4.9 percent from an expansion of current exports and 0.5 percent from new export lines), 3.0 percent from import substitution, and 0.4 percent from external financial resources. 14

Factors outside the control of an individual nation may limit the possibilities of exporting a particular commodity. Reactions may take the form of diversifying into other potential export crops (if good alternatives can be found), or moving into import substitution. If a primary commodity is involved, import substitution may necessarily require diversification. Switching of production from certain perennial crops such as coffee may be difficult and expensive. Moreover, it may be difficult for a nation to return to the production of a traditional export crop should export market conditions improve.

Some LDC's have started out by increasing import substitution and, then, as production increased beyond domestic needs, have tried to export the surplus. It is possible that comparative advantage may change with development, but the results for food grains have not been very successful thus far. Mexico wiped out a long-term deficit in wheat and rice and by 1964 was attempting to export both. However, the support prices paid the farmers to encourage production were too high in terms of the international market and an export subsidy was necessary. Moreover, there were quality problems.¹⁵ The same situation has been faced more recently by other LDC's which have had a "Green Revolution" in wheat and rice production. The price differential, however, is often considerably less if free rather than official exchange rates are used. While rice prices are not as far out of line as wheat in terms of world prices, the quality problems associated with certain types of rice are severe. In any case, producing and marketing in international markets are far more difficult than is often the case in domestic markets.

Many countries have faced marketing problems as they sought larger export markets; others are holding back from entering the export market because of gloomy long-term projections. Eicher and Johnson contend that rather than simply accepting these general projections, a nation should make its decision only after a careful assessment of payoffs on a crop-by-crop basis.¹⁶ A report which they prepared for Nigeria provides guidelines for this kind of analysis.¹⁷

In some instances, producers and exporters seem to be less concerned with meeting domestic needs than with foreign exchange earnings. Thus, for example, Costa Rica has had considerable increases in livestock production within recent years, but most of the increase has gone to U.S. markets and per capita domestic consumption has declined.

The conditions of internal and external markets, however, are not the only factors influencing a shift from one policy to another. The degree of inflation within a country may well be a factor: Tolley and Gwyer note that as inflation becomes an increasingly severe problem there is a tendency for more emphasis to be placed on export promotion.¹⁸ Exchange rates can also be a factor: Thorbecke and Field indicate that in Peru a recent devaluation is likely to provide a price incentive for the import substitution of foodstuffs.¹⁹

In any case, the question of whether an inward or outward trade policy should be adopted for agricultural products is a complicated one and should receive considerable study before policy decisions are made. There is need for careful analysis that considers both the short and long run, and the primary and secondary effects of alternative policies and marketing strategies.

4. Government versus private enterprise

A key factor in determining the answers to the previous questions, as well as to others in marketing, centers on the roles played by government and private industry. The amount of initiative and intervention by a government is affected, in part, by its political ideology, which, in turn, may be influenced by historical or current ties with one or another of the major powers. The stage of overall technology and the strength of the private sector may also influence what functions are performed by the government.

Governments in LDCs sometimes do too much in marketing operations and yet too little in facilitating development of marketing systems. This view, of course, reflects the general idea that the government should provide infrastructure but leave market trading activities largely in private hands. Just how true this is in any given LDC is an open question and depends on the country's market structure.

Many marketing agencies are intermediate forms such as marketing boards and cooperatives. The marketing boards tend to be mainly government but may well involve representatives of the larger farms or farm organizations. Cooperatives lean more towards producer enterprises, but often rely on government assistance and special legislation. A central market in larger cities may be built with public funds but operated in the private sector - subject to some local government regulations. There have been good studies on market structure and marketing institutions in a number of countries, most notably in Nigeria, Colombia, Brazil, and Puerto Rico. But more is needed on the socio-economic implications of alternative structural arrangements and on the related marketing institutions.

The roles of the various groups and the functions they perform in the marketing process are influenced by the political as well as economic strength they have. The functions may be grouped as input supply, output marketing, and the providing of services and infrastructure. The kind of LDC government participation varies widely. Often governments may be heavily engaged in the provision of inputs such as special seeds, fertilizer, insecticides, or pesticides; if they don't physically handle the products they may provide subsidies. Except in the case of purchases for government stocks, public agencies tend to be less involved in the physical aspects of output marketing. Governments are more deeply involved in providing infrastructure, but what is supplied may be far short of needs. At the private enterprise end, many of these functions may be performed by large plantations, producing the traditional export crops. But the small producers of food crops are generally dependent on others, particularly government, to provide the marketing infrastructure and services.

In any case, the government-private industry balance has implications for the preceding trade-offs. Should the government actually be heavily involved in marketing itself, it will be immediately and intimately concerned with trade-offs between farmers' and consumers' welfare, efficiency, and the generation of employment. If the government exercises substantial control over marketing functions, it means a sizeable responsibility which the civil service of some nations may be ill-equipped to handle. On the other hand, the government, by putting its weight on the side of socio-economic considerations, may help the less advantaged gain a larger share from the nation's economy.

Realizing that there can be a wide range of trade-offs between government and private enterprise in marketing, some type of posture is needed for a starting point. What might be called the Western credo has been well summarized by Mellor. ^{20/} He suggests that the basic role for government might be to facilitate the operations of the private sector - to render those services which can make the elements of the marketing system more competitive, more efficient, and more technologically dynamic. The three major ingredients to this process would be to (1) remove arbitrary and inhibiting public restraints on marketing, (2) facilitate increased competition, and (3) facilitate technological change and investments. Mellor indicates that the government can do these things with a relatively modest use of scarce resources and in a manner which encourages the private sector to make fuller use of labor, entrepreneurial talent, and capital which would not otherwise be available for the development process.

* * * * *

The categories of trade-offs reviewed here are only a sampling. Many others will suggest themselves in the pages to follow. The key point that needs to be considered in many of them is the need to take into account private and social costs and returns. And a consideration of costs and benefits need to include both short- and long-run estimates.

There is need for more empirical studies in which trade-offs such as those suggested here are more fully analyzed for particular country situations. The process of making such analyses as well as the specific "products" or conclusions reached would have value for others faced with the need for similar choices among alternatives.

C. Socio-Economic Issues

In low-income countries, some policy considerations associated with food marketing systems are particularly critical. Among these are: (1) The effects that changes in marketing may have on unemployment or the generating of jobs; (2) the extent to which commercial marketing channels satisfy the need for food and nutritional needs among the very poor, the very young, the aged, and pregnant women; (3) the extent to which changes adopted by marketing firms increase efficiency by reducing waste and make more food available at lower cost, thus enhancing real incomes and levels of living.

1. Marketing changes and employment

An important issue associated with marketing reforms is their impact on employment. Unemployment (and underemployment) is emerging as one of the most critical problems facing many developing countries as new agricultural technology permits (and hastens) the release of more people from farming. 21/

In the evolution of marketing systems, more services are demanded by consumers and more supplied by processors and distributors. These added services are a source of employment for many in urban areas and at all the connecting points in the marketing system. But what is the economic value of the services performed? This determines the cost to consumers and the earnings for those providing the services. The question of economic value involves more than the service performed. For example, a consideration in transporting a crate of oranges from truck to retail stall is how efficiently the service is performed. Does the task take 5 or 20 man-minutes per crate? How efficiently the service is performed may be a function of many factors. How close to the stall can the truck be parked? Is the crate off-loaded by hand or from a mechanical tail gate? Is the quantity purchased by the retail store one crate or several? Studies are needed on ways of increasing efficiency in handling commodities and other marketing activities - without reducing employment.

Another employment issue raised by changes in marketing systems is where will added services be performed. Rural job opportunities and earnings may be increased by having a part of the marketing function performed close to the place of production. For example, field packing of fruits and vegetables enhances the value of the product as it leaves the farms and this added value is translated into incomes earned by rural workers. At the same time, field packing can reduce the cost of subsequent handling and lessen losses through bruising during transportation. In some instances, field packing may substantially reduce the amount of bulk involved in shipments to market, thereby contributing to lower transportation costs. Studies are needed to determine relative costs and benefits from adding marketing services at different points in the system. Consideration needs to be given to such factors as availability of labor, costs for the labor, and effect on product quality when some services are performed in the producing regions.

Increasing the amount of food processed also contributes to better marketing and more job opportunities in both rural and urban areas. By processing, commodities may be preserved over a long period of time, reducing the incidence of losses in transportation and storage. Processing may also enhance the food value of commodities. The amount of protein and other nutrients can be increased in various ways. Processing may also mean a broader domestic and foreign market for commodities and hence more job opportunities in production as well as distribution.

Where processing makes for fuller utilization of the harvested crops, unit costs may be reduced and labor usage increased. The chemistry of food crops and fiber is now sufficiently advanced to break down traditional crops or parts thereof . . . and to rebuild new foods and fiber with different properties. Better use of crops may be obtained by developing new or improved foods for humans, creating feed as part of the rations for livestock, and utilizing parts of the commodity for industrial byproducts. Research is needed on the application of processing techniques to the requirements of crops grown in developing countries and to the stage of the country's food technology institutions.

The factor of scale in marketing activities (both physical and exchange elements) affects employment opportunities as well as efficiency in marketing systems. A shift from burro to boxcar is a change in scale as well as mode of transport and affects the number of people employed in moving commodities as well as the time taken between farm and market. A change from market stalls selling a few food items to self-service markets selling a wide variety of pre-packaged foods is a change in type of outlet that affects the amount of goods exchanged per man-hour of labor as well as the total number employed in retailing.

Some changes in scale are vital if marketing systems are to move the increased quantities of food from production to consumption centers. For example, in the 1967-68 harvest year in India, some 17 million sales transactions were made in marketing some 18 million tons of grain. If twice that amount of grain comes onto the market five years later, larger unit transactions will be necessary or the marketing system may break down.

Similarly, where increased production of grain permits the establishment of buffer stocks, larger silos may be necessary for storage of the larger carry-over stocks. This, in turn, may require bulk handling to reduce risk of commodity exposure at peak harvest periods. While such increases in scale may mean that larger amounts of the commodities may be handled through the channels without increasing employment, traditional hand methods would likely be more costly to objectives other than that of employment. Closer studies of the interrelationship between changes in scale and employment in marketing are needed.

Often, increased scale is accompanied by the use of more equipment and other additions to physical facilities. In many developing countries the equipment is not produced locally but must be imported; this usually requires payment in hard currencies. In these instances, the substitution of capital for labor may not only reduce employment opportunities in the marketing activities affected, but may adversely affect other economic development functions. Where there is a surplus of labor and the cost of labor is low, it may be neither good economics for the firm nor for the nation to have capital goods supplant labor. On the other hand, local manufacture of needed equipment, if economically and technically feasible, may be, on balance, acceptable. For example, the use of fork lift trucks in central markets and in warehousing operations could save considerable labor per unit moved. If the fork lift trucks were manufactured in the country, rather than imported, new employment opportunities could be created. And if the savings in labor were reflected in lower unit handling costs and these savings were passed on to workers in the urban areas, their real income would be raised and/or the cost of production in places where they were employed could be held down. Both of these results would contribute to the larger and longer term development prospects of the country. Employment effects of the trade-offs involved in marketing modernization need to be calculated on an individual country and project basis.

2. Improving diets for the very poor and for vulnerable groups

In most developing countries, a substantial portion of the total population buys little food in the commercial markets. The population groups on the periphery of the market include rural workers, subsistence farmers, the shanty-town families in which unemployment is the characteristic condition, the street waifs of all ages, and the many with physical and mental disabilities that limit regular employment. Improvements in the commercial marketing system have little effect on the diets of these people. But public and private officials in the developing countries concerned with food for the people, and their external advisors, ought not to overlook the large numbers who exist at the edge of the market and often suffer serious malnutrition.

The meaning of malnutrition for economic development as well as human suffering has been documented by many studies in recent years.^{22/} It is now known that people who are malnourished have lower physical and mental energies and are less capable of performing effectively on their jobs or in their schools. Young people who are malnourished may be physically and mentally retarded for the rest of their lives and may remain poorly productive members of the economic community. The high death rate for young children and the debilitating illnesses that occur in the period immediately following a child's weaning are often traced to malnutrition.

The problems of malnutrition are usually treated outside the discussions of marketing systems and most often in the context of protein deficiencies or other specific shortcomings in diets. Here the focus is on the larger problem of all who are on the edge of the commercial market and who do not have the means to purchase a minimally adequate diet.

There are both socio-economic problems and physical-technical problems associated with efforts to bridge the purchasing power gap. The socio-economic questions include efforts to change the income-food-price relationship by measures aimed specifically to accomplish either or both these objectives. The issue of raising incomes -- whether directly, through some income supplementing measures to enable the poor to buy more food, or indirectly, through overall economic development -- is largely outside the range of this report. But the large number of malnourished would argue for including in marketing studies possible actions to alter the price of food to those with inadequate income.

Other socio-economic problems are related to the cost of some subsidized food and how it will be paid for. Food distribution programs represent a direct transfer of incomes from the more affluent to the most needy. In developing countries, the proportions are so skewed that, even if the well-to-do were to give up a large proportion of current incomes, the sums would cover only a small proportion of those in need. But in many developing countries, tax policies and the administration of them do not make significant income transfers and, without basic changes in such policies, there is little that can be publicly financed. It may be anticipated that, as agricultural productivity and production increase, tax policies may be introduced to recapture some of the increased incomes of larger commercial farmers, and these may then defray the costs of a commodity stabilization program with an internal food aid component. The possibilities of such programs vary widely among the developing countries and would be closely associated with the ideological and political underpinnings of the government. The costs and benefits of such supplementary marketings need to be studied for possible government policies as production of basic food crops increases.

Another economic problem has to do with the existing commercial structure and the need to insulate it from a public or subsidized food distribution program in order to avoid unfair competitive pressure on the private sector. The means of doing so in urban centers where many in the populace may be recipients of a distribution program and a great many more would like to be requires careful study. Developing countries are using a number of dual-pricing arrangements and control over retail outlets as means of modifying commercial distribution systems in the interests of the poor.

Price discrimination or a deliberate stratification of the market for the benefit of the poor is not new. In many developing countries' retail prices of a few basic grains are fixed by government agencies. Since these grains are the mainstay of poor people's diets, they may be enabled to purchase a little more of the calories they need with the incomes they have. In other countries such as Costa Rica, a government agency operates price-fixed stores, mostly in the poorer sections of the city. In other instances; Ecuador, such stores are provided with a supply of basic foods such as cereals, cooking oil, sugar, and salt to be distributed at less than commercial prices, for as long as quantities last. Since these supplies are not adequate for all who want them, the assumption may be that the most needy will come early to wait in line for such rations. There has been little study on how efficient these methods have been in getting more food into the hands of those in need. And where government stores have been in competition with private, it is not known whether they have had an inhibiting effect on the growth of private retail operators.

There are several potential ways to improve nutrition from a supply point of view: (1) Adjustments in the type and quantity of agricultural production, (2) fortification of traditional products, (3) manufactured production of more nutritious food products or blends, and (4) distribution of products made available by foreign nations and international organizations. Various combinations of the above and other alternatives are possible. How is a country to allocate scarce resources among them? This question is not easily answered. 23

The concept of delivery systems and target populations is important in developing efficient food distribution programs. Each target population group -- school children, nursing mothers, unemployed workers -- requires a somewhat different delivery system and perhaps a different composition of foods. Study is needed on alternatives in each case and the alternatives need to be weighed in terms of cost of the food and of the delivery system and secondary effects of the arrangements made. For example, a food distribution project in Northeast Brazil was coupled with a weekly allowance of flour, oil, and dry powdered milk to adults attending a learning-to-read program. Distributions were made on the third evening class each week based on attendance at all three sessions. The adults could justify their attendance by the rations "earned" as well as by learning to read, and attendance was kept high. The project was handled by an international voluntary agency in cooperation with its local affiliate.

Various types of feeding programs have been tried under auspices of the U.S. PL 480 legislation and the U.N. World Food Program. The issues involved have been cogently discussed in the study directed

by Witt. ^{24/} His report includes suggestions for needed research. There has been a particular lack of, and there is a particular need for, studies on the economics of feeding programs and the factors which limit wider application among the lowest income countries. It is possible that foreign food donation programs could be modified so that more nutritious foods are provided at no additional cost to the LDC. Fortification of wheat might be the most feasible of alternatives. Wheat flour provided by America under PL 480 Title II, including donations through the World Food Program, is enriched and partially fortified; possibly arrangements could be made to also include protein additives. Other donors might do likewise.

In any society, there are certain groups most in need of improved nutrition. The critical groups in terms of nutrient quality are generally thought to be expectant and nursing mothers and newborn and young children. Much of the rest of society could use improved nutrition, but their needs may be more quantitative (caloric) in nature and are often considered less crucial.

In terms of resource allocation, would it be better to (a) try to meet the needs of the critical groups first, through products such as weaning foods, and then move to the rest of society, or (b) establish a broad-scale program, such as fortification, and then concentrate on any further special requirements of the critical groups? ^{25/} The former approach is traditionally used, though some question might be raised as to whether the process ever goes beyond the critical group. Selection of the most appropriate policy would depend on a number of factors.

Time and cost are important factors. Fortification of wheat could be done quickly and with a minimum disruption of consumption patterns. Similarly, highly nutritious existing products such as nonfat dry milk could also be readily provided through distribution and consumption patterns. The other approaches, such as shifts in production patterns or the development and adoption of new products, would generally take longer. And improvement in nutrition through increased incomes made possible by economic development is, at best, a long-term prospect. A related question concerns cost. A mass program is not necessarily more expensive than a selective one. The AID Mission in India has concluded that it is not. The main reason centers about the differing costs of the delivery system. It is no more expensive to deliver fortified wheat than regular wheat. On the other hand, the cost of moving a specialized product to a certain group may be considerably higher because of handling or distribution requirements.

Many considerations have to be taken into account in making policy decisions on the type of approach which will best meet a country's needs and resources. But clearly, the marketing specialist, the food technologist, and the nutritionist need to work together in shaping these policies and the programs to implement them. The improvement of nutrition is a multifaceted task which includes issues of public policy, crop genetics, and food technology as well as physical distribution procedures.

3. Marketing efficiency and its effect upon incomes and levels of living

When the disadvantaged segment of a population is relatively small, direct government intervention may be feasible. The economy can support programs such as food stamps, school lunches, other institutional feeding, and direct assistance. However, few LDCs have the resources, financial or human, to support such programs for any large segment of the population.

Few empirical studies have been made about the important effects that marketing efficiency improvements adopted by competitive firms may have on incomes and levels of living in LDCs. Modest improvements in reducing waste per unit handled, when multiplied by millions of units in the marketing system, can significantly increase the availability of food for many.

Under reasonably competitive conditions, some of the efficiency is passed on to consumers in the form of lower prices. Thus consumers have the option of consuming more food (or different kinds) with a given income, consuming the same foods and spending the saved portion on other goods, or a combination of the two. As incomes rise in developing countries, the people shift their consumption to different foods (though not always to foods of higher nutritional value). The dependence upon one or two cereal or starchy foods for many years results in their becoming "inferior" foods at the first economic opportunity.

The commercial marketing system can contribute to improved levels of living if new marketing technology lowers the cost of handling foods (and/or facilitating exchanges) at each stage of the marketing system and if these lowered costs are passed on to consumers. Public policies should be directed at making savings in marketing costs reflected in prices for consumers or producers (or both); an environment in which innovation and enterprise are rewarded and competition encouraged may help. Studies are needed on an appropriate role for private enterprise in the marketing systems of developing countries.

III. Evaluating Performance in Marketing

44

In identifying marketing problems, one looks for evidence that suggests what part of the system is not working well. Evidence of malfunctioning, in turn, implies some standard or acceptable level of performance.

A. Alternative Measures

There are numerous ways in which the performance of a marketing system (or parts of it) may be measured. The usefulness of a particular measure depends in large part on the purpose for which the evaluation is being made. A dairy processing firm, a farmer, or a retailer selling milk may each view the system for milk marketing differently. Government officials concerned with farm income or consumer nutrition or overall economic development may each evaluate the system differently yet.

1. Micro versus macro measures of performance

A micro measure of performance, in which we look at how well a marketing firm is functioning, may be relatively simple and quantifiable. If it is a transportation firm, for example, a performance measure might be the cost per ton mile of moving a particular commodity from the farmer to the silo in a city some miles away. As better roads and larger trucks are introduced with different on and off loading arrangements, ton-mile costs may be lowered and it should be possible to measure the improved performance. These kinds of measures indicate how well the physical movement of commodities is being performed.

One might also determine whether the transportation charges made by a firm are considerably in excess of its costs. Where this is the case, it might be evidence that the process by which transportation is utilized in the marketing system is not functioning well [even though the physical movement is being carried out with reasonable efficiency]. The firm might be the only one able to provide the transportation service or the only one having the financial leverage to make large profits. Or, artificial trade barriers may exist such as local taxes on truck shipments from one part of the country to another. In a study on marketing efficiency in several African countries, Jones uses these latter charges as measures of performance in marketing rather than actual costs for the physical movement of the commodities. ^{26/} It may then be found that a principal factor causing high transportation charges is not the high operating costs of the firm but public policies which restrict importation of additional trucks and sanction cumbersome local tax collections on trucking.

In a macro-measure of marketing performance, one looks at the entire marketing function or system rather than the operations of a particular firm or group of them. Thus transportation charges may be estimated for the major commodities moving to markets to determine how well the transportation function is being performed within the country. Changes in roads and transportation equipment may lower costs and hence improve performance.

The analyst seeking to determine the sources of high transportation costs and/or charges may take either a micro or macro look at the problem. Ultimately, both types of analyses are necessary to bring about improvements. The macro measures will be useful in identifying marketing costs which are excessive and, hence, warrant remedial attention. Analyses at the firm level can provide the close insights necessary for bringing about changes in how the marketing function is performed for the benefit of the individual firm, the industry, and, hopefully, the society as a whole.

Often, societal and firm objectives are in conflict, yet the responsibility of the analyst is to measure how effectively the system and its institutions are performing relative to the objectives.

Some writers feel that the basic objective is to determine practical means of improving agricultural marketing structures and performance in developing countries in the larger interest of accelerating national economic development. This formulation implies that there will be both individual and societal gains through general growth.

For example, in describing the effects of adopting mechanization of tomato harvesting, a new marketing technology, Schmitz and Seckler talk not only about changes in direct costs and returns to operators, but about social costs and returns. ^{27/} They conclude that, even if the displaced harvest laborers had been compensated for wage losses, net social returns would have been highly favorable. Analyses of the type they conducted suggest that policies be designed to distribute the benefits and costs of technological change more equitably and that social scientists should be concerned with such measures of benefits and costs.

2. Efficiency versus effectiveness of marketing systems

Efficiency in marketing systems relates to the amount or cost of inputs required to obtain a level of output. Thus it may take 10 man hours to unload 3 lorries or wagons of grain; it may cost 7 pesos to move a ton of grain 10 miles. Efficiency (or inefficiency) may also be measured by losses at particular stages in the marketing system. There may be a 15 percent loss in perishables being sold in central markets, and grain losses of 12 percent using farm storage or 3 percent using large urban storage facilities. Losses such as these in one country may be compared to losses incurred in a comparable country. In a more general sense, efficiency in marketing is concerned with the cost for performing the several marketing functions of transportation, storage, exchange, etc. Underlying the concept of efficiency and its use as a measure of marketing performance is that the marketing functions must be performed in connection with a given volume of food-stuffs and that resources used should be kept to a minimum in accomplishing the tasks. Also involved is the concept that, for the marketing system to be functioning efficiently, there should be only a moderate charge to the system over actual costs involved in carrying out each marketing function.

Effectiveness is concerned with whether the marketing system is performing its function reasonably well in terms of the objectives set for it. If an objective is to move larger quantities of foods to urban markets at reasonable costs, effectiveness might be measured in several ways; e.g., whether the cost per given unit of commodity is going up or down over time, and whether the cost in one country is significantly different from that in other countries with similar conditions and at a similar stage of development. When such measures are used, effectiveness and efficiency have similar meanings, i.e., performing marketing functions at moderate cost.

But the effectiveness of a marketing system may be evaluated against other kinds of objectives. For example, the marketing system may do reasonably well in physically moving the grain produced for market from farmers to consumers who have enough money to buy their food needs through regular commercial channels. The same marketing system may be inadequate in meeting the objective of distributing food to the people at prices all can afford to pay.

The effectiveness of a marketing system usually needs to be evaluated in terms of several objectives, as serving the different interests of producers, consumers, and distributors. And the system may not perform equally well for all - particularly in the short run. A market news service may disseminate information in a form useful to producers to help them get better market prices but the information may be of little use to consumers.

B. Evidences of Market Performance

1. Prices and margins as reflections of costs

Marketing firms, agencies, institutions, and middlemen are involved in many activities that add utility to the final good or service. Resources are required to perform any of the activities keyed to fulfilling the marketing functions and utilities desired by consumers in the final goods and services. Each of the resources used has its price. Consequently, each marketing activity has a cost. This is true regardless of who performs the marketing activity; the performing agent may be a middleman, a farmer, a cooperative, a corporation, or a government agency.

The question of how much it costs to perform the activity at a given point in time, or under a given set of circumstance, is a factual one; costs can be measured and analyzed with objectivity. Resolving questions about what the performance of particular marketing functions should be or should cost, or by whom they should be done, involves socio-economic value judgements which may be outside the competency of marketing technicians.

Two common measures used to evaluate marketing performance are: (1) the farmer's share of the consumer's food expenditure, and (2) its counterpart, the gross marketing margin, sometimes called the farm - retail price spread. These statistics are often misunderstood and, consequently, are misused. For example,

the gross marketing margin may be low because marketing activities are being carried on at low cost. But, the margin may also be low because the marketing system is providing few services.

In Brazil in January 1969, for example, the gross marketing margin for beef was 36 percent of the consumer price; the comparable statistic for meat in the United States was 43 percent during that year. ^{28/} Personal knowledge of both systems leads to the conclusion that the Brazilian marketing margin for beef is low because the system provides few services.

The question remains, then, whether it is more important that the farmer receives a larger share of the consumer's expenditure, or that the consumer be able to purchase more services. It might also be possible for the farmer's share to remain constant while prices paid by consumers and services provided them are rising.

Thus, objective measurements of prices and margins as reflections of costs become extremely important inputs in marketing efficiency considerations. The costs of performing specific marketing activities must be evaluated on the basis of the prices of the inputs. This is not a particularly difficult compilation for inputs that have known market prices, such as labor, containers, raw materials, and the like. Equitable charges for other inputs, such as management and capital, may not be as easily evaluated. The marketing economist turns to concepts such as normal profit, risk factors, and opportunity cost in such evaluations.

The amount of profit charged by a marketing firm to perform a given marketing activity, which is in reality the price or cost of the management and capital inputs used, may seem high on first inspection. The question of risk involved must be considered at this point; given the risk factor, the analyst must calculate the opportunity cost of using the management and capital inputs in the given activity. This is based on the opportunity foregone by not using them in their next best alternative use. Stated another way, the calculation must be based on what return could be expected had the management and capital been applied to another activity requiring similar use and similar risk.

Profits in excess of opportunity costs, i.e., in excess of what could be earned in their next best alternative, are extra normal. They are a source of inefficiency in the marketing system, because they inhibit the flow of scarce resources, and are regressive since the price of the commodity in question is artificially raised. Consequently, more consumer income is spent for the good than would be the case in the absence of the extra normal profits, and total consumer satisfaction is less because other goods desired cannot be demanded with a reduced income.

2. Input-output measures for specific marketing functions

Efficient marketing can be defined as optimization of the input - output ratio. A change that reduces the input costs of performing a particular activity without reducing consumer satisfaction regarding the output of goods or services is clearly an improvement in efficiency. However, a change that reduces costs and consumer satisfaction represents a reduction in marketing efficiency.

This concept of marketing efficiency is usually divided into two different categories: (1) pricing or economic efficiency, and (2) operating or technical efficiency.

. Pricing or economic efficiency

Pricing or economic efficiency is concerned with improving the operations of buying, selling, and pricing aspects of the marketing process so that it will remain responsive to consumer direction. The best measure of the satisfaction consumers obtain from the marketing system's output is what they are willing to pay for it in the marketplace.

However, the reliability of the measure above depends upon three conditions: (1) That consumers are provided with viable alternatives in the marketplace from which to choose, (2) That prices on the alternatives adequately reflect the costs of providing them, and (3) business firms are relatively free to enter or leave the given marketing activity in response to profits or losses based on the prices bid in the marketplace.

If markets are operating efficiently, prices of a given food will be related over space, time, and among forms. Prices should only differ between geographic areas of a country by transportation costs from one point to another. The price of a storable commodity at one point in time should not exceed price in a previous period of time by more than the cost of storage. Similarly, the price of the processed product should only exceed the price of the unprocessed equivalent by the cost of processing.

Suppose the researcher finds that the geographic price difference for an agricultural good at a given point in time in an LDC bears little relationship to transportation cost. Pricing efficiency is low; the question to be answered is "Why?" Further research might indicate that it is because of a lack of transportation facilities, poor market information, monopoly profits, or some other institutional or structural weakness.

Therefore, pricing or economic efficiency either relates to functional deficiencies or to the degree of competition or monopoly, and to economic power structure existing within the marketing system. In the latter case, laws may need to be promulgated which grant responsibility to some agency in the society, usually a governmental one, to survey the number of firms serving the market and the ability of firms to enter the market and permit or enhance more effective competition, and to monitor market conduct to prohibit collusion or other unethical practices which might hurt competitive performance, consumers, or the public in general. These are measures of pricing efficiency.

. Operating or technical efficiency

In contrast to pricing efficiency, operational (technical) efficiency assumes that the output of goods and services is given, and focuses on reducing the costs of providing them. Thus, the substitution of a less expensive, but more durable and lighter packaging material increases the amount of finished product storable in existing cubic space and reduces damage and spoilage, all at less cost. Calling on knowledge from diverse disciplines such as engineering, food technology, business management, and economics, food marketing operational efficiency is enhanced, i.e., costs are lowered and the output of products or services remains unchanged.

Marketing firms, operating in a competitive environment, seek to improve operational efficiency. Although their goal may be to enhance a profit position, often the benefits derived from the improved operational activity accrue to society in the form of economies of scale and lower total unit costs. These may be passed on to consumers in the form of lower unit prices and/or shared with producers.

The marketing firm that adopts an improved raw material procurement system by centralizing purchase activities, buying in larger quantities, and taking advantage of unit freight rates is engaging in a practice which may enhance operational efficiency. Similarly, reorganizing sales territories and distributing foods with fewer but larger deliveries per customer per week may have the same effect.

If competition exists, the firm will enhance its aggregate profit position, but because of the operational and pricing efficiencies in force, consumers and producers also benefit since profits are still only normal ones, and efficiencies have been passed on. The area of operating efficiency is one in which both research and technical assistance can make significant contributions to marketing improvement.

3. Product loss and waste in marketing

Another criterion for evaluating efficiency, although closely related to technological or operational efficiency, is the measurement of physical product losses as a commodity moves through the channel of distribution from producer to ultimate consumer. Just as production efficiency is often measured by yields and physical productivity, so too may marketing efficiency be measured. If, for example, in a developing country, out of every 100 bushels of corn that leave farms,

only 60 are finally consumed, on the average, serious barriers to efficient marketing exist in the system. These barriers need to be identified, then overcome.

C. Developing Criteria for Evaluating Performance

Criteria for evaluating performance may be developed for specific commodities at different stages in the distribution system. The benefits that may be obtained by improving performance need to be weighed against the cost of making the improvements. Thus, if post harvest losses are to be reduced, efforts to do so might be worthwhile up to the point where the costs involved reach the economic value of the savings. This approach assumes a given level of technology. New technology or institutional arrangements may influence the cost of making marketing improvements and hence modify cost-returns analyses. There are many opportunities for research and technical assistance to help in reducing losses that occur in the marketing channels. This kind of work is likely to have visible near-term benefits in developing countries.

The following hypothetical example from the developing country of "Adsudia" serves to illustrate the types of criteria used and the supporting data required before the marketing sub-sector problem evaluation and programs of technical assistance can be appraised for possible implementation in a given mission.

Assume that mission personnel, working with their national counterparts, have already completed the first four steps in the systematic approach to marketing sub-sector analysis outlined in Chapter I of this paper. That is, they have (1) defined the country objectives for the agricultural marketing system, (2) identified the appropriate systems relevant to achieving those objectives, (3) have determined the important institutional and functional components of those systems, and (4) defined the appropriate environmental factors within which the systems must operate. They are now in position to analyze the output of the present system by measuring its performance.

Data must be obtained and analyzed which can then be used as a basis for evaluating the system's performance. Perhaps previous studies exist in the mission or country ministry which are beneficial in the process. In the hypothetical evaluation below, it has been assumed that such studies did exist and that the team of analysts have concluded (1) that the domestic marketing system for the staple foods, cereal grains, is functioning fairly well, (2) that the marketing system for major export commodities is also performing adequately, but that (3) as consumers realize larger per capita incomes and try to shift consumption to the higher income elastic fruits, vegetables, and animal protein foods, significant marketing-distribution barriers exist.

The seriousness of these bottlenecks, by specific commodities, is the subject of immediate analysis and evaluation. Assume further that the marketing criteria for red meats, poultry, fish, and other important fruits and vegetables are developed simultaneously with those for oranges, white potatoes, and eggs, shown in Table III. They have not been included since the three commodities shown seem, on inspection of the evaluating criteria, to have the most critical bottlenecks which need immediate attention.

The evaluating criteria have been arranged in the table under two headings: A. Pricing Efficiency and B. Operational Efficiency. The first component analyzed under pricing efficiency is the index of seasonal price variation for each commodity. This represents the seasonal fluctuations in average daily prices at the five major interior market points in the country. The large spread from low to high prices for the year may be an indication of (1) lack of storage facilities to carry stocks over from the harvest glut period to respond to the more even demand requirements through the year, (2) a lack of market information about demand, supply, and prices, or (3) a combination of the two factors.

Note that the greatest seasonal price fluctuation is for oranges, but that, in relation to the best situation in a country having similar conditions as those of the country under study, potatoes have the most serious price variation problem. An additional indicator of the nature of the problem can be seen from the operational efficiency data relative to percent of the crop in refrigerated storage; only 5 percent was so held in 1970. While this is a greater percentage than for either shell eggs or oranges, it is obvious that unnecessary price fluctuations and losses and waste in handling are greatly influenced by the lack of storage. In fact, physical losses for potatoes are twice as much as the best country standard indicates they should be. Unfortunately, losses are more than three times the desirable level for oranges and more than double for eggs.

A strong element of marketing control for potatoes is evident from an analysis of the marketing margin and share of the market data. One reason physical losses and waste are lower for potatoes may be because of the amount of control the few traders seem to exercise over marketing of the commodity. Monopoly profits of 19 percent of the consumer expenditure exist and the largest 5 percent of the marketers control 85 percent of total marketing volume for the commodity.

Market control, in the form of price change sensitivity, is evident. When supply pressures push up the price for potatoes to middlemen, the increase is passed on to consumers in 2 days. But if retail demand pressures drive up the consumer price, middlemen do not respond by raising farm prices for 14 days; in effect, middlemen absorb the added revenue as long as possible. Similarly, if the farm

TABLE III - MARKETING EVALUATING CRITERIA EXAMPLE

Storage of Three Perishable Food Commodities
in Hypothetical Country of ADSUDIA, 51 Percent Urban Population

	<u>Oranges</u>	<u>White Potatoes</u>	<u>Shell Eggs</u>
A. <u>Pricing Efficiency:</u>			
1. <u>Seasonal Price Variation;</u>			
a. Actual, 1970	82 percentage points	76 percentage points	46 percentage points
b. Goal, based on best similar country	52 percentage points	24 percentage points	32 percentage points
Difference	30 percentage points	52 percentage points	14 percentage points
2. <u>Marketing Margins, 1970;</u>			
a. Percent of Consumer Expenditure	62	60	40
b. Cost of present marketing activities (other than profits) as percent of consumer expenditure	51	31	33
c. All profits as percent of consumer expenditure	11	29	7
d. Estimated normal profit, present marketing services, percent of consumer expenditure	6	10	4
3. <u>Market Control;</u>			
a. Percent of total central markets volume handled by top 20 percent of traders, 1970	72	98	36
b. Percent of total central markets volume handled by top 5 percent of traders, 1970	56	85	15
4. <u>Price Sensitivity Index;</u>			
a. Average lag, supply initiated price increase - urban con- sumer price change, past 5 years	5 days	2 days	4 days
b. Average lag, demand initiated price increase - farm price change, past 5 years	6 days	14 days	3 days

	<u>Oranges</u>	<u>White Potatoes</u>	<u>Shell Eggs</u>
4. <u>Price Sensitivity Index; (continued)</u>			
c. Average lag, supply initiated price decrease - urban con- sumer price change, past 5 years	8 days	26 days	5 days
d. Average lag, demand initiated price decrease - farm price change, past 5 years	4 days	1 day	3 days

B. Operational Efficiency:

1. <u>Losses and Waste; percent of farm marketings, 1970</u>			
a. Farms to terminal markets	8	2	5
b. In terminal and secondary markets	12	1	15
c. At retail	<u>5</u>	<u>7</u>	<u>2</u>
All stages of system	25	10	22
d. Goal-based on best similar country- percent of farm marketings			
(1) Farm to terminal market	2	1	3
(2) In terminal and secondary markets	4	1	5
(3) At retail	<u>2</u>	<u>3</u>	<u>1</u>
All stages of system	8	5	9
2. <u>Handling;</u> Average number of times unit of production is repackaged, handled, combined into larger lots or sub- divided into smaller lots, farm to final urban consumer	14	10	18
a. Best similar country	5	6	8
3. <u>Perishables Cold Storage Capacity;</u>			
a. Percent of harvested crop in refrigerated storage, all points in marketing system, 1970	2	5	Less than 1
b. Average time in refrigerated storage, 1970	1 day	10 days	Less than 1 day

price decreases when new supplies are harvested, middlemen resisted passing the decrease on toward consumers for 26 days. The ability of middlemen to control the flow of market price information is readily seen in the 14-day delay in which higher consumer prices were passed back to farmers; yet when slack consumer demand forced a decline in prices, this was passed on to farmers in 1 day.

The information above suggests that serious barriers to the normal flow of market price information exist in the present system. This can be coupled with the lack of storage facilities in interior markets; i.e., farmers have no alternative but to sell as they harvest the new crop, and to atomistic selling units in the interior markets facing a few large buying units with much more market power.

The situation is quite different for eggs and oranges. The seasonal price variation for eggs, while 46 percentage points from low to high, is only 14 percentage points more than in the best country. Furthermore, profits of marketing firms are not as excessive as for potatoes and oranges. However, the average number of times eggs are handled in the system and product losses of 22 percent are excessive. The small percentage of total volume handled by the largest traders is suggestive of a lack of market control; in fact, marketing units may be too small for maximum marketing efficiency. Less than 1 percent of the total volume is placed in refrigerated storage. Certainly refrigerated storage facilities, fewer handlings, and better market information would help solve these problems.

Oranges lost or wasted in the marketing system represent 25 percent of farm marketings, an excessive loss of resources and an inefficiency requiring immediate attention. The number of handlings and seasonal price variations are also far out of line with performance in the best similar country. Market control by the largest 5 percent of the traders is significant and monopoly profits are earned. Additional knowledge about the practice of selling ungraded, mixed lots of all ranges of ripe, green, overripe, and diseased fruit leads to the conclusion that storage and better grading management practices are needed on farms and in interior markets.

Additional evaluating criteria than those shown would undoubtedly be sought and used. The example selected was not intended to be all inclusive. For example, it is also appropriate to analyze successful in-country agri-business marketing success stories with the help of knowledgeable nationals. Just as the best records of the top firms are sometimes used as standards in the United States, this type of analysis might also be useful in a developing country.

Following completion of the evaluation of the marketing system's performance, and isolation of priority problems, it becomes necessary to analyze the linkages between the priority problems and other marketing components. Quite often efforts to resolve one problem result in the creation of others. Few marketing functions are performed in isolation. Consequently, any systematic study must, of necessity, evaluate the consequences of any proposed change.

The schematic presentation in Figure 3 was the first step in this process. Here the top priority problem of perishables storage at five interior market points and on farms is linked with appropriate second and third priority marketing needs, and with the institutional, policy, and other factors of influence from outside the marketing system.

Additional evaluating criteria are then used to provide planners with a check list of the adequate and inadequate linkages relative to all components. These were listed in Table II. Program implementation cannot be affected until all evaluations are completed and policy considerations have been given careful consideration based on the full body of evidence at hand. This systematic approach enhances, but does not guarantee, the probability that all reasonable alternatives are considered before a course of action is chosen.

D. Calculating Economic Costs and Benefits

The methodology used to measure the value of any proposed marketing improvement is basically a quantification of the expected benefits and costs. The quantification is completed for each alternative under consideration, then a typical internal rate of return is calculated so that the alternative having the highest net rate of return may be selected. Assuming that reliable data are used in the analysis, some assurance is obtained about which alternative would be best - from an economic point of view.

The analyses must consider both direct costs and benefits as well as indirect ones. The former are more readily measured, while the latter may include social costs and benefits which often can only be estimates based on sound judgement and experience. However, estimates of the indirect costs and benefits need to be made since they can significantly affect interrelationships and shift the economic feasibility from one close alternative to another.

The example chosen to demonstrate the methodology is an actual cost-benefit analysis of the feasibility of constructing new wholesale market facilities for handling perishable foods in northeast Brazil. A brief review of each of the costs and benefits analyzed will be presented followed by a summary table of the actual calculations. The final section will show the conclusions drawn from the data by the analysts relative to the action recommended.

1. Quantifiable benefits and costs

(a) Benefits

Reduction in produce spoilage

Research data were obtained on commodity spoilage at the Recife and Salvador wholesale markets. Based on these studies, it was estimated that 20 percent of all perishable foods, such as fruits and vegetables, and 10 percent of all semi-perishables, such as cereals, were lost through spoilage in the wholesale system which existed before the new CARE wholesale facility was constructed and operational. Spoilage rates were reduced to 14 percent for perishables and six percent for semi-perishables. The reductions in spoilage of six percent and four percent respectively resulted from improvements in storage, handling, quality control, and packaging, in addition to the substantial reduction in the time food is in process between farmer and consumer.

To evaluate the savings in spoilage, the food saved was priced at its cost to the wholesaler, not at its retail price. Volumes were based on the size of the Recife marketing facility and on the market for food in Recife.

. Reduction in costs due to decrease in spoilage

Another substantial benefit is that, with a lower rate of spoilage, a smaller inventory is needed for a given volume of sales resulting in lower storage, transportation, and handling costs. This benefit was valued at an opportunity cost of capital of 10 percent and was equal to ten percent of the savings in product spoilage.

. Reduction in unloading and loading time

Utter confusion and congestion were observed at the existing traditional wholesale markets, especially at peak periods on principal market days. The situation was much worse during rainy periods since most existing markets had no cover and were unpaved, resulting in seas of mud, distant parking of trucks, etc.

In addition to lost time due to inefficient unloading and loading methods, there was lost time because of long waiting periods due to the small size of the facilities compared with the volume and number of vehicles serviced. Initial savings in loading and unloading time at the new markets are estimated at 1 hour, eventually rising to 2 hours.

(b) Costs

. Construction and equipping of markets

A number of engineering proposals and studies were analyzed. These studies were evaluated so that an accurate estimate of construction and installation costs, as well as the costs of operating the facilities, could be made. These are summarized in Table IX, page 66.

. Maintenance of market facilities and increased operating costs of new facilities

Increased operating costs included use of electricity (for producing ice and lighting) and water and sewage not available or utilized in the older markets. The Salvador market study estimated total operating costs, including personnel, maintenance, and utilities. The same costs were assumed for the proposed facility, and three-fourths of these costs were considered to be in addition to those existing in the older market facility.

2. Internal rate of return

Based on the estimates of direct costs and benefits described above and detailed in Tables IV through IX, an internal rate of return of 23 percent for a typical wholesale market facility was calculated. The volume and growth rate statistics used in the calculations were based on the most recent 2 years of data in Recife and Salvador.

In the case of fruits and vegetables, an average annual growth rate of 8 percent was assumed, based on the population growth rate, per capita income growth, and the income elasticity of demand for fruits and vegetables. The volume of fruits and vegetables was then projected for each year until 1990. The same procedure, with some modification, was used for cereals and dry goods, assuming a 4.5 percent average annual growth rate.

The volume of fruits and vegetables for 1970 was estimated at \$6.6 million.

Reducing spoilage 6 percent below what it would have been in the old facility results in a saving of approximately \$400,000 for 1970. Over the life of the project, savings in spoilage are considerable; see Tables IV and V. In similar fashion, savings in labor costs were estimated; see Tables VI and VII. Construction, maintenance, and operations costs were subtracted from benefits for each year to derive net flows, which were then discounted to present value to yield the internal rate of return.

3. Indirect benefits and costs

(a) Benefits

. Reductions in costs and risks and increased competition

Initially these benefits will be quite small, but should grow over several years. The design of the facilities assures a much larger operating scale per business unit than prevails in existing markets. The markets are designed to handle future demand by increasing the number of operating areas and stalls. The market news service will link other markets and interior points. All of these factors will reduce marketing risks and costs. Increased competition should result in lower margins, bringing them down from the current 18 percent on fruits and vegetables and 13 percent on cereals.

. Stimulation of farmer production due to increased opportunity for direct marketing - indirect income effects

More direct marketing by farmers would give them a larger share of the total price that consumers pay and hence larger incomes. The result should be increased farm production that would not have otherwise occurred without the new facilities.

. Economies in retailer purchases due to larger scale operations and ease in obtaining standard quality

Based on observations by USAID agricultural technicians, benefits to supermarkets will result in (a) an eventual reduction of 2 percent in purchasing costs of fruits and vegetables, and (b) an additional increase of 16 percent in the participation of supermarkets in retail sales of fruits and vegetables.

. Improved public health due to improved hygiene, cleanliness, and more stable supply

. Improved working conditions

. Improved transport services

(b) Costs

. Reduction in wholesalers' sales directly to consumers as result of non-centralized location of the larger market

. Some additional loading and unloading of trucks

These costs occur particularly in the early period until all facilities are in place and administration of the new facility is well organized.

4. Employment effects

(a) The estimated labor productivity gains are 4 percent, which could result in an unemployment problem. However, the increase in the amount of food flowing through the system is expected to be 8 percent per year. The increase in demand for labor as a result will most likely outweigh the loss of employment resulting from productivity gains.

(b) The construction of the market itself will generate significant demands for labor.

The marketing area data were studied and estimates of direct benefits to accrue from construction of the new markets were calculated. An internal rate of return of 23 percent demonstrates the economic utility of the proposed program. With such a high internal rate of return, the realistic figures for reduction in spoilage could be cut to the most pessimistic levels and an internal rate of return in excess of 10 percent still obtained. Additionally, indirect benefits, which should far outweigh indirect costs, were not figured into the internal rate of return.

The project will have important backward and forward linkage effects which should also be taken into account in appraising its value. The wholesale market will encourage farmers' cooperatives to rent stalls and facilitate improvements in market news services. Farmers will be in a better position to benefit from the existence of an efficient outlet for their produce. On the retail side, both supermarkets and smaller retailers will share in the benefits of purchasing commodities in a modern facility. The improved method of purchasing perishables will be of primary benefit to the small "feira" retailer whose sales consist of a high percentage of fresh fruits and vegetables. Although backward and forward linkages in addition to competitive pressures should push the benefits of the improved wholesale system to spread out, no attempt was made to calculate how much of the benefits each sector would receive. However, considering the intentions of SUDENE (The Government of Brazil's Superintendency for the Economic Development of the Northeast) to strengthen small grocers and to stimulate farmer marketing cooperatives, these groups should receive a significant amount of the benefits of the program.

TABLE IV: VOLUME PROJECTIONS AND REDUCTION IN SPOILAGE FOR FRUITS
AND VEGETABLES, NORTHEAST BRAZIL WHOLESALE MARKET 1/

<u>Year</u>	<u>Volume</u> <u>(Millions of \$)</u>		<u>Percent</u> <u>Reduction</u>		<u>Total Reduction</u> <u>in Spoilage (Dollars)</u>
1969	\$ 6.15	X	6	=	369,000
1970	6.6	X	6	=	396,000
1971	7.1	X	6	=	426,000
1972	7.7	X	6	=	462,000
1973	8.3	X	6	=	498,000
1974	9.0	X	6	=	540,000
1975	9.7	X	6	=	582,000
1976	10.5	X	6	=	630,000
1977	11.3	X	6	=	678,000
1978	12.2	X	6	=	732,000
1979	13.2	X	6	=	792,000
1980	14.3	X	6	=	858,000
1981	15.4	X	6	=	924,000
1982	16.6	X	6	=	996,000
1983	17.9	X	6	=	1,074,000
1984	18.0	X	6	=	1,080,000
1985	18.0	X	6	=	1,080,000
1986	18.0	X	6	=	1,080,000
1987	18.0	X	6	=	1,080,000
1988	18.0	X	6	=	1,080,000
1989	18.0	X	6	=	1,080,000
1990	18.0	X	6	=	1,080,000

1/ Assuming an average annual growth of 8 percent.

TABLE V: VOLUME PROJECTIONS AND REDUCTION IN SPOILAGE FOR CEREALS,
 DRY GOODS, ROOTS AND TUBERS, NORTHEAST BRAZIL WHOLESALE MARKET 1/

Year	Volume (Millions of \$)		Percent Reduction		Total Reduction in Spoilage (Dollars)
1969	\$ 2.6	X	4	=	104,000
1970	2.7	X	4	=	108,000
1971	2.8	X	4	=	112,000
1972	2.9	X	4	=	116,000
1973	28.1	X	4	=	1,124,000
1974	29.3	X	4	=	1,172,000
1975	30.6	X	4	=	1,224,000
1976	32.0	X	4	=	1,280,000
1977	33.4	X	4	=	1,336,000
1978	34.9	X	4	=	1,396,000
1979	36.5	X	4	=	1,460,000
1980	38.1	X	4	=	1,524,000
1981	39.8	X	4	=	1,592,000
1982	41.6	X	4	=	1,664,000
1983	43.5	X	4	=	1,740,000
1984	45.5	X	4	=	1,820,000
1985	47.5	X	4	=	1,900,000
1986	49.6	X	4	=	1,984,000
1987	51.8	X	4	=	2,072,000
1988	54.1	X	4	=	2,164,000
1989	56.5	X	4	=	2,260,000
1990	59.0	X	4	=	2,360,000

1/ Assumptions: At the moment CARE does no business in cereals and dry goods and can probably be expected to initiate this line when construction is complete, or in 1972 or 1973. However, figures based on the Michigan State study indicate that the wholesale volume in cereals in that year will be approximately \$24 million. In 1969, CARE had a volume of \$2.6 million in roots and tubers. An average annual growth rate of 4.5 percent per year is assumed.

TABLE VI: SAVINGS IN LABOR COSTS DUE TO BETTER LOADING AND UNLOADING FACILITIES
FOR FRUITS AND VEGETABLES, NORTHEAST BRAZIL WHOLESALE MARKET 1/

Year	Volume in Millions of \$		Average Value of Truckload of Produce (Dollars)		Average Number of Truckloads Per Year		(Dollars)		Total Savings (Dollars)
1969	6.15	÷	300	=	20,500	x	1.87	=	38,300
1970	6.6	÷	300	=	22,000	x	1.87	=	41,000
1971	7.1	÷	300	=	23,000	x	1.87	=	43,000
1972	7.7	÷	300	=	25,000	x	1.87	=	46,700
1973	8.3	÷	300	=	27,000	x	1.87	=	50,500
1974	9.0	÷	300	=	30,000	x	1.87	=	56,100
1975	9.7	÷	300	=	32,000	x	3.74	=	119,700
1976	10.5	÷	300	=	35,000	x	3.74	=	130,000
1977	11.3	÷	300	=	37,000	x	3.74	=	138,000
1978	12.2	÷	300	=	40,000	x	3.74	=	149,600
1979	13.2	÷	300	=	44,000	x	3.74	=	164,500
1980	14.3	÷	300	=	47,000	x	3.74	=	176,000
1981	15.4	÷	300	=	51,000	x	3.74	=	190,000
1982	16.6	÷	300	=	55,000	x	3.74	=	205,000
1983	17.9	÷	300	=	59,000	x	3.74	=	220,000
1984	18.0	÷	300	=	60,000	x	3.74	=	224,000
1985	18.0	÷	300	=	60,000	x	3.74	=	224,000
1986	18.0	÷	300	=	60,000	x	3.74	=	224,000
1987	18.0	÷	300	=	60,000	x	3.74	=	224,000
1988	18.0	÷	300	=	60,000	x	3.74	=	224,000
1989	18.0	÷	300	=	60,000	x	3.74	=	224,000
1990	18.0	÷	300	=	60,000	x	3.74	=	224,000

1/ Assumption: Between 1969 and 1974 an average of one hour per truckload is saved, or \$1.87 per truck, and from 1975 to 1985 an additional hour is saved, or \$3.74 per truckload.

TABLE VII: SAVINGS IN LABOR COSTS DUE TO BETTER LOADING AND UNLOADING
FACILITIES FOR CEREAL AND DRY GOODS, ROOTS AND TUBERS, NORTHEAST
BRAZIL WHOLESALE MARKET 1/

Year	Volume in Millions of \$		Average Value of Truckload of Produce (Dollars)		Average Number of Truckloads Per Year		(Dollars)	Total Savings (Dollars)
1969	2.6	÷	300	=	7,800	x	1.87	= 14,580
1970	2.7	÷	300	=	9,000	x	1.87	= 16,830
1971	2.8	÷	300	=	9,300	x	1.87	= 17,390
1972	2.9	÷	300	=	9,600	x	1.87	= 17,950
1973	28.1	÷	500	=	56,200	x	1.87	= 105,090
1974	29.3	÷	500	=	58,600	x	1.87	= 109,580
1975	30.6	÷	500	=	61,200	x	3.74	= 228,800
1976	32.0	÷	500	=	64,000	x	3.74	= 239,400
1977	33.4	÷	500	=	66,800	x	3.74	= 250,000
1978	34.9	÷	500	=	69,800	x	3.74	= 260,000
1979	36.5	÷	500	=	73,000	x	3.74	= 273,000
1980	38.1	÷	500	=	76,200	x	3.74	= 285,000
1981	39.8	÷	500	=	79,600	x	3.74	= 297,000
1982	41.6	÷	500	=	83,200	x	3.74	= 311,000
1983	43.5	÷	500	=	87,000	x	3.74	= 325,000
1984	45.5	÷	500	=	91,000	x	3.74	= 340,000
1985	47.5	÷	500	=	95,000	x	3.74	= 355,000
1986	49.6	÷	500	=	99,200	x	3.74	= 371,000
1987	51.8	÷	500	=	103,600	x	3.74	= 387,000
1988	54.1	÷	500	=	108,200	x	3.74	= 405,000
1989	56.5	÷	500	=	113,000	x	3.74	= 423,000
1990	59.0	÷	500	=	118,000	x	3.74	= 441,000

1/ Assumption: Between 1969 and 1974 an average of one hour per truckload is saved, or \$1.87 per truck, and from 1975 to 1985 an additional hour is saved, or \$3.74 per truckload.

TABLE VIII: OPERATING AND MAINTENANCE COSTS,
NORTHEAST BRAZIL WHOLESALE MARKET 1/

Year	Estimated Total Construction Costs (Dollars)				Estimated Operating and Maintenance Cost (Dollars)
1968	1,450,000	x	3%	=	43,500
1969	1,750,000	x	3%	=	52,500
1970	2,750,000	x	3%	=	82,500
1971	5,500,000	x	3%	=	165,000
1972	8,000,000	x	3%	=	240,000
1973	8,000,000	x	3%	=	240,000
1974	8,000,000	x	3%	=	240,000
1975	8,000,000	x	3%	=	240,000
1976	8,000,000	x	3%	=	240,000
1977	8,000,000	x	3%	=	240,000
1978	8,000,000	x	3%	=	240,000
1979	8,000,000	x	3%	=	240,000
1980	8,000,000	x	3%	=	240,000
1981	8,000,000	x	3%	=	240,000
1982	8,000,000	x	3%	=	240,000
1983	8,000,000	x	3%	=	240,000
1984	8,000,000	x	3%	=	240,000
1985	8,000,000	x	3%	=	240,000
1986	8,000,000	x	3%	=	240,000
1987	8,000,000	x	3%	=	240,000
1988	8,000,000	x	3%	=	240,000
1989	8,000,000	x	3%	=	240,000
1990	8,000,000	x	3%	=	240,000

1/ Estimated at 3% of Construction Costs.

TABLE IX: SUMMARY TABLE OF DIRECT BENEFITS AND COSTS,
NORTHEAST BRAZIL WHOLESALE MARKET

		BENEFITS (Thousands of \$)				COSTS (Thousands of \$)			Discount Factors			
		Reduction in Spoilage		Inventory Saving on Fruit & Vege. (10%)	Savings in Handling	Total Benefits	Const- ruction	Operating and Maintenance	Total Costs	Net Flow	15%	25%
		Fruit & Vege	Cereals									
Year												
1966						400			- 400	.9333	.8963	
67						500			- 500	.8115	.7170	
68						550	44	594	- 594	.7057	.5736	
69		369	104	37	53	300	52	352	+ 211	.6136	.4589	
70		396	108	40	56	602	82	682	- 480	.5336	.3671	
71		425	112	43	60	2750	165	2915	-2274	.4640	.2937	
Construction completed (72		462	116	46	65	639	240	2740	-2051	.4035	.2350	
(73		498	1124	50	155	1827	240	240	+1587	.3508	.1380	
74		540	1172	54	166	1932	240	240	+1692	.3051	.1504	
75		582	1224	58	349	2213	240	240	+1973	.2653	.1203	
76		630	1280	63	369	2342	240	240	+2102	.2307	.0962	
77		675	1336	68	383	2470	240	240	+2230	.2006	.0770	
78		732	1396	73	410	2611	240	240	+2371	.1744	.0616	
79		792	1460	79	437	2768	240	240	+2468	.1517	.0493	
80		858	1524	86	461	2929	240	240	+2689	.1319	.0394	
81		924	1592	92	487	3095	240	240	+2855	.1147	.0315	
82		996	1664	100	516	3276	240	240	+3036	.0997	.0252	
83		1074	1740	107	545	3466	240	240	+3220	.0867	.0202	
Capacity in Fruits & Vege. 84		1080	1820	108	564	3072	240	240	+2532	.0754	.0161	
85		1080	1900	108	579	3667	240	240	+3427	.0656	.0129	
86		1080	1934	108	595	3767	240	240	+3527			
87		1080	2072	108	611	3871	240	240	+3631			
88		1080	2164	108	629	3981	240	240	+3741			
89		1080	2260	108	647	4095	240	240	+3855			
90		1080	2360	108	665	4213	240	240	+3975			
										-3337	-2384	
										+5164	+1956	
										+1827	- 423	

$$IRR = 15\% + \frac{1327}{1827 + 423} \times 10 = 23\%$$

IV. ORGANIZING MARKETING REFORMS

Changes in marketing systems for food may be occasioned by (1) technological factors such as the introduction of trucks for transporting goods to market and mechanical refrigeration to maintain the life of perishables in stores and warehouses; (2) organizational factors such as the establishment of cooperatives, marketing boards, or grain stabilization agencies; (3) societal factors, as when consumer preferences turn to wheat and bread rather than rice as they become more urbanized and their incomes rise; and (4) governmental factors - services provided such as market news or regulations as standards of weights and measures for different commodities and containers. As indicated in the discussion on marketing systems, the incidence of one element (e.g., a technological change) may require and lead to other kinds of changes (e.g., a further change in technology or a new organizational arrangement). Studies would be useful on lead factors in bringing about marketing changes in different developing countries.

Alterations in marketing systems are likely to work to the advantage of some and the disadvantage of others, hence there are differences of opinion as to the desirability of change -- whatever its objective merits. Therefore, those who seek reforms are likely to encounter objections and will need to overcome obstacles in order to accomplish their purposes. From the point-of-view of those concerned with effecting reform -- local government officials, private investors, or external aid agencies -- it is not enough to know what changes are needed and should be advocated. They must also know how the changes may be brought about and what are some of the secondary or tertiary affects of instituting marketing reforms. It is not enough to recommend changes solely on the basis of immediate costs and benefits in economic terms, nor solely on the basis that a proposed loan will be repaid under the terms negotiated. In seeking to institute marketing reforms, some of the considerations that need to be taken into account include the impact on employment, the availability of credit and returns on capital, the supply of food for the needy, and the human and institutional capability for accomplishing reforms.

A. The Problem of Resistance to Change

1. Sources of resistance to reform

There are many reasons why people and institutions resist change; this paper discusses only some of those frequently encountered. Among the most basic obstacles are those arising from vested economic interests in preserving existing marketing arrangements. Thus middle-men who lend farmers the money they need for production and buy the product afterward, as part of a tied arrangement giving them leverage at both ends of the transaction, may object to changes giving farmers other options. A produce merchant operating out of a stall in an old central market with known costs and customers may be reluctant to accept better physical arrangements which may adversely alter the conditions which permit him to eke out an existence.

Vested economic interests are not, by their nature, either bad or wrong, they are simply the attachment people have to known systems by which they make a livelihood and interact with others in the economic community. And the strength of the attachment is not alone a function of how well off the individual may be under the system, but of other factors as well. Nor can the holding of vested interests be brushed aside as being irrational or prejudicial to larger economic interests of a region or nation. For example, the large producers of export crops are rarely interested in expanding the internal national market; they emphasize the value of foreign exchange earnings and hence urge policies to enhance their export potential. The national economy of many areas subsidizes the growth of export crops such as sugar, coffee, and bananas, and this reinforces the natural resistance to accepting the uncertainties of selling in the internal market. This was the case among sugar growers of Puerto Rico who were, to some extent, displaced by the dairy industry serving the local Puerto Rican market. Cotton and cane growers in the northeast of Brazil are similarly linked to export markets and have shown little interest in activities designed to develop internal markets.

One of the most pervasive of problems in bringing about improvements in marketing systems is the lack of information and understanding on the consequences of changes. Even in modern societies with sophisticated approaches to the determination of cause and effect relationships in economic activities, it is difficult to determine consequences beyond the first ripple. In developing countries there is a paucity of basic information on which to determine what the prevailing situation is to establish benchmarks against which changes may be measured. At both the micro and macro level, those needing to make decisions often lack adequate data and the methodology for analyzing what they have. Hence, decisions at both the firm (or farm) level and at the national (or provincial) level are usually made on the basis of what has been before.

Cultural constraints are another factor inhibiting the modernization of marketing systems. From the point-of-view of those concerned with extending development assistance, problems of this kind are particularly difficult to overcome. It is hard to understand the roots of some marketing practices that seem to be part of a culture, or how deep and fixed the roots are. For example, the role of the market women in Latin America and in Africa is imbedded in the culture of different regions and tribes, and may go back hundreds of years. Involved may be basic differences in the economic role of men and women in the society.

Cultural factors affect many aspects of a marketing system: the kinds of food that are eaten and the manner in which they are prepared for market and for home consumption; the status value of different foods among different groups or tribes within a country; and the place of traders in the society and those elements which comprise the middlemen strata (e.g., the Chinese in Malaysia). At issue are questions of

how many of the cultural constraints should be accepted as "givens" and not subject to change, and how many might be modified. If changes are needed, what might be the most likely means of affecting them? This is an area in which country studies may be most useful.

2. Strategies for overcoming resistance

Perhaps the most intriguing discussion on this issue is that by Albert Hirschman. 29/ He describes two different models for analyzing economic reform in developing countries (based on his studies in Latin America): (1) Engineering reform by holding up the prospect of revolution (in this approach the possibility of "revolution" as an alternative to "some change" or "no change" is likely to force agreement on the middle course); and (2) engineering reform through logrolling and shifting alliances (in this approach the "reform" is not limited to "some change" but to a number of possibilities, any one of which needs a preponderance of support to take effect). While the analysis presented is in terms of parliamentary voting, the concept may be extended to other situations in which numerous individuals and interests are involved in the decision. The term "revolution," in this instance, merely means a radical or major change in existing marketing structures.

Another means of bringing about marketing reforms is through the deployment of "countervailing power." While used in a different sense by other writers, the term is used here to suggest the organizing of the forces of reform against those resisting change. Sometimes, external assistance is needed to identify forces for change and to make their involvement effective. For example, efforts were made to establish a new central market in Costa Rica, but the forces for the status quo, those operating within the existing market, were too strongly entrenched. Those likely to want an improved market included emergent retailer groups, central government officials concerned with public health and sanitation, local city officials concerned with food prices, and cooperatives of producers (or possibly consumers). But the situation lacked a catalyst to coalesce these groups into an effective countervailing force for reform.

There will be times and situations where the economic power of an individual or group in the marketplace must be reduced to affect needed reforms, and this may mean a reduction in that person's or group's position and profits. In such instances, political means may need to be employed, either by working through countervailing economic groups or through the governmental process. Hirschman points out that, when changes are being advocated, those who stand to lose by the change may need to be faced with the alternatives in which "some change" with "little loss" is to be preferred to "total change" and "total loss." 30/ What is involved for the "reformer" -- whether a local official or external advisor -- is how to delineate the differences and marshal the facts which lead to broad support for a technically acceptable solution.

While recourse to governmental processes may be necessary to bring about change, the government itself may be a major obstacle to reform. The government may hold up or otherwise interfere with changes --

either because those in government who hold the power may side with the economic interests who oppose altering the status quo, or because the policy-making process itself tends to slow the tempo of change. Interests which have enjoyed advantages in existent marketing arrangements are likely to have acquired better access to and influence over those who hold power in government. Hence, the inter-connection between economic and political power usually tips the scales in favor of the status quo. In most government systems, the mechanism for making policy usually involves passage of proposals by numerous committees and chambers and retards any positive change from emerging. The interests seeking reform must organize sufficient power to get the wheels of change going and maintain pressure over considerable time to see the measures through.

Nevertheless, in most developing countries the government needs to be a principal agent for economic reform -- initiating and facilitating needed changes. The private trading sector is often in small hands operating in local markets with little capital. Hence, strategies for organizing reforms in marketing systems need to include government -- its policies, its service, and its regulations. Moreover, such government activities are themselves often basic elements in the modernization of marketing systems. Government policy may, for example, bring about more equitable balances between producers, consumers, and the distributors of agricultural commodities. Government services may facilitate market transactions and the movement of commodities from one part of the country to another. Government regulations may protect the consumer, the producer, and the distributor from the unscrupulous among them, creating a foundation of national confidence essential for developing a national market. Government assistance in the development of district wholesale marketing facilities is cited by Mosher as an important element in creating a progressive rural system of institutions. 31/

Whether government agencies will take the steps necessary for modernizing a marketing system is likely to depend on their understanding of what needs to be done and their technical competency to do it. Some kinds of policies (e.g., intervention in the pricing system that will create optimum balances between demand and supply of food crops) require sophisticated economic analyses as well as skilled administration. Marketing regulations similarly require economic analyses and administrative capability, together with integrity and impartiality. Services need to be widely available and acceptable in order to facilitate, rather than inhibit, the functioning of larger regional or national markets. These are areas in which technical assistance may be especially useful.

When modern elements begin to manifest themselves in the private sector, as when a new technology or enterprise evolves, there are possibilities for encouraging and assisting their fuller development. Opportunities may then open up for the effective use of technical assistance, particularly in the form of training programs.

B. The Problem of Capital for Marketing Improvements

While the need for infusions of external capital to maintain the economic health of low income countries is widely recognized, the implications for marketing improvements have received scant attention. As economies develop, they characteristically become increasingly monetized. A large share of the money that is injected into a modernized economy is utilized in its marketing system. As incomes and urbanization grow, the proportion of the nation's total credit and currency utilized in the marketing system will increase rapidly because urban populations depend much more heavily upon marketed supplies of food and other consumption goods. Sector development programs, whether rural or industrial, often provide for expansion of credit for production but neglect to add the necessary capital to operate the marketing channel efficiently.

1. Operating credit and equity capital

One of the links binding the distribution channel together and making it resistant to change is the credit relationship of buyer and seller. Atomistic retailers use a good deal of credit in their operations. The nature of the credit practices is revealed by the pay-back period and cost of the credit. Research in Recife, Brazil, revealed the high cost to consumers of inefficient retail credit systems. Atomistic retailers operating in street fairs or as itinerant merchants had to pay back their credit in less than one week on the average. This again reflects the nature of the street market, where the operator buys new stock each week or several times a week, and the supplier requires a repayment of the previous debt before he advances credit on a new stock. This short-term credit costs the atomistic retailer from slightly over 100 percent to over 700 percent, and this cost is transferred to consumers. The small retailer pays high credit costs because he may have no alternative sources of money and usually has no collateral for a loan. If he cannot get stock to sell, he may be out of business and he and his family go hungry. The normal pay-back period for larger self-service retailers is about one month. The cost of that credit, as measured by the interest charge and the price differential if the product had been purchased for cash, was substantially lower. Larger retailers have longer pay-back periods than the atomistic retailers in most cases and pay lower credit costs (99 percent to 175 percent per year). Even these costs, however, are high for those who use credit. 32/

Entrepreneurs at other places in the marketing channels are also likely to pay dearly for credit. In part, this is because there has been less experience in financing marketing firms, and lenders have been in stronger bargaining positions than borrowers. Grain mills and other processing plants, central markets, and warehouses are likely to operate in outmoded facilities and use old equipment because of the high cost of modernization. Studies are needed on ways in which more adequate credit at better terms might be made available to food marketing firms and cooperatives.

Perhaps, as greater marketing coordination is achieved, the amount of risk is reduced and financial institutions may be more willing to advance credit and equity capital. The evidence at hand, from studies in several regions of Brazil, suggests a connection between more integrated marketing enterprises and increased capital investments, but it is not clear which factor led and which followed.

A growing marketing system requires not only additional operating capital and credit, but also the equity capital for new and expanded marketing enterprises. National and international lending agencies and local/private sources of capital have been slow to see opportunities in the distribution side of the economy. In part, this has been because traditional equity financing has gone to more tangible enterprises, those in which land and industrial plants have been involved. Behind this customary flow of capital are the economic considerations of return on investments and the amount of risk to the capital committed. Other considerations are linked up with the socio-economic structure of the society and cultural factors in which traders and middlemen are accorded lower (or "outlander") status. There is need for research on ways in which the capital constraint on marketing improvements might be overcome.

2. The magnitude and mix of capital requirements

Estimates have been made as to the capital requirements to attain levels of agricultural production deemed necessary to meet population needs. ^{33/} Similar estimates have not been made for financing the movement of these commodities from producers to consumers. As a larger proportion of total food consumption for both rural and urban populations moves through commercial marketing channels and involves greater distances and time lags between production and consumption, money requirements of the marketing system expand enormously. Studies on capital requirements are needed for both micro and macro decisions for use by local country bankers and international lending agencies.

More efficient production and distribution of food supplies is likely to be reflected in lower consumer prices. Since there are large unmet food needs among the poor in developing countries, the result is likely to mean substantially increased demand. Hence, the levels of stabilizing stocks need to be proportionately larger or LDC's face recurrent human and economic distress of widely fluctuating prices on basic food commodities. Few developing countries have estimates of the cost of maintaining stocks of basic food crops adequate to assure price and supply stability. Such stocks would require not only the capital for storage and warehouse facilities but also the extended credit to cover inventories at different stages in the channels. The amount and cost of such credit, whether utilized by public or private agencies, needs to be assessed and provisions made for it in overall development policies.

Since a large proportion of the total capital required for improvements in marketing in developing societies is utilized as rotating credit to monetize the economy and to monetize the market system, a relatively small proportion of the total capital required needs to be in foreign exchange. Foreign exchange is often needed for technical assistance and some special equipment for processing and communication functions. Consideration needs to be given to the mix of external funding -- that by public and private institutions and the terms under which loans are made for marketing improvements. However, relatively little of the total needs will involve foreign exchange. Domestic currencies will meet much of the financing needs in both public and private sectors. Too often the public sector gets support when the private sector activities need similar financial encouragement and support.

Financing of efficient facilities to carry out expanded retailing, wholesaling, processing, and transporting activities is needed in many developing countries. The financing of one facility may lead to requirements for others; e.g., the funding of a new central market leads to requirements for new access streets. New technological developments in food processing or facility construction also stimulate the need for more capital. High priority needs to be accorded for new fiscal policies and institutional arrangements to increase capital and credit availability. This is an area in which both research and technical assistance would be useful.

C. Human and Institutional Capability

Marketing activities are performed by individuals working within the framework of many and varied institutions. The institutions give form and continuity to the individual actions and to the overall marketing process. Often marketing institution growth in developing countries lags behind other programs, even where capital is readily available for marketing institutions, because trained personnel are not available to help staff facilities and to implement marketing programs.

As marketing institutions become more complex -- taking on more activities over larger geographical areas, involving more products and people as well as capital -- the task of management grows more difficult. In most developing countries, there has been little training in specific marketing functions or in the management of agribusiness firms performing them. This is an area in which technical assistance can be useful and should have high priority.

Some have called this upgrading human capital inputs in developing countries. It is a necessary adjunct to other capital inputs designed to improve marketing institutions and performance. Marketing institutions mean different things to different people: a commodity stabilization agency; an export marketing board; a super-market chain; the system of wholesaling and retailing; the central market in a village; or the arrangement between farmer and the rice miller. Marketing institutions are only as effective in a distribution system as are the people involved in their operation and management.

In most instances, the working of these institutions can be improved and their functions performed more efficiently. However, institutions and the individuals directing them tend to resist changes. Government agencies that might (and should) be concerned with marketing reforms are slow to take on a more positive role; private entrepreneurs tend to avoid the risks of uncertain innovations. In the production of crops, as in their distribution, the likelihood of rewards need to be enhanced and risk of losses reduced in order to encourage changes to take place in the marketing system. In many countries, a first step in improving the operation of marketing institutions is a better understanding of marketing functions and how the activity of individual institutions is linked to others in the marketing system. The shortage of human capital in the marketing systems in developing countries is in two areas:

1. A sufficient pool of technically-trained people to handle problem identification and policy implication studies; and
2. A large number of individuals with operational and management capabilities to perform the functions essential for the efficient operation of marketing and agri-business institutions of all kinds.

1. The private sector

In most countries and at all stages of development in marketing systems, domestic trade in agricultural commodities is carried on in the private sector. At early stages of development, private traders are small and cover relatively small geographic areas, each performing a limited number of marketing functions. At later stages, integrated marketing enterprises are organized to perform more functions over wider areas. The role of private enterprise in stimulating marketing reforms, and the conditions under which it may be an effective change agent need to be studied in a number of representative countries.

The amount of earnings that accrue to different individuals or groups in the marketing process depends on what function they perform, how efficiently it is done, and what their bargaining position is in the transaction. Organizing to perform a marketing activity can improve the individual's position in all three respects. Several marketing functions may be integrated or coordinated in order to improve operating efficiency and an individual's position in the marketplace. Organizations that increase the efficiency of marketing operations can hold down overall marketing costs and hence may benefit producers, consumers, or both.

Producer organizations with special concern for marketing are prevalent in most countries. For many years, most producer organizations were made up of large commercial enterprises principally concerned with traditional export commodities such as coffee, tea, sugar, rubber, and bananas. In recent years, smaller farmers have also been organizing to improve their marketing strength. Small farmers have joined together in cooperatives to perform some of the marketing functions themselves, and to win better prices for their products going to market.

Cooperatives may contribute to improved marketing by their members in several ways: (1) Performing basic marketing functions such as transporting, milling, grading and conditioning; (2) helping members improve their farming so they may produce more or higher quality products; (3) providing market information and guidance to help members know when it is in their interest to produce more or less of a commodity; and (4) undertaking or contracting for activities to protect and promote commodity development such as spraying against insects or conducting research on industrial uses of a commodity. The number of functions that may be performed and the effectiveness of a cooperative's operation depends on the quality of its management and the cooperation of the membership.

From the point-of-view of marketing efficiency, organizations of small marketers are also useful. Through joint efforts, marketers may integrate and coordinate different marketing functions and secure economies of scale. The small size of most retail operations in developing countries makes cooperative associations of food retailers particularly important. A group of retailers in a city may operate their own warehouse and distribution center. Assured of a significant volume of business, favorable arrangements may be worked out with food processors and importers, and

production agreements made with farmers or their associations. Operating their own warehouse, retailers may substantially reduce the usually heavy costs for wholesaler-retailer salesmen and extended credit.

In principal cities of a number of developing countries, retail food chains have emerged and are becoming an increasingly important part of the marketing scene. Some writers on marketing in developing countries have suggested that supermarket chains are an important force in modernizing overall marketing processes. ^{34/} The case of Puerto Rico is often cited in support of this contention; in that country the supermarkets did affect the entire food marketing process. It is not clear, however, whether the Puerto Rico case, with its special U.S. linkages, can serve as a model for other developing countries. There is need for studies to determine when in the development process supermarkets might be appropriately introduced, and what conditions of income or population density need to be attained for successful operation.

2. The public sector

There are some situations and kinds of marketing activities for which a government or quasi-government organization may be most appropriate. Because the supply and price of food is so vital to so many, governments have often intervened in food marketing systems. Such intervention has been direct, as in operating a seed supply system or retail food stores, or indirect, as with policies influencing private firms engaged in these kinds of activities. Despite intervention by government agencies, marketing operations are performed largely by private firms, farmers, or farm organizations. Where profits accrue to the more efficient and enterprising, the pursuit of gains stimulates efforts to improve market performance. Private enterprise, however, cannot function effectively in marketing (or in farming or industry) without supporting policies and services of public agencies.

Public policies may encourage and facilitate efficient marketing operations or impede them. Sometimes government officials are not aware of how rules or regulations get in the way of economic activities they wish to encourage. Old laws may remain on the books to be invoked in an arbitrary manner by some self-seeking petty official. One government agency may seek modernization of food marketing, but another may set import regulations that prevent firms from acquiring refrigeration equipment for retail stores or wholesale warehouses. Or regulations governing the import of packaging materials may make it more difficult and more costly to obtain wider distribution of fresh or processed produce. Agreement may be reached with a Ministry of Commerce and Development on building a new food processing plant, but another Ministry may make it inoperative when built by failing to fulfill commitments on access roads. Private marketing firms report that uncertainty and the arbitrary rendering of decisions as much as the substantive nature of public policies impede their progress.

Studies are needed on the relationship between public policies and the response of private traders in providing marketing services and the specific policies or services needed to encourage more enterprise in marketing systems.

Public services include the essential infrastructure such as farm-to-market roads, railways and highways, ports and dock facilities. Less visible services that need to be provided by agencies of the government include basic statistical and economic data for domestic and overseas market analyses; the collection and dissemination of authoritative and timely market intelligence; establishment of grades and standards and the mechanics for enforcing adherence to rules and norms in the marketing system; and some forms of assistance for small marketers.

Among services that government might help provide in order to improve the functioning of marketing institutions are technical assistance and training -- particularly for the small firm. Such programs might well be organized in cooperation with indigenous or foreign trade associations of a professional or technical nature. Among the kinds of technicians likely to be needed are engineers, food chemists, marketing economists, and trade and transportation specialists. Few developing countries have technically qualified personnel to provide such services, and most firms are too small to pay commercial rates for them. Hence there is need to organize some collaborative effort between government agencies, international technical assistance organizations, and private groups.

Another important area of government services is that prescribing the rules of operation of marketing institutions endowed with a "public interest." Thus, public warehouses providing storage for all on a commercial basis, and terminal produce markets, serving as the principal collection and distribution point for a city's perishable foods, need to have operating "norms" which meet the interests of all parties concerned. The interdependence of people and of parts in the marketing system means that norms of business behavior, like oil in machinery, can help protect the moving parts and assure a smoother overall operation.

The range and complexity of services needed to support an efficient marketing system require more resources than most developing countries have thus far allocated for this purpose. Performing the services requires more personnel trained in marketing and related fields than are now available in these countries. Because of the constraints of money and manpower, only the more urgently needed marketing services may be possible. But, consideration needs to be given to increasing the resources made available for these services -- and in a greater order of magnitude than the growth in commodity production. The provision of marketing services is an essential part of marketing improvements and, in turn, contributes to other improvements in the system.

D. Resolving Conflicts and Establishing Priorities

The process of resolving conflicts and establishing priorities varies considerably from country to country. In each case, however, there are economic and non-economic considerations. Economic analyses such as the calculation of costs and benefits described on pages 56-66 may help clarify the economic implications of alternative actions. But most economic analyses deal with a limited array of questions -- those which the analyst or the official directing the inquiry may feel are the important ones. Thus, for example, economic analysis on pricing policies related to increasing the production of fluid milk may cover the supply response to different price levels but not which regions or which size farms are likely to respond most and the availability of milk for different consuming centers.

The issue of what questions get asked in economic analyses is no less important than the issue of what problems are analyzed. In both instances the agenda for research is itself subject to prevailing values and political as well as economic considerations in the respective countries. Analyses on how much grain storage a country needs may lead to different kinds of policy decisions than studies which also deal with questions of which farm or merchant groups are served by storage facilities of different sizes and types and locations.

In many developing countries, marketing reform decisions may be made without taking into account all the different interests. Fewer alternatives are explored. The decisions respecting conflicting interests may thus be less difficult to make, but at the same time, the decisions made may not be the best possible ones for accomplishing wider development objectives.

The process of resolving conflicting interest is, in part, political; i.e., decisions are made on the basis of real or perceived power as well as economic analyses. For example, the question of putting more resources into farm-to-market roads versus improving port facilities can be analyzed in economic terms yet decided largely on political grounds; costs can be estimated and returns calculated for farmers using the roads to bring their produce to local markets, as well as for farmers using the port for exports. Implications for the national economy of raising incomes for several hundred low income farmers selling in the local market versus several dozen farmers engaged in exports may also be estimated (in terms of tax returns and consumer expenditures). The trade-offs as between some added foreign exchange earnings versus increased supplies at local markets cannot be directly compared (unless import substitution is involved). In this way, marketing analysts in developing countries or their external advisors can contribute to an understanding of the alternatives and their likely economic costs and benefits. At the same time, it is important to recognize and to point out the limited range of considerations taken into account in the economic analyses made. The public official may then decide, taking into account such factors as distributive justice for small farmers or the political power of large exporters.

The ordering of priorities in marketing improvement efforts is similarly subject to economic and non-economic considerations. In low income countries where resources are chronically short, programs which do not have high priority do not get started, or if begun, may not be completed.

If a particular marketing project is agreed upon (e.g., replacing a wholesale produce market in an LDC city), then a systems approach to the effort can help establish the sequence or priority order for a number of interrelated elements. The Government of Brazil, with the assistance of AID and IDB, is planning to build a number of wholesale markets. Such a program requires ordering of priorities in both the physical (hardware) aspects and the human and institutional (software) elements. Starting with a target date for beginning the operation of a new market, one can work back to elements that need to be initiated; e.g., the building of access roads and the training of market managers or market news reporters require lead-times which need to be taken into account in setting program priorities.

The objective of improving diets among the very poor also raises questions of priority: to reach the most vulnerable groups (the mother-child situations) or to spread available resources in meeting the needs of all. The establishment of priorities thus involves an assessment of economic costs, the state of technology, and the institutional and managerial capability available for carrying out alternative programs.

The discussion on the evolution of marketing systems which suggests the order in which problems are likely to be encountered offers clues to priorities. Similarly, the comments under trade-offs (pages 29-36) suggest further considerations in resolving conflicting interests and setting priorities to improve food marketing systems. This paper, however, does not attempt to provide a universal guide to action or a computer-type model which might permit the working through of an equation with a great many variables. These approaches often lack practical usefulness for LDC officials or for technicians assisting them on a day-to-day basis.

V. THE ROLE OF RESEARCH AND TECHNICAL ASSISTANCE

Research and technical assistance for the improvement of marketing are closely related. Each may follow after the other, and each is likely to contribute to the value of the other. Research should provide information and analysis on which micro and macro decisions on marketing activities might be made. Technical assistance specialists, having responsibility for helping in the decision-making process, look to the information that is available and, where inadequate, may provide the stimulus and direction for needed studies.

Technical assistance and research on marketing can provide new insights and impetus, not only for agricultural development but also for linking gains in agriculture to other sectors of the economy. Marketing is not a passive adjunct to production but a motive force in the development process. Marketing systems are key elements in many of the problems that emerge as developing countries move from traditional to commercial agriculture: Rural incomes and migration; export earnings and import substitution; the cost of food (and hence the standard-of-living) for urban workers; crop diversification and market development; employment and incomes in service occupations; agri-business; and new product development. Horizons for research and technical assistance need to be lifted to encompass the whole range of rural-urban relations as well as the specifics of commodity marketings.

A. Technical Assistance

Several specific functions may be performed under the heading of "technical assistance." In each instance, the process is one of working with and through local people for the accomplishment of agreed upon development purposes. The purposes are likely to have both long-term and short-term dimensions and may change over time within the same country. But in most general terms, technical assistance is concerned with building individual and institutional capability to deal with their problems. This capability includes both the formulation of problems and the implementation of policies and programs to resolve them.

Those performing technical assistance, therefore, help in identifying problems which may be obstructing economic growth and country development. Identification also implies a formulation of the problem in terms making it more susceptible to solution. Breimyer analyzed various economic considerations in choosing possible marketing policies in Guatemala.^{35/} He concluded that marketing costs in that country have increased because of structural deficiencies, probably due to the absence of competition, the presence of collusion, and restrictions imposed by various agencies. He emphasized the benefits to be derived from improved market news, including improved statistical data collection; the need for usury laws; and other suggested improvements.

Another aspect of problem solving often requiring technical assistance is that of analyzing the choices available to public or private agencies for dealing with a problem. There is a tendency for seeing solutions to problems in too limited a perspective; an external point-of-view can often help identify additional alternatives. The criteria for choosing among the alternatives identified may include political and social as well as economic considerations, even though the technician advising on economic policy may be limited primarily to an assessment of economic factors. Studies may be needed to quantify information and to measure costs and benefits in order to better assess alternatives.

Technical assistance may perform its function of upgrading human resources in a number of ways. A training function is performed in working with counterparts. Since technical assistance is not so much a "doing" as it is a "working with" and "working through" others, the process involves a learning on both sides. The technician who consciously and purposely sees his role as enhancing the learning experience for counterparts can be a very effective teacher.

Technical assistance may be used in a number of other training situations. Helping in the organization and conduct of workshops and in-service training courses for officials of host governments are especially important. Technicians may also usefully be involved in the selection of participants for regular training programs in the United States, in the host country, or in third countries. The technician is in a better position than others to know which people with whom he works could benefit from training and what kinds of educational experience would be most appropriate.

Technical assistance is particularly important in institution building. Much of the concern on the subject of technical assistance and institution building has centered on educational institutions in developing countries. However, some of the principles that have evolved and the practices proposed for both receiver and provider of technical assistance are germane in the development of other types of organizations. Institutions are no less important in achieving marketing improvements than in other facets of economic development. Because institutions performing marketing functions are in a rudimentary stage in many countries, technical assistance is particularly important in helping give them structure, purpose, and technical competency. 36/

B. Research in Marketing

Many kinds of research are needed as more modern marketing systems evolve. Research is necessary for policy makers in government agencies and private enterprises to improve the utility of new marketing facilities and enhance the value of marketing services. Among the substantive kinds of research that are needed as marketing activities become more specialized and marketing systems become more complex are: 37/

(1) Research on market structure and marketing systems; e.g., how marketing functions are organized and where the loci of power are in the systems.

(2) Research on marketing mechanics and operating efficiency; e.g., how marketing functions are carried out and what the alternatives are for increasing efficiency.

(3) Research on human nutrition and consumer economics; knowledge of consumer needs helps marketers satisfy them.

(4) Research on the management of marketing enterprises; e.g., how decisions at the firm level can be improved and how marketing functions can be better coordinated.

(5) Research for market expansion; e.g., what the range of market demand is for current and prospective crops and how markets can be expanded.^{38/}

A substantial part of the kind of research suggested above would probably need to be included in the activities performed by government agencies to facilitate market reforms and improve the effectiveness of marketing systems. Little of this kind of research has been done in developing countries...and the work that has, has been largely for traditional export crops like coffee and bananas. As food crops acquire commercial importance and marketing emerges as a limiting factor for sustained growth, the need for research to meet marketing problems becomes evident.

An important role for research is to provide better understanding of what takes place in the marketing system. This understanding is not an end in itself, but a prerequisite to judgments on how the system might be improved. An analysis of market structure -- "who does what, how often, for how much and why" -- may help explain what is observable in the system and also help expose what is wrong with it.

As studies in marketing provide new insights on the purposes and processes of marketing functions, it becomes possible to measure their performance. This is another important role of research. Research is needed to delineate measures of performance and, insofar as possible, to help quantify them.

Marketing is a dynamic process; the micro and macro decisions need constant review and evaluation in the light of changing economic conditions and overall economic policies. Both research and technical assistance contribute to these changes and, consequently, the changes also need to be taken into account in setting priorities for the research and technical assistance efforts.

FOOTNOTE REFERENCES

- 1/ Studies on subsistence agriculture typically omit references to a marketing function; see, e.g., T.W. Schultz, Transforming Traditional Agriculture, Yale University Press, 1964, and C. Clark and M. R. Haswell, The Economies of Subsistence Agriculture, Macmillan and Co., Ltd., 1964.
- 2/ Carl Eicher, et al., Employment Generation in African Agriculture, Research Report #9, Michigan State University's Institute of International Agriculture.
- 3/ Robert Stevens, Elasticity of Food Consumption Associated with Changes in Income in Developing Countries, Foreign Agricultural Economic Report #23, U.S. Department of Agriculture, Washington, D. C. 20250, 1965.
- 4/ Milo Cox, Key Problem Areas - Agriculture, AID/TA Staff Paper, Agency for International Development, Washington, D. C. 20523, November 1970.
- 5/ H. R. Collins and R. H. Holton, "Programming Changes in Marketing in Planned Economic Growth," Agriculture in Economic Development, ed. by Carl Eicher and Lawrence Witt, McGraw-Hill, 1964.
- 6/ K. S. Gill, Wheat Market Behavior in Punjab and Haryana, Punjab Agricultural University, India, 1971.
- 7/ W. W. Rostow, "The Concept of a National Marketing and Economic Growth," American Marketing Association Meeting, Winter, 1965.
- 8/ Peter F. Drucker, "Marketing and Economic Development," Journal of Marketing, January 1958.
- 9/ H. R. Collins and R. H. Holton, "Programming Changes in Marketing in Planned Economic Development," Agriculture in Economic Development, ed. by Carl Eicher and Lawrence Witt, McGraw-Hill, 1964.
- 10/ Reed Moyer, "Marketing in Economic Development," Occasional Paper No. 1, Institute for International Business Studies, Michigan State University, 1965, cited in Food Marketing in Economic Development of Puerto Rico, op. cit., p. 28.
- 11/ George Stigler, The Theory of Price, The Macmillan Co., N.Y., 1952, pp. 55-56.
- 12/ Allen Schnid and James Shaffer in Agricultural Market Analysis, ed. by Vernon Sorenson, Michigan State University, 1964.
- 13/ See analyses by Robert Dorfman, Prices and Markets, and Gregory Grossman, Economic Systems, publications in the Foundations of Modern Economic Series, Prentice Hall, Inc., 1967.
- 14/ Raul Prebisch, Change and Development: Latin America's Great Task, Report submitted to the Inter-American Development Bank by The Latin American Institute for Economic and Social Planning, 1970, pp. 91-92.

- 15/ Dana Dalrymple, New Cereal Varieties: Wheat and Corn in Mexico, AID Spring Review, Agency for International Development, Washington, D. C. 20523, May 1969, pp. 18-19.
- 16/ Carl Eicher, op. cit., 1970, p. 28.
- 17/ Glenn L. Johnson, et. al., Strategies and Recommendations for Nigerian Rural Development, Consortium for the Study of Nigerian Rural Development, July, 1969.
- 18/ G. S. Tolley and G. D. Gwyer, "International Trade in Agricultural Products in Relation to Economic Development," in Agricultural Development and Economic Growth, ed., H. M. Southworth and B. F. Johnson, Cornell University Press, 1967, p. 420.
- 19/ E. Thorbecke and A. J. Field, "Relationships Between Agriculture, Non-Agriculture and Foreign Trade in The Development of Argentina and Peru," in The Role of Agriculture in Economic Development, Ed., Thorbecke, Columbia University Press, 1969, p. 210.
- 20/ John Mellor, "Elements of a Food Marketing Policy for Low Income Countries," in The Marketing Challenge: Distributing Increased Production in Developing Nations, FEDR 7, December 1970, pp. 14-15.
- 21/ See particularly, Carl Eicher, op. cit.; also Robert d'A Shaw, Jobs and Rural Development, Overseas Development Council, Monograph #3; and the paper by Erik Thorebecke, "Unemployment and Underemployment in the Developing World," presented at the Columbia University Conference on International Economic Development, February, 1970.
- 22/ See A. M. Altschul, Proteins: Their Chemistry and Politics, Basic Books, 1965; A. M. Altschul, "Toward the Elimination of Hunger and Malnutrition," Food Technology, Vol. 24, 1970; L. Witt, "A Program of Research on Food for Peace," Michigan State University, 1966, Vol. II, pp. 203-212; White House Conference on Food Nutrition and Health, 1969, Final Report, pp. 37-65; The World Food Problem, Report of The President's Science Advisory Committee, 1967, Vol. I, pp. 11-23 and 42-79 and Vol. II, pp. 310-314.
- 23/ These matters, as well as others relating to demand, are discussed by Dana G. Dalrymple in Economic Aspects of Nutrition Improvement in Tunisia, FEDR-6, Foreign Economic Development Service, U. S. Department of Agriculture, July 1970, 54 pp. Further detail on fortification is provided in Daniel Rosenfield, Lyle Schertz, and Stanley Gershoff, Possibilities for Cereal Fortification: East Pakistan, FEDR-3, Foreign Economic Development Service, U. S. Department of Agriculture, March 1970, 34 pp. Both studies were conducted in co-operation with AID.
- 24/ Witt, op. cit.

- 25/ Specific issues relating to protein are reviewed by: Lyle P. Schertz in The Economics of Protein Strategies, FEDS Staff Paper 3, Foreign Economic Development Service, U.S. Department of Agriculture, December 1970, 8 pp.; and Patrick J. Francois, "Effects of Income Projection on the Protein Structure of the Diet," Nutrition Newsletter (FAO), October-December 1969, pp. 1-15.
- 26/ William O. Jones, Measuring The Effectiveness of Agricultural Marketing in Contributing to Economic Development: Some African Examples, Stanford University Food Research Institute, 1970.
- 27/ Andrew Schmitz and David Sekler, "Mechanized Agriculture and Social Welfare: The Case of The Tomato Harvester," American Journal of Agricultural Economics, November 1970, pp. 573-574.
- 28/ Howard L. Steele, Francisco M. Vera-Filho, and Robert S. Welsh, Comercialização Agrícola, Sao Paulo: Editora Atlas, S. A., First Edition, Appendix Table V - 1 and Table V - 3.
- 29/ Albert Hirschman, Journeys Toward Progress, The Twentieth Century Fund, New York. 1963.
- 30/ Ibid.
- 31/ A. T. Mosher, Creating a Progressive Rural Structure, New York: Agricultural Development Council, 1970, pp. 14-30.
- 32/ Charles Slater, Harold Riley, and others, Market Processes in the Recife Area of Northeast Brazil, Research Report No. 2, Latin American Studies Center, Michigan State University, East Lansing, Michigan, June 1969, Chapter 5-22 and 5-26.
- 33/ The World Food Problem, Report of The President's Science Advisory Committee, May 1967, Vol. I, p. 103.
- 34/ Harold Riley, et al., Food Marketing in The Economic Development of Puerto Rico, Research Report No. 4, Latin American Studies Center, Michigan State University, July 1970, Chapter 9.
- 35/ Harold F. Breimyer, Further Comments on Economic Considerations in Choosing Marketing Policies, a USDA/USAID publication, August 1965, Available from Foreign Economic Development Service, U.S. Department of Agriculture, Washington, D. C. 20250.
- 36/ Institution building in agriculture is discussed in several publications; see particularly Proceedings of The Conference on Institution Building and Technical Assistance, published by the Agency for International Development and The Committee on Institutional Cooperation, 1969; The Proceedings of The Regional Conference on Institution Building, Utah International Education Consortium, Utah State University, 1970, and Building Institutions to Serve Agriculture, Summary Report of the AID-CIC Rural Development Research Project, published at Purdue University, 1968.
- 37/ Martin Kriesberg, "Food Distribution Research for Developing Countries," Research Paper presented at The Food Distribution Research Society Annual Meeting, October 26, 1970, St. Louis, Missouri.
- 38/ See, for example, John Z. Kracmar, Marketing Research in The Developing Countries, Praeger Publishing Co., 1971.

END
DATE
FILMED
7-25-79
NTIS