

## Influencing the Design of Marketing Systems to Promote Development in Third World Countries\*

James D. Shaffer

With Michael Weber, Harold Riley, and John Staatz\*\*

Department of Agricultural Economics

Michigan State University

East Lansing, Michigan, USA

How can marketing institutions and behavior be changed in order to contribute to increasing the real incomes of poor people? What is the relationship between agricultural marketing systems and the poverty trap? What changes in these systems can contribute to the cumulative processes of development? The purpose of this paper is to discuss ideas which will contribute to answering these questions.

The paper first briefly introduces a general approach to the problem and a few concepts, and then discusses the development problem and markets. This is followed by a discussion of applications to the conditions found in traditional markets and makes observations on a few practical innovations. It concludes with comments on needed support for marketing systems development, and research and technical advice.

### Conceptual Background

**General Approach.** The suggested approach to marketing systems design is pragmatic and eclectic. It assumes that unexploited economic opportunities and barriers to improved market system performance exist, that these opportunities and barriers can be identified, and that institutional and behavioral changes can be implemented to improve system performance. This requires problem diagnosis, understanding system relationships, and evaluation of alternative prescriptions. It is not assumed that an ideal system exists, but rather that attention to details of the institutions structuring incentives is critical to performance. Since as an economy evolves new opportunities and barriers arise, an

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adaptive pattern of institutions is required.<sup>1/</sup> An economic system which is open to a mix of market and political coordination, allowing individual economic decisions within a set of political constraints, is also assumed.

The concept of marketing systems includes both (1) the physical distribution of economic inputs and products and (2) the mechanisms or processes of coordinating production and distribution. The emphasis of this paper is on coordinating mechanisms and behavior. Coordination of economic activity takes place through transactions among participants in a system which is defined as simply a set of interrelationships. Transactions take place across markets and within organizations such as firms, households, communities, and government agencies. At any particular time, participants in a system face a set of constraints and opportunities which we will call their opportunity sets. An opportunity set consists of resources (including knowledge) and the formal and informal mechanisms guiding relationships among participants--a bundle of rights, laws, customs, markets, etc. Participants respond to their perceived opportunity sets, producing, consuming, and engaging in transactions. The aggregate consequences of the behavior of the participants in a system we call system performance. The outcome of participant behavior in one period changes the opportunity sets in the next. It is this process of evolutionary change which is of interest.

The analytical task is to classify key characteristics of opportunity sets, classify participants and their behavioral modes, classify outcomes, and develop meaningful hypotheses and propositions about their relationships. The policy or design task, in turn, is to identify strategic changes in the opportunity sets of participants and to contribute to more effective behavioral responses in such a way as to promote more desirable systems performance. Our emphasis is on the institutional variables and knowledge. The most critical policy goals or performance measures are taken to be growth in real per capita incomes and food security broadly defined. However, many outcomes are important in a dynamic analysis, some as instrumental variables, such as level of investment or balance of payments.

Among the concepts useful in analysis and design are those related to social traps<sup>2/</sup> and market failures. Social traps are of two general types: (1) situations where individuals or groups act in their short-run self-interest in such a way that they produce

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<sup>1/</sup>J. Shaffer, "On Institutional Obsolescence and Innovation--Background for Professional Dialogue and Public Policy," American Journal of Agricultural Economics, May 1969.

<sup>2/</sup>John Platt, "Social Traps," American Psychologist, August 1973, pp. 641-651.

undesirable long-run consequences to themselves; and (2) situations where individuals acting in their individual self-interest produce undesirable consequences for the group. Market failure problems tend to be social traps. Analysis of market failure involves concepts such as externalities, public goods, transaction costs, opportunistic behavior, uncertainty, impacted information, myopic perception, barriers to entry, and market power. The generalized solution to many social trap and market failure problems is to bring the individuals under the control of the long-run consequences of their behavior by affecting what they take into account in making decisions. These concepts focus our attention on the problems of planning, and on the relationships of micro motives to macro or systems performance, and help us to think about how to change opportunity sets to improve system performance.

This approach may be seen as an elaboration of the structure-conduct-performance framework of industrial organization analysis which focuses on the relationship of the structural characteristics of markets, a limited set of behavioral responses, and a limited number of performance measures--usually efficiency, progressiveness, and equity. It is very different from analyses which focus exclusively on efficiency and ask only about the allocation of resources given the existing opportunity sets, assuming maximizing behavior. As used by economists, efficiency is a static concept. A market can be efficient and still result in poverty. The "efficient but poor" observation, often made about individual farmers, is equally possible for traders, markets, and entire economies. There is nothing particularly desirable about equilibrium. The trick in development is to induce a flow of technological and organizational changes which cause disequilibrium, and to have the institutional and behavioral flexibility to adapt in socially productive ways.<sup>1/</sup>

This approach emphasizes the necessity to understand both real and perceived participant opportunity sets, behavioral modes (not simply assumed behaviors), and the complex flow of consequences from any changes induced into the system. And it emphasizes the evolution of political economic systems.

**The Poverty Trap.** Those caught in the poverty trap do not produce enough beyond immediate subsistence needs to invest in the knowledge, technical inputs, and organizations needed to increase their productivity. Workers are unspecialized and unproductive. Food security is primary and this concern frequently encourages large families which puts additional pressure on limited physical resources, sometimes causing them to deteriorate. Concern for subsistence limits innovative behavior that could increase productivity, but

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<sup>1/</sup>See J. Shaffer, "Food System Organization and Performance: Toward A Conceptual Framework," American Journal of Agricultural Economics, May 1980.

which involves some uncertainty. Increased productivity requires specialization, division of labor, innovation, and investment, which involves more round-about and complex organization of production and distribution. Coordination becomes increasingly critical to performance. Failure to develop marketing systems that provide effective coordination reinforces the poverty trap.

The production-distribution system for any food product consists of a series of coordinated transformations, including the production of farm inputs, farming, assembly, conditioning and processing, storage, transporting, wholesaling, and retailing. Related functions include credit, insurance, communications, and regulations. As the transition from a traditional, rural economy to a more scientifically-based agricultural and industrial economy progresses, a larger percentage of activities in the system takes place off of farms in the production of knowledge, technical inputs, processing, and distribution. Also important to the transition from traditional agriculture are the distribution of consumer goods (including food) to rural areas and the transfer of labor to more productive activities.

The transition can stagnate at any level of development. Achieving the productivity gain potentially available from a scientific industrial system requires a continuous search for methods of improving performance.<sup>1/</sup> In most activities, there are opportunities to reduce unit costs by larger-scale operations permitting labor specialization, spreading of fixed costs, reducing transactions costs, and justifying the expenditures of effort to discover more economical ways of accomplishing a task. Subsistence farm families, for example, are not specialized in farming but produce all manner of consumer goods and farm inputs. Diversification can be a strength of the traditional system but a barrier to an improved system. Incentives must be structured to encourage farmers and other food system participants to identify and exploit new economic opportunities. But barriers to improved performance develop within the system. Uncertain and unrewarding farm product prices, unreliable and expensive farm inputs, and high-priced and uncertain supplies of food to rural and urban consumers all encourage the maintenance of low-productivity subsistence farming.

Labor markets are likewise of enormous importance in the transition from subsistence agriculture to an industrially-based rural and urban economy. Improved productivity requires fewer workers in existing roles. Some become unemployed. The development process stagnates when entry to jobs is restricted. Typically, scale economies and limited

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<sup>1/</sup>Industrial refers to the organization of the economy, not to the appropriateness of heavy industry in a country's development.

markets in manufacturing result in concentrated market structures for manufactured goods. Barriers to entry develop in many areas to protect jobs and incomes. Urban firms and workers have political influence which is often used to gain additional protection from competition, including restrictions on imports. Improved productivity in the entire system is restricted by groups seeking short-run benefits. The cost of farm inputs such as fertilizer and chemicals remains high, reducing their use. The high cost of consumer goods and their limited availability reduces the incentive for farmers to produce a marketable surplus. The resulting low productivity and output of agriculture produces high food costs that affect wage rates and purchasing power which, in turn, limit employment in all sectors. It is a huge social trap. Without policies directed at improving industrial and labor markets and the generation of nonfarm jobs, improved performance of agricultural production and marketing systems will be slowed or even halted.

Rigid institutions reinforced by attempts to protect economic and social position are a major characteristic of the poverty trap. Historically, escape from the poverty trap has often followed events, such as expansion of borders or international trade, which led to significant changes in institutional structure. International trade seems to have a number of effects important to development--it expands the demand for products creating incentive to increase production, it provides access to technical inputs and knowledge, and it stimulates active coordination to promote production, thus changing the institutional structure of the marketing system.<sup>1/</sup>

**Opportunistic Behavior and Trust.** The poverty trap is reinforced by opportunistic behavior, defined as acting in self-interest with guile. Opportunism is taking advantage of position. It may or may not be defined as corruption in a particular culture. It is behavior which brings immediate rewards to the individual and imposes great costs on the system, leaving everyone less well off in the long run than they could be. This is a pervasive social trap and it is one of the most difficult problems in designing improved market systems.

In general, not being able to trust participants in the marketing system adds greatly to marketing costs, restricts the use of markets, and thus limits opportunities. On the one hand, there is the observation that the notable success of ethnic minorities in marketing is attributed to the higher level of trust within the group than within the general population.

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<sup>1/</sup>See the historical review article by L.G. Reynolds, "The Spread of Economic Growth to the Third World," *Review of Economic Literature*, September 1983. Also, M. Olson in *The Rise and Decline of Nations*, Yale University Press, 1982, makes an interesting argument that institutional rigidity is the major problem to be overcome in achieving and maintaining economic progress.

Implicit contracts are honored; transaction costs are reduced.<sup>1/</sup> On the other hand, the size of market system firms in many countries is limited because only members of the family are trusted to hold responsible positions. This limits economies of scale and ability to coordinate activities over wide geographic areas. If the trading partners cannot be trusted, transaction costs go up. For example, lack of trust not only requires visual inspection but adds to the cost of inspection. The use of credit is restricted and interest rates are increased by nonpayment. Special credit programs for poor farmers are sabotaged by officials and their friends converting them to their own use--credit never gets to the intended users; transportation costs are increased by hauling useless material; a law requiring inspection doesn't improve performance but does produce payments to inspectors; and since farmers cannot evaluate fertilizer and pesticides by inspection, substituted materials may be introduced which fail to increase yields, making farmers reluctant to use them even when they are the real thing.

The list could go on and on. While opportunistic behavior creates difficult problems, marketing systems can be designed to reduce the negative effects. And trust can be fostered as a matter of policy.

**On the Nature of Markets.** Effective coordination requires an enormous amount of information and that information exists in bits among all participants in a system. The central economic problem of any society is the organization and use of knowledge to direct economic activity given the dispersed nature of the essential information. No bureaucrat or central planner can possibly acquire the same level of knowledge held collectively by the system participants. The market provides a mechanism for collecting and summarizing an enormous quantity of idiosyncratic information about production possibilities and preferences in the easily understood form of prices, which at the same time carry incentives to produce and conserve. No one person needs but a small part of the total knowledge required for production and distribution.

In industrial economies that rely heavily on markets, a loaf of bread is produced and distributed to a consumer with the contributions of thousands of people. There is no overall plan to organize all these workers to produce the bread. Only a fraction know they contribute. Nonetheless, their activities are coordinated to deliver a loaf of bread requiring the purchasers to give up the income from only a few minutes of work, a small fraction of what would be required of a subsistence farm family. This is the miracle of the market system.

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<sup>1/</sup>C.G. Barton, "Credit and Commercial Control: Strategies and Methods of Chinese Businessmen in South Vietnam," Ph.D. thesis, Cornell University, 1977.

But that is only part of the story. The market may fail to provide effective coordination with economic growth for many reasons--limited perceptions of opportunity sets, high transaction costs, opportunistic behavior, externalities, etc. Coordinators or entrepreneurs who actively seek knowledge of both production possibilities and potential demand are essential. If information were perfect, there would be little problem in coordination, but the real world is very uncertain. This uncertainty or ignorance is reflected in prices. Uncertainty is increased in a dynamic economy, requiring a constant adjustment in behavior and organization. Public sector and other forms of group action are needed to deal with market failure.

Those who argue that "free" markets are the solution ignore the fact that markets always reflect political preferences and prior distributional decisions. That is, demand is determined by the distribution of wealth, and institutions establish the rules of the market. In this respect, the market is always an instrument of the political system. Performance is always a reflection of preferences and power expressed through a combination of market and political processes. Policy is concerned with the mix of these processes.

### Application to System Design

We now turn to a brief look at some of the characteristics of traditional markets, then examine a few institutional innovations designed to promote development, and finally discuss the process of initiating institutional change. The theme of active coordination is emphasized and cooperatives have been selected to illustrate an institution of active coordination in somewhat more depth.

**Traditional Agricultural Markets.** Traditional agricultural markets are part of a small-scale market system. These systems are typically the major link between farm and non-farm populations for domestic food and farm family inputs, including consumer goods. These markets expand the opportunity sets of participants compared with customary systems of gifts and barter, so important in subsistence economies. By facilitating transactions among strangers, it is possible to increase specialization and achieve some economies of scale. This system frequently competes for agricultural products with a large-scale and transnational system and the relative effectiveness of the two systems affects the availability of food. Failure of the small-scale system to perform well and to offer incentives to small producers may lead to importing food and other consumer goods, thus reducing the opportunities of farmers and artisans and slowing development.

Extensive research has been focused on pricing efficiency of traditional markets. The usual questions include (1) do prices differ among market places by more than the

cost of transportation and (2) do prices differ over a season by more than the cost of storage? While the evidence is somewhat mixed, it generally supports the conclusion that these markets are reasonably price efficient with respect to place and time.<sup>1/</sup> This conclusion is less clear than it might be because of the difficulty in obtaining reliable information on prices, partly because of the lack of standard units of measure and grades.<sup>2/</sup> Reliable market price reporting is absent. Efficient markets require transparent prices and the fact that observations are so difficult to make is itself some evidence of pricing inefficiency.

But are these the most relevant questions? While pricing efficiency is important, it deals only with marketed surplus after it is produced. It says little about the effectiveness of coordination or contribution to increased productivity. For example, prices in one period are frequently poor indicators of prices in a future period and are thus poor guides to production decisions.

The price studies frequently show prices to be volatile. Markets tend to be very thinly traded due to small quantities available attracting few buyers; poor transport and communications restrict the scope of the market. Small variations in supplies have large effects on prices. It is often very difficult to predict prices even a few weeks in advance in order to know when to send a commodity to market, let alone a year or two in advance needed for production decisions. In fact, traditional markets are unpredictable, unreliable, and carry very limited coordinating information and incentives. This price uncertainty increases the risk of commercial production and thus reinforces the incentives of subsistence agriculture and reliance on the customary system. It inhibits specialization, investment, and use of technological inputs. The result is that farmers have very small lots of any one product to sell at any one time. Because supplies are uncertain and expensive to collect, traditional traders do not perceive it to be profitable to invest in developing either reliable markets for products or inputs for these small farmers. The poverty trap is reinforced. Each participant works hard in his own perceived interest, prices are more or less competitive, but the aggregate consequence is much less

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<sup>1/</sup> Considerable research on this has been conducted over the years by faculty and graduate students, especially at Cornell and Stanford Universities. For a summary, see Harold M. Riley and Michael T. Weber, "Marketing in Developing Countries," Chapter 16 in Future Frontiers in Agricultural Marketing Research, edited by P.L. Farris, Iowa State University Press, Ames, 1983. Also reprinted in Rural Development Working Paper No. 6, Department of Agricultural Economics, Michigan State University, 1979.

<sup>2/</sup> Barbara Harris, "There Is Method In My Madness: Or Is It Vice Versa? Measuring Agricultural Market Performance," Food Research Institute Studies, Vol. 17, No. 2, 1979, pp. 197-218.



production and consumption than the system could provide with greater specialization and improved coordination.

Other important market system functions are similarly affected. For example, a combination of unreliable markets, opportunistic behavior, and individuals attempting food security on their own, results in poor performance of the storage function. Grain storage is, of course, critical to food security. If the market cannot be counted on for supplies later in the season and information on crops and stocks is absent, those who are able will tend to overstore in their own households. They will market their surplus when the information on the new crop is available, depressing prices late in the season or at harvest time, adding to the volatility of prices and incurring added storage costs. This also discourages commercial storage, adding to price instability. Physical losses can be reduced and timely distribution facilitated by some centralization of storage both locally and regionally, especially if knowledge of amounts stored is revealed. However, public "warehouses" or cooperative storage will not work if those responsible for the grain in storage convert it to their own use or are expected to do so. It is also difficult for managers of village storage schemes to make informed purchase and sales decisions without realistic knowledge of both the local and national aggregate supply and demand situation. A community grain bank program in Upper Volta was undermined by these problems.<sup>1/</sup> Trust and contract enforcement are important. Government storage programs attempting to deal with this problem are frequently high cost because of high losses, frequently significantly higher than those of private traders, even though they have better physical facilities.

**Marketing Costs.** Marketing costs include the cost of physical distribution and of making transactions. Reducing marketing costs expands the opportunity sets of many system participants and facilitates the transition to a more industrialized economy. High marketing costs for products and inputs are a barrier to increased agricultural output and reduce real incomes of consumers and farmers.

Studies of traditional marketing systems usually show relatively low marketing margins, compared to industrial economies, and little evidence of above normal profits. This is often misleading because of the extremely low returns to labor, the very small service content, limited product selection, and many unobserved costs, such as deterioration in product or high transactions and search costs imposed upon farmers and consumers. More important is the fact that marketing margins are not a good measure of

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<sup>1/</sup>I. Ouedraogo, "A Socio-Economic Analysis of Farmers' Foodgrain Marketing Linkages and Behavior in Eastern Upper Volta," Ph.D. thesis, Michigan State University, 1983 (forthcoming).

performance. Higher marketing margins attributable to increased services, including improved coordination, can leave consumers and farmers better off.<sup>1/</sup>

Urban retailers tend to be very small-scale and spend a great deal of time acquiring supplies.<sup>2/ 3/</sup> Because of the lack of reliable measures, grades, and trust, visual inspection is required at each transfer of ownership, which adds to both transaction costs and costs of physical distribution. Long-distance trading and opportunities for greater regional specialization are inhibited. Lack of effective local markets and reliable commercial storage can also result in foods moving to central cities and then back to villages. Sometimes the food doesn't make it back when needed. Unnecessary and high-cost transportation due to poor roads adds to marketing costs. Roads, of course, are not provided by the market because of their public good characteristic.

Studies of post-harvest losses, quality deterioration, and related costs are very difficult but what evidence we have is that they are substantial. Part of this is due to poor containers, handling methods, and storage. And this in part is affected by externalities and opportunistic behavior. An example of an externality problem is the handling of plantains and bananas. They are frequently walked on in handling, causing substantial deterioration, but because the damage doesn't show up before the product is sold the cost is not usually imposed on the person causing the damage. We believe the externality problem is very common. It adds costs beyond deterioration because it creates an incentive to deal only with those who are known, limiting specialization and the extent of the market.

**Middlemen.** The middleman seems to be maligned in most societies. He or she is suspected of opportunistic and monopolistic behavior. Perhaps the most common belief is that the assembly trader takes advantage of vulnerable farmers by buying products at very low prices at harvest and selling them at a huge profit later in the season. He may also provide credit at high rates of interest for the purchase of needed inputs or even food during the hungry season, requiring commitment of the next year's crop at advantageous terms. Certainly this happens but it needs to be kept in perspective. Trading is a risky

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<sup>1/</sup>N.R. Collins and R.H. Holton, "Programming Changes in Marketing in Planned Economic Development," *Kyklos*, Vol. 16, January 1963. Reprinted in Agriculture in Economic Development, edited by C.K. Eicher and L.W. Witt, McGraw-Hill, 1964.

<sup>2/</sup>M.T. Weber, "Problems of Reorganizing of Cali Food Retailers Procurement Activities in the Planning of a New Central Wholesale Market," M.S. thesis, Michigan State University, 1972.

<sup>3/</sup>A. Silva, "Evaluation of Food Market Reform: Corabastos-Bogota," Ph.D. thesis, Michigan State University, 1976.

business. Prices are volatile. Losses in storage and transportation can be substantial. Farmers, retailers, and other traders may behave opportunistically. The trader may provide services that are not apparent. For example, a study in Upper Volta showed that from the point of view of the farmers who received credit and repaid the loans, the interest charge by traders was very high.<sup>1/</sup> Looked at from the point of view of the trader, the average return on loans was lower because some of the loans were not repaid because of poor crops. The trader-lender was providing a needed insurance for a group of farmers and the higher interest was the premium.

Significant problems do exist. Opportunistic behavior is always possible and belief that it exists is more common, although local assemblers have an incentive to maintain the trust of their suppliers to promote business. Some barriers to entry exist, allowing monopolistic profits. For example, there are cases of guilds among traders and butchers, although it is not always clear that coordinated decisions among a few traders result in poor system performance.<sup>2/</sup> The trader's incentive to abstain from opportunistic behavior is increased by competition. But if opportunistic behavior limits farmers' incentives to specialize, the market may support only one or a very few traders. How to break the trap?

Reformers who attempt to improve the market system by eliminating the traditional traders lose a valuable marketing resource. Traders provide an essential function and have knowledge and relationships which are difficult to replace. Attention is better focused on improving behavior and developing competitive mechanisms rather than on eliminating middlemen. Most importantly, information is frequently impacted--traders have information about market conditions not available to farmers. Standard weights, measures, and grades can reduce opportunistic behavior. Publicly provided information can reduce the problems of impacted information. Policies promoting trust are especially important as are examples set by public officials and agencies.

**Active Coordination.** The greater problem, however, is the tendency for traditional traders to fail to be active contributors to coordination of the system. They, as well as

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<sup>1/</sup>Ouedraogo, *op. cit.* This study also found that only 8 percent of farmers in the Eastern ORD of Upper Volta received credit of any kind from traders when it was popularly believed that a majority were commonly provided inputs or cash credits to gain access to crops at depressed harvest prices. (Chapter VII)

<sup>2/</sup>J.S. Holtzman, "A Socio-economic Analysis of Stall-Fed Cattle Production and Marketing in the Mandara Mountains Region of Northern Cameroun," Ph.D. thesis, Michigan State University, 1982. This research found that in small rural markets butchers often do coordinate their slaughter decisions so as to regulate supply and reduce price fluctuations. Yet returns to butchers were not unduly high and retail prices in two rural markets were comparable to prices in known competitive markets. (p. 205)

farmers, live in a world of uncertainty and limited resources. They tend to be passive, accepting the marketed surplus rather than identifying potential markets and promoting production to supply them.

Active coordinators identify potential demands and, to meet the demand, offer information and incentives to potential producers. They influence farm production decisions. They understand producers' problems and help solve them. They promote the availability of critical farm inputs and assure markets, reducing market uncertainty. They actively seek markets for products adapted to local production conditions. They avoid the myopic perception of traditional traders, who generally have a limited knowledge of the marketing system. They would, for example, understand general supply and demand conditions. In order to profitably invest in the needed knowledge, an active coordinator requires an organization of sufficient scale to spread the overhead costs of acquiring the information. A public agency could supply information to a number of firms facilitating the coordination function and reducing the scale requirement.

Larger-scale processors become active coordinators almost by necessity. There are economies of scale in processing. Leaving processing facilities idle for want of supplies is expensive. The characteristics of the raw product inputs affect the quality of processed products and cost of processing. In order to profitably promote demand for their products, processors need to be reliable suppliers. Thus they have an incentive to develop a reliable supply of specified inputs. They may supply farmers with seeds, technical inputs, specify cultural practices, and influence the pattern of plantings. As they become a larger part of the system, they develop a system interest and a vision of their opportunity sets rather than a purely atomistic interest and perspective.

Instituting such systems in Third World environments is not easy. For example, in northern Thailand a large modern food processing facility failed largely because its managers could not organize raw product supply. Farmers were suspicious of the formal contracts, and when they did sign contracts, they felt little obligation to honor them. Hired field agents did not understand the farmers' problems and sometimes engaged in opportunistic behavior. Yet in the same area, a traditional trader became a processor and active coordinator, and was very successful. She understood the farmers and systematically developed trust. Farmers honored verbal agreements with her when they could and she understood when they were unable to do so. She offered credit for inputs and cancelled the obligations when they had an honest crop failure. Some might consider this an exploitive patron client relationship. But such a conclusion needs to be carefully examined. While this enterprise was profitable, based largely on the relationships with

farmers, the profit was a payment for valuable services to them.<sup>1/</sup> The farmers had new and better opportunities. This example, and others like it, suggest that training and assisting traditional traders to be active coordinators may be an effective means of promoting development.<sup>2/</sup>

Export marketing channels are typically more effectively coordinated than are domestic food channels. Export firms or marketing boards become active coordinators interested in promoting production for export. There are problems with these systems, which may develop bureaucratic costs and insensitivity to producers. They often also impose the equivalent of a tax but generally do expand the opportunity sets for farmers. Another consequence is that partly because they are more effective than the poorly coordinated domestic food marketing systems, they provide incentives for farmers to shift resources to supply export markets and domestic food supplies may be adversely affected.

With the growth of large urban populations, large quantities of food are imported, often with the active participation of government. A prime target for active coordinators would be the replacement of imported foods. Government assistance in improving domestic food marketing systems would usually contribute much more to development than importing food, even on a concessional basis. Subsidizing food imports reduces not only the demand for domestic production but also the opportunity to achieve scale economies in marketing.

Private middlemen have the potential to be effective, active coordinators. Larger-scale assembly-wholesale firms would find it in their interest to link farmers and retailers, providing both groups much needed services, technical inputs and credits and, most importantly, reliable markets. To develop such firms requires training, credit, and positive rather than negative reinforcement from government with respect to regulation and access to resources. Of course, attention must likewise be paid to the potential for monopolistic practices and the maintenance of effective competition.

**Price Determination and Coordination.** Many analysts of the development process are currently emphasizing that "getting prices right" is essential to providing incentives to expand output.<sup>3/</sup> However, this is not simply a matter of letting the market work, as is

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<sup>1/</sup>M. Menegay, "Improving the Performance of Procurement Systems for Fruit and Vegetable Processors in Thailand: A Case Study of Up-Country Picklers and Cannerys," Ph.D. thesis, Michigan State University, 1983 (forthcoming).

<sup>2/</sup>M. Harper and R. Kavura (editors), The Private Marketing Entrepreneur and Rural Development, FAO Technical Services Bulletin 51, Rome, 1982.

<sup>3/</sup>T.W. Schultz, "On the Economics and Politics of Agriculture" in Distortions of Agricultural Incentives, edited by T.W. Schultz, Indiana University Press, Bloomington.

sometimes implied. The effectiveness of prices as carriers of information, incentives, and rewards in the coordination of economic activity depends upon the institutional structure organizing transactions. Improving market system performance requires attention to these institutional structures.<sup>1/</sup> Prices, for example, may be volatile and unrepresentative of underlying conditions of supply and demand due to the lack of information and to monopolistic practices. This situation can be improved by developing organized markets, providing crop estimates and market information, grades and standards, etc. Organized market exchanges with formal auctions attracting wide participation provide different prices than dispersed thin markets. With adequate grades and standards and modern communication, products do not have to be physically present at the central exchange. Such exchanges may not develop because the benefits cannot be captured by individual firms, thus public action to establish them is required. The price information they produce, if disseminated, is useful in coordination for many others who do not participate directly in the exchange. And while transaction costs will be too high for small farmers to participate individually, they may be able to participate effectively through cooperatives or local traders. Given the high costs of transportation and low costs of modern communication, linking local markets through national or even multinational exchanges, with enforceable delivery and specification rules, offers considerable promise of improving price determination and thus improving coordination at relatively low costs.

The problems of planning production for an unpredictable market are acute. Poor farmers cannot afford to invest and specialize when faced with the possibility of prices below their costs of production. Traditional markets do not coordinate production to match future demand at prices uniformly above costs of production. A number of pricing mechanisms may be instituted to contribute to such needed coordination. Contract production and especially markets for contracts have, in my opinion, much potential, properly instituted. And there is a role for government minimum price guarantee program and import policies designed to assure minimum prices in cases where imported food is extensive. Futures markets may also be developed to provide a means of shifting some price risk through hedging and also provide some indication of future prices. Again, poor farmers would not use them, but their use by large cooperatives and large traders could allow them to offer some price security to farmers.

**Parastatals.** Parastatal organizations in the agricultural marketing systems in the Third World are very common. They are popular with politicians and much maligned by

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<sup>1/</sup>OECD, Price Formation Processes and the Changing Nature of Food Systems, documentation assembled for the seminar organized by the OECD in Paris, 30 June-2 July 1980.

many researchers who have studied their performance. Most of them were intended to solve real problems of traditional marketing systems: to reduce price instability, to reduce marketing costs, to assure food supplies, to improve the availability of farm inputs and to increase export earnings and foreign exchange, to provide needed revenue for the government, etc. They frequently fail to achieve the intended objectives because of inappropriate policies, poor management, lack of knowledge, and resources. In fact, in some cases where they attempt detailed planning to replace market processes, it may be impossible to acquire the essential information about production possibilities and markets because of its dispersion among participants. Most importantly, they become instruments of political patronage and opportunistic behavior. The managers and employees do not have the incentives to make them work and once organized employees become a potent vested interest intent on protecting their employment. They often attempt to perform functions, such as food retailing, which can be done at less cost and more effectively by private firms where rewards are related more directly to performance. Parastatals are likewise notorious for delivering farm inputs too late, announcing price guarantees after planting, failing to live up to announced price guarantees, etc. At worst, they become instruments of exploitation.<sup>1/</sup>

Nonetheless, parastatal organizations can be designed to improve the performance of agricultural marketing systems. Direct government participation may be the only way to deal with some problems of market failure. Where traditional systems are stagnant, change has to be induced from outside the system. Direct involvement in the economy by a government organization may be an effective means of inducing change. Minimum price guarantees announced ahead of critical production decisions or the introduction of critical technical inputs are examples of changes which may promote agricultural productivity. It is also conceivable that agricultural commodity development boards could be designed to provide functions of active coordination. The problem is to define appropriate functions and standard operating procedures so that they actually contribute to improved performance in a cost-effective manner. A mechanism of effective influence by the users seems critical. Consider, for example, providing functions such as farm input supplies through franchised dealers rather than state ownership.

The design of parastatals is beyond the scope of this brief paper--our point is that key public sector roles are essential to escaping the poverty trap. It is therefore more

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<sup>1/</sup>World Bank, Accelerated Development in Sub-Saharan Africa--An Agenda for Action, 1981, see pp. 37-40, 58-69. Barbara Harris, "Going Against the Grain," a paper presented at a Workshop on Socioeconomic Constraints to Development of Semi-Arid Tropical Agriculture, ICRISAT, February 1979.

effective to concentrate on the function and design of such organizations than to malign them in general.<sup>1/</sup>

**Cooperatives and Retailer Associations.** Farmer product marketing and supply cooperatives, and food retailer associations (retailer cooperatives and voluntary chains) have been very important parts of food marketing systems in most industrial countries. In Scandinavia, farmer cooperatives have been especially successful and dominate agricultural marketing systems. Similarly, in the U.S. and West Germany, associations of retailers have been very successful in organizing procurement for their members and in effectively competing with large-scale corporate retail entities.

Farmer and retailer cooperatives could play important roles in coordinating production activities and in reducing marketing costs in Third World countries. For example, a village livestock marketing cooperative could synchronize the production schedules of small farmers so that sufficient animals would reach market age at the same time, allowing shipment of truckload lots to urban markets and resulting in lower per unit transportation costs. The cooperative could also buy veterinary inputs in bulk, lowering their cost to farmers. Similarly, it has been shown that retailer associations can improve market coordination and reduce procurement costs. Food retailers in Third World countries tend to be extremely small and specialized. This specialization reduces the potential for economies of scale and increases system transaction costs. The retailer spends a great deal of time procuring supplies and seldom has the capacity or interest to transmit information or incentives back to farmers to improve supplies for future markets. A retailer-owned assembly-wholesaling organization could provide this function, perhaps acting in coordination with farmer cooperatives, and achieve scale economies in performing the assembly-wholesaling functions.

Formally structured cooperatives are frequently not a very significant part of the agricultural marketing system in Third World countries although there are some examples of success. At the same time, there are innumerable examples of informal cooperation among food system participants in these countries. Communal cultivation of fields by Andean Indians on the Bolivian Altiplano, mutual savings societies among migrant cocoa farmers in Ghana, and extensive trading and credit arrangements among Chinese merchants in Southeast Asia all attest to the ability of food system participants in the Third World to capture the benefits of cooperation if individual and group incentives are

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<sup>1/</sup> World Bank, World Development Report, 1983, Chapter 8, "Managing State-Owned Enterprises." J.C. Abbott and N.C. Creupelandt, Agricultural Marketing Boards: Their Establishment and Operation, FAO Marketing Guide No. 5, Rome, 1967. D. Izraeli and J. Zif, Societal Marketing Boards, Keter Publishing House, Jerusalem Ltd., 1977.



structured properly. Nonetheless, government efforts to foster cooperatives in the Third World have often ignored the special characteristics of these organizations that affect individual and group incentives.

Among the most important prerequisites for a successful cooperative are trust and a sense of shared interests among the members. A farmer who joins a cooperative agrees to allow group decisions, rather than personal decisions, to govern the use of some of his resources. If he does not trust the group to act in his best interests (for example, if the manager is an outsider, perhaps from an ethnic or socioeconomic group he distrusts), the farmer is unlikely to participate in the organization. One of the major advantages of cooperatives is their ability to promote better flows of information between suppliers and farmers. If farmers do not trust the cooperative to act in their best interest, this advantage is lost because they lack the incentive to convey truthful information about their production and marketing needs. Furthermore, many of the decisions in a cooperative (for example, the problem of intergenerational transfer of ownership) resemble a social trap, in which acting in one's own selfish interest may lead to mutually less-preferred outcomes. A sense of group solidarity can help overcome these problems, but loyalty to the cooperative is unlikely when the co-op is organized with little attention to the ethnic and socioeconomic divisions present in most Third World countries.

In this regard, it is important to distinguish between farmer-owned and controlled cooperatives, and parastatal organizations. The latter are sometimes called cooperatives but are essentially owned and controlled by the government. These can also become taxation devices and some are used as an important instrument to promote political support for those in control of the government.<sup>1/</sup> We are not arguing that parastatal cooperative-like organizations should not be considered in designing marketing systems. Properly instituted, they might be very effective in performing some marketing functions. We would argue that their use as a means of extracting resources from farmers is usually counterproductive.

A system of private merchants, including farmer and retailer cooperatives, is likely to provide more effective marketing functions than a parastatal because the managers are under the discipline of both the market and members, in contrast to the political discipline of the parastatal. The opportunity sets of managers are structured very differently. Cooperatives may especially have the capacity to better control opportunistic behavior.

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<sup>1/</sup>David Blandford, "West African Export Marketing Boards," Chapter 6 in Agricultural Marketing Boards--An International Perspective, edited by Sidney Hoos, Ballinger Publishing Company, 1979.

It would be very unusual, however, for cooperatives to emerge simply at the initiative of poor farmers. They are not likely to have the capacity to organize cooperatives, nor will they have the capital to do so. In addition, cooperatives have some of the characteristics of public goods. An entrepreneur who develops a private firm can expect to be rewarded for his effort in the form of profits. An organizer of a cooperative, faced with a more difficult job, cannot capture the "profits" from the cooperative, for these are distributed to the members. Benefits may also accrue to nonmembers in the form of a more competitive marketing system, lower marketing costs, and improved coordination. (Some of these benefits would also result from assistance to private firms, but it is usually more politically acceptable to assist cooperatives.) If the cooperative has an open membership, economies of scale can be achieved without the problems of monopoly that are created if the monopoly is an investor-owned firm. This is very important in Third World countries, where the minimum efficient size of operation may be large relative to the size of the market. Thus there is theoretical support for government investment to develop cooperatives. Most needed would be: (1) a cadre of marketing technicians to promote and organize the cooperatives and train the managers; (2) regulations to guard against opportunistic behavior by managers and boards of directors; and (3) a special line of credit. Most important is to find the heroes with both the marketing skills and the missionary zeal needed to promote the idea. Too much effort has been invested to form cooperatives with no mission other than to make things better. Good intentions are not enough.<sup>1/</sup>

An important consequence of cooperative movements could be changes in knowledge and attitude of members. The movement would provide them with experience in democratic self-government and expand their perceptions of the economic system, and would show them that members as a group can affect their political and economic situation. It could also contribute to a more equitable relationship between rural and urban people. It should be recognized, however, that those in power may view this potential as a threat, as it portends the rise of a political and economic force not entirely within their control. Perhaps it is for this reason that true patron control of cooperatives is not always fostered in Third World countries. Greater incorporation of farmers and small retailers into the political system, which would create incentives for political leaders to support these organizations, may thus be a prerequisite for successful cooperative development.

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<sup>1/</sup>Uma Lele, "Co-operatives and the Poor: A Comparative Perspective," World Development, Vol. 9, 1981.

Cooperatives frequently fail. There are many reasons for this, including inappropriate operating procedures, poor management, opportunistic behavior and lack of trust, inability to compete, and failure of members to recognize the potential benefits. Some cooperatives have been captured by an elite to the disadvantage of other members. Existing patron-client relationships may be an obstacle to gaining members. Many private firms also fail, of course. So the fact that cooperatives and private firms are allowed to fail when they do not provide benefits to their patrons which exceed their costs is part of the discipline required to achieve system performance. Aside from compensating for their public good contributions, with training and organizational assistance, sheltering them from this discipline will inhibit performance. That they are allowed to fail is an advantage compared with a parastatal which has access to the authority and treasure of the State, and thus avoids the discipline of the market and patron voice.

### **Support for Marketing System Development**

**A Problem With Priorities.** There is a tendency in allocating resources to promote development in poor countries to emphasize food production and neglect investment in marketing. Apparently, this arises from a belief that the market will somehow develop to deal with whatever is produced, an aversion to assisting middlemen, and a failure to understand the role of marketing systems in development. Relatively large investments are made in research, training, and extension to promote farm production without similar investments designed to improve marketing systems performance. Projects involving large investments in production sometimes fail to consider the needed market channels or even to make a rudimentary assessment of potential demand. An effective marketing system will stimulate production, transmitting both incentives and technical information to producers. A marketing system can be a source of considerable development leverage or can be a barrier to development. The needed improved performance of food systems is no more likely to occur without investments in research, education, and training than in farming and such programs should receive the same priority consideration as for agricultural production.

**Research and Technical Advice.** How can research and technical advice contribute to improved agricultural marketing systems performance? We have stressed the importance of focusing on system relationships. There is no substitute for understanding the opportunity sets of classes of participants and their modes of behavior, and then predicting the consequences of specific institutional changes on system performance. Details of design are important. Designing ideal systems without regard for the realities of political and economic power, opportunistic behavior, and uncertainty will be of little

value. In practice, neither market nor political coordination processes work very well. The existence of market failure does not mean that a bureaucratic solution exists nor does bureaucratic failure mean that the market offers a better alternative. That's the problem. Practical research and technical advice are needed to focus on the mix of feasible coordinating mechanisms, identifying strategic actions to expand the opportunity sets of those caught in the poverty trap. In-country researchers and advisors should recognize the evolutionary and political nature of the transformation process and become participants in the process. Understanding the process is the first requirement.

Nearly all developing countries lack the local professionals trained to carry out tasks essential to the development of dynamic and effectively coordinated market systems. Hence donor-supported agricultural marketing programs should give high priority to building in-country professional and institutional capabilities to conduct action-oriented research, to design and manage marketing programs, and to monitor and evaluate the consequences of market system interventions in achieving country development goals.<sup>1/</sup>

Based upon field experiences in several countries, we have developed a conceptual and operational approach for applied research, training, and institution-building activities directed toward food system organization and management problems. Our approach is described and elaborated upon in several publications.<sup>2/</sup> Some essential elements in it include:

1. Task groups composed of local professionals are organized to work collaboratively with our own research personnel, including advanced graduate students.
2. A preliminary assessment of market organization problems and related policy issues is made in the context of country development goals.
3. A tentative long-term marketing research and development strategy is outlined and discussed with local officials.
4. A series of short-term diagnostic-prescriptive studies are planned and carried out within the framework of the longer-term research and development strategy.
5. Recommendations for new or revised marketing policies and programs are discussed with local officials and individuals in the private sector.
6. Analyses of specific projects and alternative courses of action with follow-up studies to evaluate and reorient programs and projects actually being implemented.

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<sup>1/</sup>Harold Riley and John Staatz, Food System Organization and Management Problems in Developing Countries, Report No. 23, Agricultural Development Council, New York, 1981.

<sup>2/</sup>Kelly Harrison, D. Henley, H. Riley, and J. Shaffer, Improving Food Marketing Systems in Developing Countries: Experiences From Latin America, Research Report No. 6, Latin American Studies Center, Michigan State University, 1974; and Harold Riley and Michael Weber, "Marketing in Developing Countries," op. cit.

Ideally, this approach will help create local institutional capability to continue research and development focused on problems of market organization and management. The longer-term needs for trained personnel, however, can only be met by creating local university curricula and the faculty competence to prepare young professionals for effective work in both public and private sector aspects of agricultural marketing system development. And these more formal educational programs should be supplemented with in-service training of public agency professionals and extension-type programs directed toward the different classes of participants in the agricultural marketing system.

There are many useful ways of organizing the needed research described above. Comprehensive programs of research on farm and food marketing systems is an ideal but practical projects are limited to a narrower focus.<sup>1/</sup> Studies focusing on particular industries, markets, marketing functions, class of participants, organizations, programs, or set of laws can be fruitful. Subsector studies can be especially valuable. A subsector study focuses on the organization and performance of the marketing system for a particular commodity with emphasis on vertical coordination problems. Tracing the marketing channels and describing the operational characteristics of the system would be a first step in assessing the possibilities for institutional changes aimed to improving subsector performance.<sup>2/</sup>

Studies comparing marketing systems across countries, across subsectors, and through time with emphasis on the relationships between institutional differences and performance are especially important in the accumulation of systematic knowledge about the role of marketing systems in development. Comparative institutional studies are critical in carrying out social science research since we must rely on observation of actual institutions for our data. International organizations, including the international agricultural research centers, could play an important role in promoting and coordinating such research. Workshops such as this one can contribute to the design and interpretation of the research.

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<sup>1/</sup> For a number of years, a group of us in the U.S. have had a national program of research entitled, "The Organization and Performance of the U.S. Food Production and Distribution System." The research was organized roughly into three areas: (1) industry studies, (2) subsector studies, and (3) legal-economic studies. The project known as NC 117, has produced more than 100 reports. A list of publications can be obtained from the project Executive Director, Bruce Marion, Food System Research Group, 427 Lorch Street, Madison, Wisconsin, USA 53706.

<sup>2/</sup> For examples of subsector studies in Third World settings, see J.S. Holtzman, op. cit.; J.J. Boomgard, "The Economics of Small-Scale Furniture Production and Distribution in Thailand," Ph.D. thesis, Michigan State University, 1983; and S. Haggblade, "Sorghum Beer in Botswana: The Effect of Factory Brews on a Cottage Industry," Ph.D. thesis, Michigan State University, 1983 (forthcoming).