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**IMPROVING INTERNAL MARKETING SYSTEMS
AS A PART OF NATIONAL DEVELOPMENT
PROGRAMS**

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Introduction

The general theme of this paper can be summarized as follows:

(1) Marketing activities take on increasing importance as a coordinator and stimulator of economic activity as countries become more developed.

(2) Effective and efficient marketing systems are not likely to emerge automatically during the development process hence public policies and programs are needed to facilitate marketing changes.

(3) A systematic assessment of market system performance in relation to development goals is a necessary first step toward the formulation of marketing improvement programs.

(4) There are general strategies for improving marketing system performance but specific programs and investments should be carefully designed to fit conditions in particular countries.

The information base and the views expressed in this paper have been derived from a marketing research and development project (LAMP - Latin American Marketing Planning Center) through which a Michigan State University group has carried out studies in Puerto Rico, Northeast Brazil, Bolivia and Colombia in collaboration with local governments and their related agencies. The material being presented in this paper represents an accumulation of experience over a period of approximately seven years

by the Michigan State University group.* The primary purpose of this effort has been to conduct diagnostic studies of internal marketing systems linking large urban centers with their rural supply area and to formulate recommendations for marketing improvements. This activity has centered upon agricultural marketing broadly defined to include not only agricultural product marketing but also the distribution of farm inputs and consumer goods.

The Role of Marketing in Development

As a generalization the economic development process involves the transformation of rural, agriculturally based economies into more urban industrially based economies. Increased specialization of labor, the adoption of more scientifically based technologies, and the geographic separation of production and consumption is necessarily accompanied by the development of a more complex marketing system. As agricultural producers become more specialized and commercially oriented they become increasingly dependent upon purchased food, industrially produced farm inputs and consumer goods that flow from the larger cities to rural trading centers. As people migrate from rural areas to the cities and as these urban centers increase in size an increasing percentage of the urban consumer's food expenditures must go for marketing services which include transportation, storage, processing, packaging, wholesaling and retailing. And as incomes increase additional marketing services are demanded. Thus, as economic development occurs the proportion of consumer expenditures for marketing services tends to increase and the marketing

* The author accepts responsibility for the views expressed in this paper but at same time acknowledges the substantial contribution of my Michigan State University colleagues Kelly Harrison, James Shaffer, Charles Slater and Donald Henley, who have shared in this project. The funding for this work has been provided largely by the U.S. Agency for International Development.

system takes on increasing importance as a coordinator of production and consumption activities.

Economic planners have tended to focus their attention on investments in projects designed to increase industrial and agricultural production capabilities. Most aspects of marketing, other than investments in basic transportation infrastructure, have usually been relegated to a secondary and adaptive role in the development process. Relatively little attention has been directed toward credit, technical assistance and training to improve marketing systems and especially private sector operations.

During the past two decades a number of authors have challenged the attitude that marketing is a passive element in development and have forcefully argued that marketing may be one of the more dynamic forces in facilitating technological change and more productive institutional arrangements for organizing and coordinating economic activity. Richard Holton suggested that if market channels were less tortuous and costly to navigate more goods might flow through them.¹ Peter Drucker has asserted that marketing is the most effective engine of economic development in that it contributes to the foremost need of underdeveloped countries -- the rapid development of entrepreneurs and managers for mobilizing latent economic resources.² With regard to agricultural marketing J.C. Abbott has argued that, "an effective marketing system does not merely link buyers and sellers and react to the current supply and demand situation. But, rather, it has a dynamic role in stimulating both production and consumption. On the one hand it activates new demands by improving and transforming farm products and by seeking out and stimulating new customers.

On the other hand, it guides farmers to new production opportunities and encourages greater production in response to demand" (3).

Collins and Holton have advanced several reasons why they believe that an effective set of marketing firms may not automatically emerge during the development process (4). Many of the constraints involved conditions external to the firm. Hence, they suggest that public policies and programs are needed to provide a favorable environment for innovative behavior by marketing firms. Important components of these public sector activities are rules and regulations, information systems, and infrastructure that would not likely be constructed or provided by private entrepreneurs. However, they question the usual preoccupation with public investments in physical facilities without adequate attention to critically needed changes in the institutional organization and operational procedures within the marketing system (5).

The viewpoint that has been adopted in this paper is that the marketing system is a primary mechanism for coordinating production and consumption activities and as such warrants considerable attention in economic development planning and programming. I will consider marketing to include the exchange activities associated with the transfer of property rights; the physical handling of products and the institutional arrangements for facilitating these activities. In a broader sense it is acknowledged that many of the important decisions by managers of farms and industrial firms are concerned with the planning of production in relation to market opportunities. Hence, it is convenient to consider marketing as part of the set of activities that coordinates the various stages in a production - distribution channel such as the food system or a commodity sub-system. In this context, it serves no useful purpose to

try to establish an arbitrary definitional division between "production" and "marketing".

Throughout Latin America there is a rapidly growing demand for agricultural marketing services. Urban centers are growing rapidly as a result of high rates of population growth and migration from rural areas to the cities. Many of the medium and large cities have been growing 5 to 7 percent annually. At the same time improved transportation and new production technologies are encouraging greater specialization in farm production and a geographic broadening of markets. Farmers are becoming increasingly dependent upon urban produced farm inputs and consumer goods. The net effect has been to increase the interdependence of rural and urban areas and to substantially expand the demand for marketing services provided by specialized intermediaries.

Food consumption surveys conducted in four Latin American cities (Recife, Brazil; LaPaz, Bolivia; Cali and Bogota, Colombia) showed that between 40 and 50 percent of total consumer income was being spent for food (6). But, more important was the fact that the poorest one-half of the households typically spent 60 to 80 percent of their income for food. Approximately 40 percent of the urban consumer's food outlay is going for marketing services. Reductions in food costs, whether due to marketing reforms or improved efficiency in farm production are of great importance to the urban consumer and especially to the lower income families. For these families a 10 percent reduction in food prices would increase their real purchasing power by 6 to 8 percent. Given their relatively high income elasticity of demand for food (approximately

+ 0.60) there would be a significant increase in demand for food that would be reflected back to the farming sector. But, an even greater demand expansion would be set in motion for non-food consumer goods (housing, clothing, education, health and consumer goods). Thus, the secondary and tertiary effects of increased efficiencies in food marketing could be a significant factor in stimulating economic development since the lack of effective demand is often cited as a constraint on industrial and agricultural output expansion.

A poorly coordinated agricultural marketing system can obviously be a serious obstacle to expanded output, increased employment and higher incomes among farmers. A more reliable and remunerative market for farm products provides greater incentives to expand production. If at the same time there is an effective distribution system for agricultural output can expand to meet growing domestic demands.

Diagnosing Agricultural Marketing Problems

A systematic diagnosis of agricultural marketing system performance in relation to development goals is a necessary first step toward the formulation of marketing improvement programs. In our Latin American Market Planning projects we have developed an approach that can be modified to fit local conditions but certain basic procedures have been followed.

(1) We have examined the food production-distribution system in a selected market area, usually a large urban center and its related food supply area.

(2) The urban food distribution system and the related commodity supply systems are described and analyzed in an effort to identify potential opportunities for improvements.

(3) Similar diagnostic studies have been directed toward farm input and consumer goods distribution, and selected public aspects of marketing concerned with laws and regulations, information systems, and credit policies.

(4) The evaluation of marketing system performance has been both normative and relative. It is normative in the sense that we have observed how the results may deviate from what seems to be desired based upon contributions toward general development goals. The procedure is relative in the sense that results flowing from the present system are judged against what appears to be attainable from alternative organizational arrangements and policies.

The relevant set of development goals varies among Latin American countries but three broad goals are usually presented in nearly all national development planning documents. These goals concern the achievement of: 1) a specified rate of growth in per capita gross domestic product; 2) full employment of the labor force or a reduced rate of unemployment; 3) greater equality in income distribution. In recent years employment and income distribution goals have been elevated in relative importance as compared to the economic growth goals.

A number of more specific goals or objectives are usually set forth for the agricultural production-distribution system. Some of these might be stated as follows: (7)

1. To provide an abundant, nutritious and reliable supply of food at economical prices.

2. To promote and facilitate the production and distribution of that combination of foods and related services which best reflect the preferences of consumers and the real relative costs of production.

3. To stimulate the development and adoption of improved technologies and organizational arrangements that will lead to increased resource productivity in all aspects of food production and distribution.

4. To stimulate the creation of productive and remunerative employment opportunities.

5. To increase the level of farmer income and improve the relative income position of small farmers.

6. To create the conditions necessary to ensure the development of equitable and competitive exchange relationships in agricultural markets.

7. To discourage uneconomic uses and spoliation of natural resources and the environment.

8. To foster a sense of belonging and participation among food system participants.

It is extremely difficult to attempt a comprehensive empirical evaluation of existing and alternative marketing systems in relation to the numerous development goals. However, it is desirable to identify opportunities for improvements which promise to have significant contributions to development goals. Where conflicts or trade-offs are involved the decision makers should be presented with a careful evaluation for consideration in arriving at subjective judgements on the "best" solution.

Some Diagnoses and Prescriptions For Marketing Improvements

I will draw upon the results of our Colombian project as a means of illustrating the type of program described above. I will begin with the urban portion of the food system and then turn to the commodity sub-systems.

The community leaders in Cali had become convinced that the urban food distribution system was becoming increasingly unsatisfactory for a city of nearly one million people. Most of the food supply was passing through a market area located in the center of the city. Each morning several thousand small retailers converged on this area to buy their supplies and haul them back to their neighborhood stores or to market stalls in five satellite public markets. The central market was also the largest retail center in the city. The physical congestion of vehicles and people plus the logistical inefficiencies of using old residences as warehouses was adding unnecessary costs to food handling. The unsanitary conditions and the undesirable social and economic conditions created by the market were factors creating community pressures for the removal of the market from the central area of the city. The study which we made jointly with a regional development agency (the CVC) and the University of Valle was to provide the basis for a food marketing reform program that would resolve the central market problem and lay the foundation for a long term effort to create an effective and efficient food marketing system for the Cali area.

The study provided a detailed description of the existing urban food distribution system. The structure of both wholesaling and retailing was very atomistic. There were 9000 retailers or approximately one

outlet for each 15 households. Public markets accounted for about 42 percent of the retailers but were handling only about 20 percent of total retail food sales. Personal service and specialty stores were handling 67 percent of total sales and the remaining 13 percent of the volume moved through self-service outlets. Food wholesaling operations were also small in size and highly specialized, but the nature of the operations varied tremendously by commodity. There were no large wholesalers offering a broad line of products. Hence, retailers found it necessary to deal with a large number of suppliers and to spend substantial amounts of time in assembling products for their stores. Fruit and vegetable procurement was especially time consuming often requiring more than two hours per day of the retailers time (8). As an adjustment to this situation there has emerged a second level wholesale-retail operator who can offer a wider selection of products to the small store operators.

The lowest retail food prices were in the central market area and in the supermarket type outlets. The highest prices were being paid in the small neighborhood stores where the low income families buy the largest percentage of their food.

Retail margins were relatively low as compared to those prevailing in more developed countries. Small personal service retailers were operating on margins of about 12 percent. Most retailers and supermarket operations had margins of 13 to 15 percent while some of the cooperatives and public market stalls were handling basic, non-perishable commodities on margins of 7 to 10 percent.



Wholesaler margins on basic grains and processed foods were approximately 3 to 4 percent while margins on perishables (meat, fruit, and vegetables) ranged between 12 and 15 percent. Spreads between buying and selling prices on perishable were much greater than the percentage gross margins since there are significant product losses on several of these products. The second-stage wholesaler-retailer type operations were operating on gross margins ranging between 3 and 7 percent depending on volume of operations and product mix.

There was little evidence of excess profits being taken by wholesalers and retailers. A high proportion of the wholesalers and retailers were obtaining a return for their labor that was little more than the minimum wage (at that time about 15 pesos or about U.S. \$0.90 per day)

A simple examination of gross margins as well as considerations of net returns to labor might be taken as an indication that the conditions of static competitive efficiency are being met and that the system should be maintained as it is. However, it is important to consider the services provided relative to the margins and to take into account the coordination of product flow through the system. The services provided by wholesalers and retailers are minimal and the returns to labor are extremely low. The small scale of retailing forces an additional step in the distribution channel adding extra cost to the system. The lack of locational convenience of many types of retail outlets forces the consumer to spend considerable time and money to perform their shopping activities and the condition of the products often leaves much to be desired.

Time does not permit a detailed reporting of other aspects of existing urban food distribution system. However, it should be recognized that as cities such as Cali increase in size from 200 thousand to 900 thousand and possibly to more than 1.5 million by 1980 the traditional, atomistic urban food system becomes increasingly unsatisfactory in terms of operational costs, the quality and adequacy of services provided consumers and as a stable and remunerative market for farmer's products. We should also bear in mind that there are substantial barriers confronting individual wholesalers and retailers who might wish to expand their businesses or to adopt more modern methods of operation. These barriers include the limited knowledge of the operators themselves, the lack of competent employees, limited access to credit and technical assistance and the constraints of direct public intervention through price controls and actual wholesale-retail operations.

The above diagnostic description of the Cali urban food distribution system served as a benchmark against which we compared alternative marketing improvement programs. Local community pressures made it imperative that something be done to eliminate the market areas from the center of the city. One alternative was to try to force existing wholesalers and retailers to redeploy themselves to the five satellite public markets. Another alternative was to construct a new wholesale food center on the outskirts of Cali and to redeploy the central market retailers to the satellite markets. The second alternative involved a separation of wholesaling and retailing activities. An extension of the

second alternative involved a longer term effort to develop larger scale, fuller product line wholesalers and closely related groups of larger scale, fuller product line wholesalers and closely related groups of larger scale neighborhood retail outlets. Cost analyses indicated potential logistical gains that might reduce urban food distribution costs as much as 20 to 25 percent. In addition there would be greater shopping convenient to consumers, especially in the newly urbanized lower income areas. Substantial improvements in the quality of perishable products were anticipated with the more modern distribution system. However, these gains could only be achieved through a publicly supported program which would include not only a new wholesale market facility but also the technical assistance, training and credit to stimulate the desired changes among private sector intermediaries. It was recommended that a regional food marketing agency be organized to prepare detailed plans, for a new wholesale market, finance, construct and manage this facility and organize programs to modernize private wholesaling and retailing operations. This agency was also to be responsible for facilitating backward vertical coordination in the commodity supply channels. Major activities would include market information services, the development of classification and grading, technical assistance to private sector intermediaries and producer groups operating assembly markets. Where possible these efforts were to link up with existing agricultural research and extension programs.

One of the major benefits of the backward vertical coordination efforts emanating from the regional wholesale market would be

stimulation of farmers to produce the kind, quality and volume of products actually demanded in the market place. This would reduce risks to both farmers and intermediaries and should reduce costs of production and distribution. Thus, the overall strategy called for a significant shift from an "agricultural production" approach in sector planning toward a "market" approach. Greater emphasis was to be given to identifying market opportunities as a precondition for stimulating farm production.

In order to achieve the potential cost reductions and product improvement advantages of the proposed wholesale food center and the related changes in the organization of food wholesaling and retailing, it will be necessary to foment a series of improvements in the organization of commodity sub-systems providing food for the Cali market.

The existing grain assembly system which links into the urban food system is performing relatively well. Large assemblers are competing with each other and with large processors for grains produced on large commercial farms. Assembler's margins are relatively low for services rendered. However, the coordination of the assembly system with urban centers could be further improved by a more accurate and timely price information system and a reliable system of estimating crop size. There is an apparent need for additional grain storage capacity. A shift from bag toward bulk handling can reduce costs of moving grain that is transported directly from large farms to grain processors' bulk storage facilities.

There are many conditions in the fruit and vegetable sub-system which contribute to relatively high marketing costs, poor product

quality and unstable prices and supplies. Production tends to be widely scattered geographically and nearly all phases of production and distribution are carried on by small firms operating with relatively low levels of technology. Production seasonality is, of course, related to climatic conditions but modern technology can reduce short-term supply fluctuations. There have been recent efforts to introduce more modern systems of production and distribution for pineapples and oranges, and processing tomatoes are produced under contracts closely supervised by processors. Further efforts are needed to encourage geographic concentration of fruit and vegetable production and the adoption of improved production and handling practices. Credit policies can be used as a tool to achieve these changes. The coordination between urban wholesalers and rural assemblers can be facilitated by an improved market information system of product classification. The organization of local producer associations and concentration centers are also means of improving the assembly market function and stimulating efficient production methods.

At present, the domestic market for processed fruits and vegetables is very limited. A favorable climate makes it possible to have a year-round supply of a great variety of fresh foods. Domestic help is plentiful and inexpensive. Few families have incomes sufficient to pay the additional expenses involved in processing. And the cost of the glass or metal containers for preserved foods is high relative to the fresh commodity.

The most important problems confronting fruit and vegetable processors involve procurement of raw materials. It appears especially

difficult to obtain reliable supplies of desired quality fruits and vegetables at reasonable prices. The proposed program to foster greater geographic concentration of fruit and vegetable production and the development of producers' cooperatives should ease processors' procurement problems.

Several of the packaging firms appear to be progressive and have the technical capacity to provide specially designed containers. Our studies indicate there is an opportunity to improve product quality and reduce costs by using improved packaging for fresh fruits and vegetables. Improved farm-to-consumer packages can reduce product losses and labor costs in handling. The combination of new packages and a system of grades and standards, which would provide incentives to protect product quality, would reduce food wastes.

The diagnostic study identified several major problems in the milk production-distribution system. First, unsanitary handling methods and adulteration, especially among raw milk distributors and at the producer level, are a danger to the consumer's health. Currently, more than one-half of the milk supply is sold as raw milk. Second, milk supplies decline by 20 to 30% during the dry season when consumer demand is at a seasonal peak. Yet present milk price regulations do not permit higher prices as an incentive for farmers to expand output during the dry season. Finally, milk production per cow remains low because of the extensive nature of farm production. Through compulsory milk pasteurization and a comprehensive milk regulation program it appears possible to greatly



improve the safety and quality of milk without increasing consumer prices. Sanitary regulations, seasonal price adjustments and assured markets for producers would encourage the adoption of more adequate milk handling practices and an expansion in production. Assembly and distribution costs could be much less in the more modern milk system. Furthermore, some of the smaller trucks now used for milk hauling could be used in urban food transportation when the new wholesale food center becomes operational.

The production and distribution of poultry and eggs has become rapidly commercialized during the past 10 to 15 years. Most of the output comes from relatively large production units. Several producers are integrated into product distribution and a few into feed concentrate mixing. Egg marketing could be further improved through grading and differential pricing at the wholesale level, although no substantial cost reduction seems feasible. The quality and availability of broilers could be increased through a central slaughtering facility with some cost reduction likely as volume increased and distribution became better organized.

The major problem in using technical farm inputs seems to be the lack of practical information identifying the most economical input combinations under the different existing physical and economic conditions. There is a high degree of complementarity in the use of technical farm inputs. For example, the application of fertilizer to traditional crop varieties may produce little or no yield increase, while application to newer crop varieties may significantly increase yields. A second

general problem is that many distributors are unable to effectively control product inventories and predict demands for the technical inputs, resulting in both excessive inventory maintenance costs and frequent out-of-stock conditions for individual products. Credit availability did not appear to be a significant deterrent to the use of technical inputs among commercial farmers (especially grain, poultry and egg producers), but is more a limiting factor for small producers, many of which are located in the mountainous areas of the region.

On the basis of the diagnostic studies of the food system serving Cali and the expected results of the recommendations that have been proposed, it seems possible to reduce real costs of food to urban consumers by at least 10 percent over the next decade, and at the same time achieve significant improvements in marketing services. Approximately one-half of these savings could result from changes in urban food distribution while the other half might result from increased productivity in farm production and assembly marketing operations.

Some Policy Issues

There are inherent conflicts in the establishment of food marketing policies and in the actual operation of public sector food marketing programs. I will comment on three issues that seem to be particularly important. One is the farmer's interests vs. those of the consumers. The second issue concerns direct public intervention in food distribution. A third issue is the employment effects of changes in food marketing.

Farmer Interests vs. Consumer Interests

Farmers prefer high prices for their products while consumers want low food prices. Government agency programs to provide minimum price

guarantees to farmers are constrained on the one hand by the need to establish a level of prices that will call forth a desired level of output to satisfy market requirements while on the other hand they must attempt to avoid the creation of burdensome surpluses and artificially high prices for consumers. Less developed countries are hardly able to provide income transferal price policies favoring farmers. And the benefits of price supports are usually proportional to the size of property holdings. Hence, careful economic analyses should be available to guide policy makers in the establishment of farm product price support levels. Retail food price controls pose similar problems. If prices are set too low production will be discouraged and consumers will be faced with product shortages. Furthermore, both farm product support prices and retail ceiling prices almost invariably introduce significant distortions in price differentials among different locations in a market area and among different quality levels for the same commodity. The effect is to encourage uneconomic geographic production patterns and to reduce the economic incentives for producing higher quality products that would better satisfy consumer demands. The extent and nature of these market distortions need to be weighed against possible benefits of price fixing schemes as a means constraining inflationary pressures or in guaranteeing minimum prices to farmers. Some of the undesirable effects of price fixing can be reduced by careful selection of commodities and well conceived administrative procedures.

Public Sector Intervention in Food Distribution

There are wide differences of opinion concerning the extent to which the government should directly intervene in the actual buying and selling

of commodities and thus take on the functions of an intermediary. Although private sector intermediaries continue to be the central core of the food marketing systems in Latin American countries, there is a trend toward increasing government intervention. This tendency is underlaid by widely held views that intermediaries do little to add to the value of the product and are able to impose exorbitant charges for their services. When products become scarce and prices are rising the consumer interests accuse the intermediary of speculation. When products are in abundant supply and prices are low the producer interests accuse the intermediary of using market power to increase marketing margins and thus worsen the farmer's income situation. The extent to which these views of the private sector intermediary are justified undoubtedly vary considerably among different local situations. However, the evidence from studies which we have conducted in three Latin American communities suggests that the abuses and inefficiencies of private sector marketing firms are exaggerated and often misconstrued. Nevertheless, due to the pressures for social and economic reforms, political leaders are attracted toward highly visible interventions in food marketing which will allegedly either eliminate the lecherous middleman or at least force him to charge lower prices for his services. The opening of retail food stores and the establishment of routes for mobile trucks stores are seen as means of demonstrating the government's concern over the consumer's battle with rising costs of living. Although short-run political considerations may justify direct government intervention in food marketing it would appear highly advisable to examine the longer-run consequences of such actions before committing large amounts of public resources. Several

questions should be considered. If the program is being subsidized can the government sustain the financial costs of extending the programs so it will benefit a high percentage of the population? Are there substantial economies that can be achieved through the publicly administered food distribution programs as compared with the existing system of private sector food distribution? In analyzing this issue all costs should be considered including indirect administrative costs, interest on investment funds and services provided by other public agencies. Even if there appeared to be short-run cost advantages for the public enterprise over existing private enterprise the question should be raised as to whether there are alternative ways of stimulating changes in the private sector that would lead to even better results when measured in terms of final product costs to the consumer, the quality of services provided, and equitable returns to farmers and intermediaries. This question requires some evaluation of the probable administrative effectiveness of a public agency in dealing with the complexities of buying, selling and handling perishable and semi-perishable products where there are continual changes in supply and demand conditions. A related question is, can incentives and operational procedures be created that will facilitate management and employee performance in the public enterprise that are equal to or superior to that attainable in private enterprises?

The effect of public interventions on private sector investments in food marketing should be contemplated. If subsidies are involved the net effect may be to discourage private sector investments and thus slow down the spread of more efficient methods of food distribution. Careful

considerations of all these questions may lead to a rational decision to proceed with greater direct intervention in food distribution. If that should be the case it would seem highly desirable to focus retailing activity in the lowest income urban areas and especially in newly developing urbanizations where private sector food retailing services are typically very inadequate. Intervention in food wholesaling can probably be most effective in the handling of basic, relatively less perishable products some of which may be involved in farm price support programs.

Employment Effects of Changes in Food Marketing

Food marketing and especially urban food distribution is a very labor intensive set of activities which provides jobs for a sizeable percentage of the labor force. Proposed improvements in marketing facilities and institutions are therefore being carefully scrutinized to determine their effects on employment. This concern over employment effects has been elevated in relative importance by the rising levels of unemployment and underemployment of human resources in developing countries.

If food marketing costs are to be reduced it stands to reason that one of the major areas for cost reduction is in improving efficiency of labor utilization. This can be accomplished in various ways. Institutional reforms and the adoption of improved physical handling methods can reduce labor requirements. Investments in better designed and larger scale marketing facilities and materials handling and processing equipment may also reduce labor costs and aggregate marketing costs. When marketing technology options are being considered by the private sector enterprise the decision will be made on the basis of the internal costs and returns to the firm.

But, the public officials considering marketing improvement policies and programs must take into account the effects which are external to the firm and the disemployment effects looms large in this area of decision making. However, this same basic policy issue is involved in decisions regarding investments in new technologies in farming and industrial production processes. Hence, marketing improvements are not a special case and the relative importance of the disemployment effects must be weighed against potential benefits. Furthermore, the longer-run national development goals usually include several dimensions not the least of which is that of increasing resource productivity as a means of achieving higher levels of income. Thus, the goal of reducing unemployment is pursued concurrently with the goal of increasing resource productivity.

There are two empirical studies that I would call to your attention which serve to illustrate methodological approaches to the evaluation of food marketing improvements. The first study was conducted several years ago by Richard Holton (9). This was an attempt to compare an existing system of food wholesaling and retailing in Puerto Rico with an alternative system which incorporated scale economies with locational constraints provided to maintain a reasonable degree of shopping convenience. Holton estimated that if the model food distribution system could be adopted, the consumer food bill could be reduced by 10 to 18 percent, depending on the assumed conditions. The model system included only 20 percent as many retail outlets as actually existed and approximately one half as many employees. In the Puerto Rican case public officials decided to go ahead with a

comprehensive program to modernize food distribution. However, the actual unemployment effects were much less than might have been expected on the basis of Holton's projections. And the reduction in the food costs to consumers fell considerably short of the potential that might have been achieved if the model system could have been fully implemented. (10) A 1965 study conducted by our LAMP Center in Puerto Rico indicated that the food marketing reforms had been carried forward over a period of 10 years without any critical labor displacement effects. The total employment in food distribution remained relatively stable while output per worker increased with the rising volume of food sales. In this instance the size of the food market and the demand for marketing services was increasing sufficiently to maintain the earlier level of employment while realizing greater efficiencies in the use of labor which was reflected in somewhat higher wages and salaries for food marketing workers employed in the larger, more modern retailing and wholesaling enterprises.

In a 1969 study made in Cali, Colombia an attempt was made to compare the existing small scale tienda type food retailing system serving the low income areas with a system composed of larger tiendas carrying a wider assortment of products and being served by a larger scale, less specialized wholesalers. This analysis showed that the proposed system could reduce food costs to low income consumers by approximately 5 percent. But, this alternative system provided employment for only about one-third as many people as the existing system. On the other hand, the total capital investment was estimated to be less in the alternative system even though more

modern buildings and equipment were included in the budget estimates. Subsequent reconsideration of the Cali situation would indicate that it would be possible to design a model system involving a larger number of lower paid workers and somewhat lower capital investments while still achieving approximately the same level of overall cost reduction.

Any analysis of the direct employment effects of food marketing changes should be balanced against other indirect effects which may include the following:

(1) Reduced spoilage of products and improved condition of products delivery to consumers.

(2) Reduction in marketing risks permitting intermediaries to operate on a narrower margin and provide farmers with greater incentives to expand output, and adopt improved technologies.

(3) Improved performance of the market as a price making institution and communication channel through which intermediaries and farmers can better adjust their output mix to actual consumer demands.

(4) The effect of food price reductions in increasing the demand for additional food and non-food products and other services. This can have important secondary and tertiary effects in creating employment in many sectors of the economy. (11)

Some Concluding Observations

Our studies indicate that improvements in internal marketing systems can make important contributions toward the achievement of national socio-economic development goals. However, the prevailing attitude of distrust

and antagonism toward intermediaries and the lack of technical assistance, specialized training, credit programs and basic infrastructure continue to be formidable barriers to the development of efficient and progressive marketing firms in many Latin American countries.

It is our belief that individual countries should attempt to formulate a long range national program for improving agricultural marketing within a broad conceptual framework that envisions the dynamic interrelationships between rural production, urban food distribution and industrial activities. The first step in the development of such a program is a careful assessment of existing market conditions and possible means of improvement in relation to national development goals. This requires not only good technical staff work but also careful collaboration with public and private entities and effective promotional efforts by key political leaders.

A critical element in a longer range program should be the creation of a research and development capability. This could take the form of an integrated team of professionals who would carry out analyses to support program planning, prepare detailed feasibility studies on infrastructure investments, and promote projects to be carried out by the appropriate action agencies. This group would be responsible for the development and implementation of a coordinated set of activities generally consistent with longer range strategies adopted by national and local agencies. Monitoring and evaluation of on-going projects and programs would be necessary to guide the development of new activities or the revision of existing programs. The specific method of instituting such a marketing research and development activity would have to be adopted to the institutional framework in particular countries.

Universities can provide a portion of the needed research capability and can conveniently combine this with both degree and non-degree training programs.

Public or semi-public enterprises can, and probably should, play an important role in agricultural marketing. Here in Colombia, regional or municipal corporations are building and managing large wholesale food market projects. In some instances these entities are responsible for technical assistance, credit and training programs to help private entrepreneurs become larger and more efficient. If carefully organized and managed these programs can combine some of the strengths of the public sector with the potential benefits of a more progressive private sector.

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