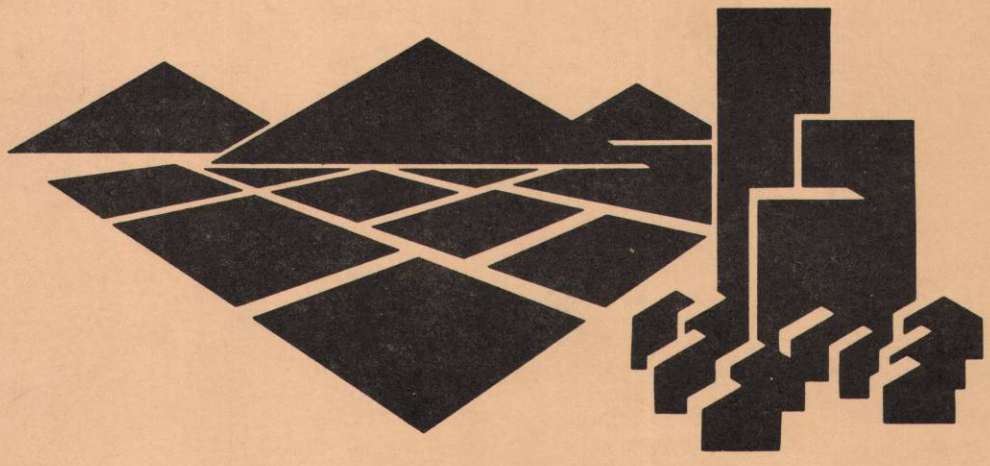
RESEARCH REPORT NO. 10
LATIN AMERICAN STUDIES CENTER Michigan State University

FOMENTING IMPROVEMENTS IN FOOD MARKETING IN COSTA RICA



MARKETING IN DEVELOPING COMMUNITIES SERIES

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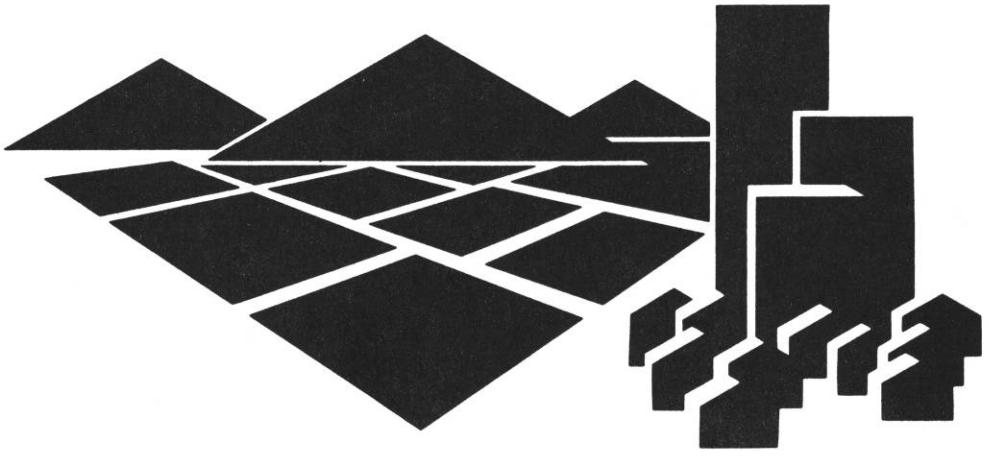

MARKETING IN DEVELOPING COMMUNITIES SERIES

FOREWORD

This report summarizes the results of a preliminary diagnostic analysis carried out jointly by Michigan State University and Costa Rican agencies. It is the interim product of a program which began in January 1972. At that time the Institute of Municipal Technical Assistance (IFAM), in cooperation with several other Costa Rican agricultural and urban development agencies, asked the Costa Rican AID Mission to arrange for technical assistance in evaluating agricultural marketing problems. The Latin American Market Planning Center was asked to provide technical leadership. Financing was provided by the USAID Mission to Costa Rica. IFAM accepted the responsibility for organizing and coordinating a local task force of marketing technicians on loan from other governmental institutions. Lic. Rufino Gil Pacheco was chosen as task force director. The Michigan State University team was composed of members of the Department of Agricultural Economics. Mr. Michael Weber was selected as resident technical advisor.

Research on the preliminary diagnostic analysis began in late April. In August key governmental officials, representatives of sponsoring agencies, and USAID officials were invited to participate in a seminar where project personnel reported preliminary findings. Based upon observations and suggestions at that seminar, additional research and analysis was carried out in September and October.

This report was prepared by Michigan State University team members Kelly Harrison, James D. Shaffer, and Michael T. Weber. It is based upon unpublished technical reports and analysis prepared by the PIMA staff.

This report is part of a series on Marketing in Developing Communities. Other research reports in the series include:

Food Marketing in the Economic Development of Puerto Rico

Market Processes in the Recife Area of Northeast Brazil

Market Processes in La Paz, Bolivia

Market Coordination in the Development of the Cauca Valley Region - Colombia

This Costa Rican report does not reflect the same level of research input as other reports in the series. Some primary data was collected but major data sources are secondary data supplemented by market observations and interviews with purposively selected samples of market participants.

PERSONNEL OF THE
INTEGRATED PROGRAM OF AGRICULTURAL MARKETING (PIMA)

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I. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The purpose of this section is to present in summary form the recommendations derived from preliminary diagnostic analysis. In general, we have concluded that the system is not performing as well as it might. There is evidence that the traditional marketing system is not adjusting effectively to rapid changes in production, urbanization, consumer incomes and customs. Marketing costs are greater than they might be under an alternative system and the situation can be expected to worsen if changes are not made.

We are suggesting a set of actions which, we believe, will set in motion changes leading to a more productive food system. Our goal is to create an on-going environment of productive change and adaptation in the marketing system. Buyers and sellers of food products must be encouraged to aggressively seek more efficient ways of doing business. Aggressive (though not destructive) competition must be promoted. Market system participants must be made aware of the private and social gains to be made through adoption of new and better marketing methods. Public actions must be taken to facilitate improved market relations, reduce risks, and stimulate innovation. We are suggesting a number of public actions that should lead toward that progressive market environment. Our basic strategy assumes that private firms will continue to perform most marketing services. That being the case, we have sought ways to make private enterprise more productive, more progressive and more competitive to the benefit of all Costa Ricans.

Improvements in productivity in the marketing system can be fostered through three types of changes:

1. development of improved physical facilities;
2. provision for certain facilitative laws, regulations, policies, and public programs; and
3. adoption of more effective managerial-technological methods.

How to achieve these changes has been, and in the decade of the 1970s will increasingly be, a priority concern for many national and international technical assistance and planning agencies. One conclusion, supported by a landscape of unused and poorly used marketing facilities, is that physical facilities alone do not provide an automatic road to an improved marketing system. Physical facilities have often been built ignoring the fact that effective marketing is primarily dependent upon the development of institutional relationships and behavior rather than on highly sophisticated facilities.

In light of this orientation, a more appropriate first step in modernizing a traditional marketing system is to begin to change the managerial attitudes and actions of buyers and sellers. When managers of marketing firms begin to seek innovative ways to improve efficiency, they will seek those technologies and physical facilities which will accomplish that objective. With the following recommendations we are seeking ways to encourage innovative management. This can be done by introduction of critical changes in the marketing system through key physical facility improvements, training, and facilitative governmental policies and programs.

The deliberate process has, in fact, already been set in motion through the cooperative actions of those public agencies which have

sponsored the Programa Integrado de Mercadeo Agropecuario (PIMA). PIMA sponsors have included all Costa Rican public agencies with a major interest in food production and marketing, i.e., agricultural sector agencies (CNP, MAG and CAN), credit agencies (Banco Central), and urban sector agencies (IFAM and INVU, and the Municipality of San José). The PIMA staff has prepared this report as a beginning step in the long-term process of improvement of the food marketing system in Costa Rica.

Another conclusion of many national and international agencies with experience in market system development, is that improved performance of food and agricultural marketing systems proceeds at a slow pace in the absence of sustained, long-term public action to facilitate market system reform evaluation, planning and implementation.

We therefore recommend that a permanent task force of marketing systems specialists be legally instituted with public support to deal with both rural and urban aspects of the food marketing system. The group might continue with the name "Programa Integrado de Mercadeo Agropecuario." Whatever the name, or whether this effort is undertaken by a present inter-institutional body, by a present single agency of the government, or by a new institution, its major objectives would be to:

1. conduct applied research for the purpose of identifying barriers to market system development;
2. offer recommendations to public and private agencies;
3. help institute public policies designed to facilitate market system improvement;
4. foment managerial-technological improvements among public and private agricultural marketing institutions; and

5. evaluate the need for and assist with feasibility studies and planning for physical marketing facilities.

In order to provide necessary guidance to the proposed marketing development group, and to provide a realistic link between the investigations in food marketing and policy formulation and implementation, we recommend that a commission be established consisting of important policy-makers from agencies involved in programs related to food marketing. Over time, the guidance commission and task force of marketing system specialists would become a permanent part of the national food and agriculture sector planning and coordinating effort.

In the remainder of this section, we will summarize more specific policy and action recommendations deemed desirable for improving marketing system performance based on PIMA's preliminary diagnostic research. We have ordered the recommendations according to the priority which we suggest be given to each. It should be recognized that PIMA, as originally instituted (i.e., a one-year task force composed of technicians on leave from cooperating institutions) will be unable to complete even the first priority item without an extension of support for these kinds of activities.

Our first priority recommendation is a program to create a central wholesale food market in the Metropolitan Region. The pre-feasibility evaluation indicates that a central wholesale market in the Metropolitan Region is potentially economically feasible. A facility would be built to serve as a national fruit and vegetable wholesale-assembly market and provide a variety of complementary services. We believe the evidence is sufficient to initiate a program including planning, a detailed feasibility study, and initial promotion. PIMA will continue to collect information relevant to

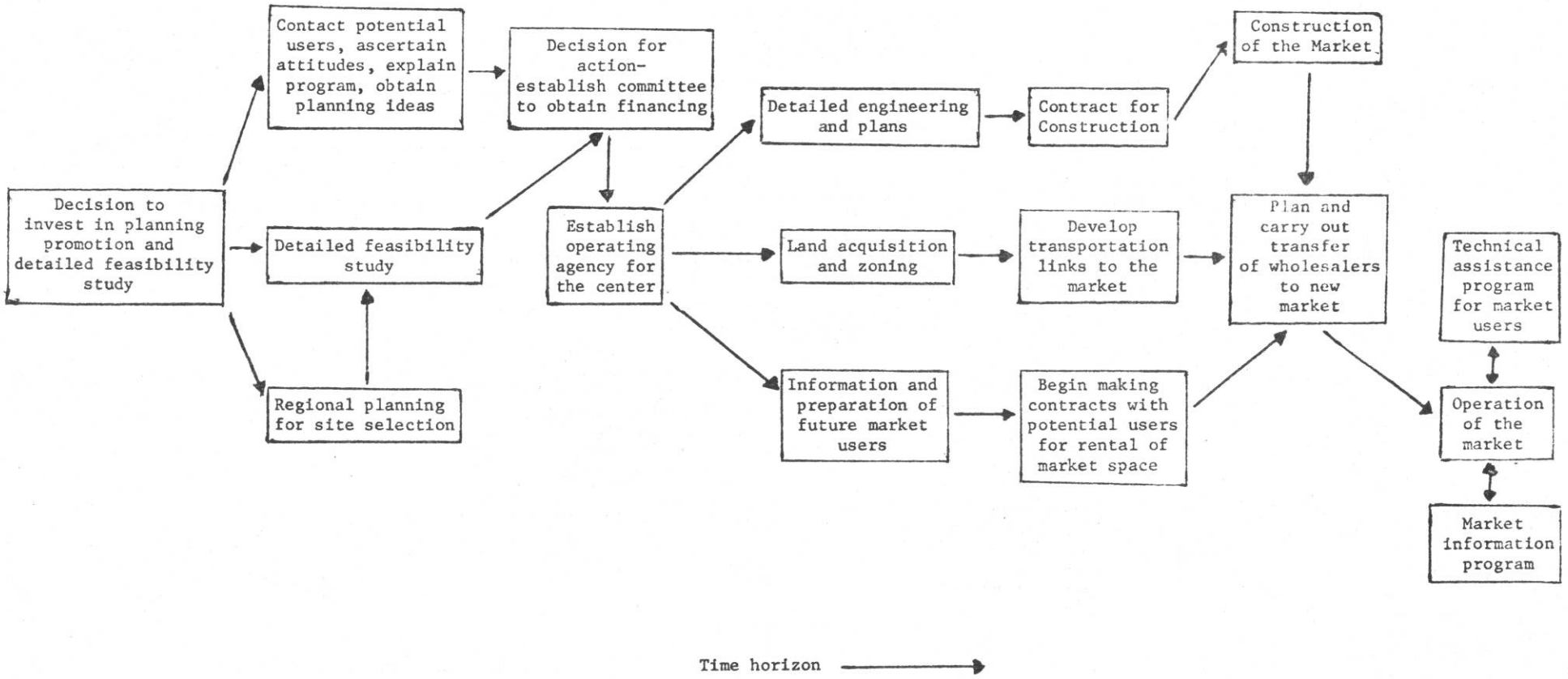
this program, but before initiating the comprehensive feasibility study and the necessary related planning and promotion, a policy decision should be made committing additional resources to this specific activity. The diagram on page 6 indicates, in a rough way, the major sequence of steps for this program.

Our second recommendation is primarily for IFAM, and carries the same priority as the wholesale market program. It deals with the problem of establishing a national policy for financing regional municipal markets. Basically, we have concluded that municipal markets are a declining part of the food marketing system. IFAM should, therefore, adopt a policy of careful evaluation of municipal government proposals for financing such markets. The following are more specific suggestions:

1. IFAM, in cooperation with PIMA, should develop a handbook with detailed guidelines for regional municipal market feasibility studies.
2. In order to accomplish that task and provide on-going staff for project analysis, IFAM should hire and train, at the operational level, a market systems specialist.
3. Where possible, municipal market feasibility studies should be preceded by a more complete regional development plan including the type of benchmark production and marketing study undertaken in the Valle de El General region.
4. Municipal government seeking financing for municipal markets should be required by IFAM to arrange for a feasibility study following the above mentioned guidelines. In some cases, IFAM may

FIGURE I

SEQUENCE OF ACTIVITIES FOR A CENTRAL WHOLESALE MARKET PROGRAM



make loans for such feasibility studies. The approval process for a construction loan should be as follows:

a. IFAM should evaluate the preliminary proposal and decide whether to finance a feasibility study or encourage the municipality to arrange for a study following IFAM technical guidelines.

b. Once completed, IFAM should analyze the feasibility study and decide whether to proceed with a preliminary agreement for financing the market.

c. The preliminary agreement would require the borrower to submit preliminary architectural and engineering plans reflecting feasibility study conclusions. Approval of the Operations Division and market systems specialist of IFAM would be required.

d. Next, the borrower would submit final engineering plans for IFAM approval so that IFAM could prepare final loan papers.

e. After final approval of engineering plans and project loan agreement, funds would be disbursed by IFAM as specified in the loan agreement.

The third priority is the development of a food wholesaler-retailer development program. This program would include training, supervised credit, facilitating and promoting cooperative retailer supply organizations and further research into the means of improving the performance of food wholesaling.

Improving the national marketing system for fruits and vegetables, focusing on the central wholesale market program, the wholesale-retail

development program, and the regional market project involve combinations of research, planning and implementation. They each focus upon an immediate and pressing problem. Our fourth suggested priority is a series of studies of commodity systems and policy issues. The priority among the studies, based upon our preliminary diagnostic evaluations, is:

1. a more comprehensive analysis of the fruit and vegetable system;
2. analysis of the meat system, focusing especially upon requests for financing of facilities;
3. an updating of the research in marketing of basic grains including the price stabilization program; and
4. analysis of the price control program as it is implemented for food products.

These studies would be oriented to the development of recommendations for action programs.

II. INTRODUCTION: AN ORIENTATION TO MARKET SYSTEM EVALUATION AND PLANNING

The purpose of this report is to provide an assessment of the current situation of the food marketing system in Costa Rica, and based upon this preliminary diagnostic review, to outline a general program and strategy for fomenting improvements in the food system.

The observations of this report follow several months of investigations by the staff of PIMA. The first effort of this group was to undertake preliminary diagnostic studies designed to provide the background necessary to identify strategic areas for further investigation and program emphasis. Given limited resources, both for investigations and for prospective implementation of programs, the scope of the work has not been comprehensive, but has focused on a few areas perceived to be strategic and critical in the development of the food system in the near future. Attention has focused on areas relevant to important impending decisions and the expressed concerns of those responsible for such decisions.

While the original investigations of PIMA could not be comprehensive, an attempt has been made to utilize previous studies of food marketing to provide the necessary background to view food marketing as an integrated system and to identify food marketing problems within the context of rural and urban development.

Marketing has two closely related but different aspects. One aspect is the physical transformations which take place in the distribution system.

Utility is created by transferring products from producers to consumers, changing the form and condition of products, and transferring products from one time period to another. The second aspect is the coordination of economic activities of the system. Coordination of the system takes three forms:

1. interaction of buyers and sellers in the market, resulting in prices which act as incentives and guides to producers and consumers;
2. internal or administrative coordination within firms and public organizations; and
3. administrative rules and regulations which determine what has to be taken into account in economic decisions.

Both aspects of marketing are important in the transition from a rural-based society with a traditional agriculture to a more urban-based, productive economy which has a dynamic agricultural sector. Fundamental to the transition or development process, are the interrelationships of production and distribution of consumer goods, capital goods, and scientific and technical knowledge. The production and distribution of capital goods and technical knowledge require investment (deferred consumption or stored labor) as well as specialization. The investment in scientific-technical knowledge and the capital goods in which the knowledge is embedded, produce new technologies and greater potential for a more productive economy. The transition, thus, involves more specialized, more round-about and more complex production-distribution systems; coordination becomes more critical to the performance of the system, while costs of distribution become a large and critical component of the economy.

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 transformation progresses, a larger percentage of activities in the system takes place off of farms in the production of technical inputs, processing and distribution. Also important to the transition from traditional agriculture are distribution of consumer goods to rural areas and transfer of labor to more productive activities.

This preliminary report, while concerned primarily with farm product marketing, will attempt to consider these activities within the context of the coordinated agricultural system in the process of development.

The transition from a traditional, rural economy to a scientific, industrial economy can stagnate at any level of development, leaving large numbers of people in very low productivity employment and very low levels of consumption. Achieving the productivity gain potentially available from an industrialized system requires a continuous search for methods of improving performance of the various elements of the economy. Incentives must be structured to encourage the identification and exploitation of the changing economic opportunities. But barriers to improved performance develop within the system. Performance failures of the agricultural marketing system in coordination and physical distribution can retard the transition from a traditional to a high-productivity economy. Uncertain and unrewarding farm product prices, unreliable and expensive farm inputs, high prices and uncertain supplies of food to urban consumers all encourage the maintenance of low-productivity subsistence farming.

System performance is conceived as a flow of consequences from a particular organization of the system, including both the structure of the system and the rules of behavior regulating the participants of the system. Performance is improved when a change in organization produces a more desirable flow of consequences.

In a broader context, performance can be judged only in terms of a set of goals or objectives. Discussions with policy leaders indicate a number of important goals for Costa Rica which are related to the performance of the food marketing system. These objectives include:

1. To assure an abundant and reliable supply of food at economical prices, by stimulating the production and distribution of the quantities and varieties of food which will result in more nutritionally adequate diets.
2. To facilitate and promote the production and distribution of combinations of foods and related services which best reflect preference and needs of consumers and real relative costs of production.
3. To create incentives for increased productivity in each activity of the total system of food production and distribution, by providing farmers with reliable markets, reducing uncertainty, stimulating production, and creating incentives to produce those commodities demanded by consumers.
4. To achieve a fair and equitable exchange system, insuring that the consequences of government policies and programs are fair and equitable.
5. To stimulate development of opportunities for productive and rewarding employment, and a productive labor force.

6. To discourage uneconomic use and spoilation of natural resources in the environment.[1]

7. To encourage socially desirable population settlement patterns.[2]

8. To encourage a sense of belonging and personal effectiveness among participants in the system.

Origins of Marketing Performance Gains

The development process involves specialization, division of labor, managerial innovation, technological innovation, and intensive exploitation of resources; all of which are directed toward greater economic productivity. Experience in more developed countries indicates that several phenomena operate to produce the productivity gains sought for development. Perhaps the more important of these is summarized by the term "economies of scale." It is evident that there are, in most activities, opportunities for reducing unit costs by larger scale operations permitting labor specialization, spreading of fixed costs, and justifying the expenditures of effort to discover more economical ways of accomplishing a task. Economies of scale spring from two sources: (1) those associated with internal coordination, and (2) those associated with external coordination. Internal coordination refers to the performance of those activities confined within the firm or dependent only upon the firm's actions. Such internal activities are necessary for the firm to perform its self-appointed functions in the economic system.

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[1]The rules and regulations determining what has to be taken into account by individuals in economic activity are critical to achieving the objective.

[2]Many aspects of marketing and marketing programs influence settlement patterns; location of marketing facilities is an example.

External coordination refers to the many necessary external contracts required of every firm. The more important external contacts are with suppliers, customers, and various agencies of government. When such external contacts are associated with larger volumes of product, the firm can afford to spend more absolute effort on each. Hence, effort can be expended on such things as routinizing market contacts, accumulating information, understanding the implications of government actions, and influencing public policies affecting the firm. The success (efficiency, profitability) of the firm is largely dependent upon the effectiveness of internal and external coordination. It also follows that the success (economic performance) of an industry is dependent upon the effectiveness of coordination within and among the firms composing that industry.

Under most circumstances (especially those existing in earlier development stages) economies of scale in both internal and external coordination can be achieved in the performance of the following activities:

1. internal and external knowledge procurement;
2. resource procurement;
3. physical handling and storage of raw material and final product;
4. product promotion and sales;
5. product distribution; and
6. services provided to employees, suppliers, customers and the community.

Another related and sometimes overlapping source of productivity gains is what we will call "managerial-technological change." By that we mean those changes in organization and operation of the firm, including the adoption of new methods, equipment, and practices. Often managerial-technologi-

cal change is associated with and even dependent upon larger scale operations. But performance improving managerial-technological innovations are not always dependent upon larger scale operations. The concept of internal and external coordination is also relevant here. Managerial-technological innovations may arise from opportunities to improve the internal efficiency of the firm regardless of conditions outside the firm. But many managerial-technological innovations grow out of changes in the firm's external environment, i.e., customers demand new products or services, suppliers alter their behavior, credit agencies impose new restrictions. Thus each firm in a dynamic exchange system is constantly affecting the behavior of many other firms. Internal managerial-technological innovations in one firm may induce external managerial-technological innovations in many other firms. In a progressive industry there is a continuous upward spiral of internally and externally oriented managerial-technological innovations. In a traditional setting, little such innovation is observed.

A third source of productivity gain is associated almost exclusively with changing conditions outside the firm. We will call this phenomenon "institutional innovation." There are many potential ways for public agencies to affect the efficiency and profitability of private firms. Changes in monetary and fiscal policy, laws and regulations, and governmental services may produce windfall efficiency gains or losses for the individual firm. Here are some specific examples of programs having positive effects on individual firms: collection and dissemination of market information, product inspection and grading services, organization and regulation of commodity exchange markets, price support programs, enforcement of contract rights and responsibilities. Such institutional (public) innovations are

frequently (and sometimes excessively) evident in developing countries. But their effectiveness is limited for three reasons:

1. Traditional firms are not aware of or do not know how to take advantage of the institutional innovation.
2. The institutional innovations that get implemented are not appropriate to the needs of the traditional firms they were designed to benefit.
3. Institutional innovations are inappropriately implemented because of problems such as poor timing, lack of consideration of systems dynamics, and failure to involve key individuals (opinion leaders, politicians, civil servants, etc.).

We believe that it is the dynamic interaction of economies of scale, managerial-technological innovation and institutional change which produces improvements in performance. This concept applies equally to producing firms and marketing firms. We prefer not to make the distinction. All firms are marketers and all firms are producers. The artificial distinction of production and marketing that prevails in development planning is unfortunate. As we have shown, so-called "marketing" firms can have, through external coordination, a significant influence on each other and on so-called "producing" firms (in industry and agriculture). In evaluating development, it is the system performance (measured in terms of society's welfare goals) which must be considered.

This report includes a number of recommendations and proposals. We believe these recommendations identify some potential opportunities for improving the food marketing system. The recommendations do not, however, specify in final detail, actions which should be taken. Information gener-

ated by formal research is expensive and judgments must be made as to where the greatest payoff from additional effort might be made. Before major investments in detailed feasibility studies are made, it is important that appropriate policy-makers are convinced that the investment in the specific study is justified. Thus, a major recommendation is that a commission consisting of important policy-makers from agencies involved in programs related to food marketing perform the function of guiding the PIMA activities and providing a realistic link between the investigations in food marketing and policy formulation and implementation.

We also recommend that serious consideration be given to establishing a permanent program of food marketing research. Under present arrangements, the Programa Integrado de Mercadeo Agropecuario will terminate in April, 1973. We believe the effort should somehow be extended and made a permanent part of the development research, planning and coordinating mechanism of Costa Rica. It is important to both agricultural and urban development. The continuing effort should be both research and action oriented. That is, in addition to conducting applied marketing research in order to identify opportunities for improving system performance, the task force would accept responsibility for assisting public and private agencies to accomplish the suggested reforms. The task force would, therefore, be prepared to offer training and technical assistance, where necessary, to accomplish the market system reforms identified by applied research as beneficial. The specific objectives of the permanent task force would be to:

1. conduct applied research for the purpose of identifying barriers to market system development;

2. offer recommendations to public and private agencies;
3. help institute public policies designed to facilitate market system improvement;
4. foment managerial-technological improvements among public and private agricultural marketing institutions; and
5. evaluate the need for and assist with feasibility studies and planning for physical marketing facilities.

III. THE EXPANDING IMPORTANCE OF FOOD MARKETING SERVICES IN COSTA RICA

Effective planning is, of course, based upon predictions of future events. This requires an understanding of the current situation and the forces which are shaping the future. Critical to planning in food marketing are projections of demands for marketing services. The most important factor affecting future demands for marketing services are population growth and location, and level and distribution of income.

The total food bill in Costa Rica amounts to over ¢2.5 billion.. (US $1.00 = 8.57 Costa Rican colóns) Consumers spend an average of 41 percent of their available incomes for food, and families in the lowest income group (representing about 30 percent of the total population) spend over 53 percent of their incomes for food and beverages.[3] Thus, a reduction in food costs can have a substantial effect on consumer welfare.

Let's hypothesize a 10 percent reduction in food costs and examine the potential economic impact.[4] Effectively, such a food cost reduction would represent a 4.1 percent average increase in the real income of consumers, and a 5.3 percent increase for the 30 percent of the population with the

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[3] Total available income before tax deductions.

[4] These potential economic impacts are based upon estimates of income elasticities and average propensities to consume food as a group, among middle-level consumers of the Metropolitan Area of San José, made by PIMA with information from the study, "Costa Rica Income Distribution and Consumption of Various Food Products" by the Economic Research Center of the University of Costa Rica, 1972.

lowest income. Obviously, a 10 percent reduction in final food costs would substantially improve the welfare of the average Costa Rican and would have an especially beneficial effect on lower income families. Also, the initial benefit would be multiplied through time by the dynamic effect of an improvement in real incomes. Given that Costa Rican consumers have an income elasticity of demand for food of approximately .6, a 10 percent reduction in food costs would increase aggregate demand for food by 2.5 percent; this, in turn, could have a positive effect on farm level prices, farmers' incomes, and employment possibilities. That same 10 percent reduction in food costs would also permit consumers to increase their consumption of non-food items by more than 5 percent, producing positive effects on incomes and employment in other sectors of the economy.

How does one go about achieving that hypothesized 10 percent reduction in food costs? First, about 40 percent of the final cost of food is attributable to marketing services.[5] Thus, reductions in marketing costs can contribute significantly to reductions in food costs. Second, improvements in market organization and coordination can have a positive effect on farmers by reducing the costs to farmers of having to operate under unmanageable degrees of risks and uncertainties. Farmers, too, purchase a good share of their food needs. They are included in that population which spends an average of 41 percent for food. Thus, they too would benefit by food cost reductions. Third, food costs can be reduced by lowering production costs through improvements in production methods. The adoption of the production

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[5]This estimate is based on data published in "The Marketing of Agricultural Products in Costa Rica" by Claudio Gonzalez Vega, Eduardo Lizano Fait, and Robert Cross Vogel, AID/ACM Contract No. AID-515-1837, San José, 1970.

methods is encouraged not only through agricultural research, extension, training, credit, etc., but also through provision of more stable, less costly and better coordinated markets.

Based upon current population trends, the population of Costa Rica will double in less than 30 years.[6] This assumes that the dramatic reduction in population growth rate of the past ten years continues to hold. If, on the other hand, the population growth rate were to be at the level of 1960, the population of the country would reach 6.6 million in the year 2000.[7] And, even assuming the low population growth rates and reasonable expectations for population migration, the population of the Metropolitan Region is expected to double in 20 years.

Urban families are less likely to produce food for their own consumption and tend to demand more services related to food marketing than is true of rural families. Thus, the extent of the shift toward urbanization is an important factor in planning the food marketing system.

The official data indicate a population shift from 33 percent urban to 38 percent urban from 1960 to 1970. However, we believe this substantially underestimates both the extent of change and the current level of urbanization in Costa Rica. At least for purposes of planning in marketing, a different definition of "urban" is desirable. A review of the data indicates that under the existing definition, a number of urbanized areas surrounding the first district of a cantón are not included as urban. These areas have

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[6]The rest of this section draws upon a Research Report prepared by Mario Córdoba of the PIMA staff. The as yet unpublished report is entitled "Population and Supply and Demand of Food Products: A Preliminary Diagnostic."

[7]Miguel Gómez, "Costa Rica, Demographic Situation and Perspectives in 1970," Population and Social Studies Center, University of Costa Rica, 1971.

population densities, public services and employment patterns more similar to urban areas than to rural ones. We also seek a definition which recognizes the shift from scattered settlements toward a metropolitan or semi-metropolitan area.

Altering the standard classification of "urban," we can usefully conceptualize within an area of the traditionally defined meseta central (central plateau) of Costa Rica, a closely interrelated metropolitan region which, by the year 1990, could become one contiguous urban area with a population of over 1.5 million. This region is composed of some 27 municipalities: 1 in the Province of Alajuela, 9 in the Province of Heredia, 12 in the Province of San José, and 5 in the Province of Cartago. It encloses an area of some 875 square kilometers and presently has an approximate population of 705,000. Some one-fourth of these people live in the Central Canton of San José, another one-fourth are located in the eight immediately surrounding cantóns which, together with the Central Canton, form the normally defined "Metropolitan Area." Beyond the perimeter of this geographical sector, within a radius of 30 kilometers of its center, is situated a population almost as large as that existing within the Metropolitan Area. Of this latter population, slightly more than one-half is distributed among the three urban areas of Alajuela, Heredia and Cartago. The remainder is located in the surrounding or adjoining smaller cantóns of each of these three central cantóns.

While this present region is not contiguous, all of these smaller and larger population centers are connected by a relatively well developed road system. Along many of these roads there are already closely joined houses forming ithsmuses of population connecting the more concentrated living centers.

A major super highway now connects the city of Alajuela to the Metropolitan Area of San José, and plans are being made for other such highways to connect Heredia and Cartago in the same manner. Already, people living in the outer portions of this region are traveling 20 to 30 minutes by public or private transportation to and from their work. As improved highways and transportation services are made available, and as incomes rise, the mobility of people within this entire region will increase. Residents will be able to live further from their places of employment.

Also, as population growth and migration in this region occur, it is only logical to expect that the numerous acres of coffee trees now separating the various populations will be progressively converted into residential, commercial and industrial zones.

Given these variables and others such as land values, availability of public services, and potential areas for expansion, the National Urban Development Project in INVU-OFIPLAN in a forthcoming publication of their recent investigations, will propose an integrated urban development plan for the Metropolitan Region of Costa Rica.

The Metropolitan Region alone represents some 38 percent of the population of the country. If we define this as urban and the central district populations outside the region which are normally defined as urban, then Costa Rica is presently more than 50 percent urban. And, if past urbanization trends continue, by the year 2000 the nation could easily reach a point of having more than three-fourths of its population living in urban areas.

In 1971, per capita national income in Costa Rica was ¢3,187.[8] Since 1968, the annual rate of increase of real per-capita income has ranged from -0.04 percent to 3.70 percent, and over the past five years, the average annual rate has been 2.95 percent. Assuming that per-capita income grows at an annual rate of 2.95 percent, the per-capita income in Costa Rica will approximately double in 20 years, and would be about 2.5 times greater in 30 years, reaching ¢6,417 by the year 2001.

Table 1 shows the distribution of family income in Costa Rica for 1961 and 1971 compared to other countries. In comparison with Mexico and Venezuela, Costa Rican incomes are much more evenly distributed. In the past decade there has been a significant improvement in income distribution in Costa Rica. Since low income families tend to spend a higher percentage of their incomes (i.e., the lower 30 percent of the population in Costa Rica spends 53 percent) for food products, a movement toward more equal income distribution can be expected to have an additional positive effect on the demand for food.

In conclusion, the combination of increased total population and urbanization can be expected to double the demand for marketing services over the next 20 years. And since the demand for marketing services as a percentage of income tends to increase as incomes rise, the demand for food marketing services arising from higher incomes can also be expected to about double over the next twenty years. Thus, for this same time period, a rough estimate (given population and income projections) is that the aggregate demand

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[8]Preliminary figures, at current market prices: Central Bank of Costa Rica.

TABLE 1

THE DISTRIBUTION OF FAMILY INCOME[a] IN COSTA RICA IN COMPARISON WITH OTHER COUNTRIES

Percentage of Families	Percentage of Income				
	Costa Rica[b] 1971	Costa Rica[b] 1961	Mexico[c] 1963	Venezuela 1962	USA[d] 1960
Lowest 20%	5.4	6.0	3.6	3.0	4.0
Succeeding 60%	44.0	34.0	37.9	39.0	53.0
9th decil	16.2	14.0	17.0	17.3	16.0
10th decil	34.4	44.0	41.5	40.7	27.0
Highest 5%	22.8	35.0	29.0	26.0	-0-
Highest 1%	8.5	16.0	12.0	9.0	-0-

[a]Total family income without tax deductions.

[b]The 1961 figures refer to only one part of the national territory. Quintana R. Carlos, "Analysis of Family Income in the Metropolitan Area of San José," thesis, University of Costa Rica, San José, 1962.

[c]Includes deduction of direct taxes and social security, National Bank of Exterior Commerce, South America, Exterior Commerce, September, 1969, p. 692.

[d]Income per person and not per family.

Source: Research Institute of the University of Costa Rica, "The Distribution of Income and Consumption of Some Foods," San José, September, 1972.

for food marketing services will increase about four times over the current level.

The projected four-fold increase in the demand for food marketing services is an indicator of the expected growth in the total value of food marketing in the economy. The projected demand for the specific services of a particular facility may be quite different than this aggregate, and would have to be examined as part of a feasibility study.

IV. FOOD WHOLESALING AND RETAILING[9]

Evidence suggests that Costa Rica is well on its way toward a decentralized system of food retailing. The public municipal market is a declining factor in food distribution. It is being replaced by retail food stores located nearer consumer residences. The growth in population has been a major factor encouraging decentralization, along with rising consumer incomes.

Rapid population growth in the relatively large Metropolitan Region has made transportation to and from public markets more difficult and costly for consumers in that area. In response, there has been a fairly rapid expansion of supermarkets, large and small scale personal service stores (pulperías) and meat stores (carnicerías) located in and near residential areas. A similar phenomenon appears to exist in secondary cities and even in rural areas, although the intensity and rate of decentralization may be lower. We have observed that municipal markets in cities like Grecia and San Isidro de El General, although continuing to serve as focal points, especially for fruit and vegetable retailing, are no longer the most important outlet in terms of sales volume. Individually located retail stores in the business district and in rural areas are the most important places of purchase.

The wholesale system is also changing. Formerly, relatively specialized wholesalers were located near the traditional central market in a given

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[9]This section is based upon a preliminary diagnostic of the urban food distribution system co-directed by Luís Eduardo Artavia Campos and Michael T. Weber.

city. They were thus able to count on retailers coming into their places of business to personally inspect, purchase and transport the desired products. Since retailers too were located in or near the public market, the costs and inconvenience of such a system were manageable. But as retailers began to move out, away from the central market, to locations nearer population concentrations, wholesalers have gradually been forced to accept telephone orders and to provide delivery services. In addition, rising consumer incomes have brought on a demand for a broader line of products in retail stores. Processed foods, household items and health and beauty aids are examples of products whose volume has been increasing. Manufacturers of such items normally prefer to distribute through wholesalers, but are often forced to set up their own distribution system because wholesalers are unwilling or unable to perform the distribution service adequately. This unwillingness or inability appears to stem from the wholesaler's recognition of the increased management complexities inherent in broader product lines and associated with increased credit, telephone orders and delivery systems. Nevertheless, the recent expansion of integrated supermarket chains, wholesale warehouses cooperatively owned by retailers, and a few broad-line expanded service and high-volume wholesalers, provides a strong indication of current and future trends in food wholesaling.

In the Metropolitan Region, as previously defined, there are traditional central markets in San José, Cartago, Heredia and Alajuela. In San José there are two large public markets -- Borbón and Mercado Central. Based upon preliminary estimates, Borbón has a majority of its 165 tramos (market stalls) dedicated to fruit and vegetable sales. The Mercado Central has a total of 213 tramos with a heavy concentration toward clothing, grains and

processed foods, and meats. In addition, there are several smaller privately owned traditional markets near the two larger retail markets in San José and a number of mobile vendors. The combined total of these retailers is about 225. The number of retail market stalls in the municipal market and in adjoining areas in Cartago is 234, in Heredia is 146, and in Alajuela is 117. Thus, in the four traditional central market areas of the Metropolitan Region there are an estimated 1,100 retail merchants specializing in one of five different product groupings: meat, grains and processed foods, fruits and vegetables, clothing, dairy and poultry products. The large number of such traditional market retailers, coupled with the impression of intensive activity on visual observation of these traditional markets, gives an inflated impression of the importance of these types of retail outlets.

In comparison, dotted throughout the 27 cantons making up the Metropolitan Region, there are some 3,100 personal service stores specializing in grains and processed items (pulperías), 750 fruit and vegetable stores (verdulerías), 200 meat stores (carnicerías), 31 supermarkets, and 43 CNP stores (estancos). Except for those retail sales to consumers located in residential areas very near the traditional central markets, these decentralized retail stores now appear to be the major place of food purchases.

Complete estimates of sales volumes in the four central markets, versus decentralized retail stores, are not available for the entire Metropolitan Region. But consumer data on the traditionally-defined Metropolitan Area collected by the Economic Research Center at the University of Costa Rica and analyzed by PIMA, support the conclusion that decentralized retail stores are the most important type of retail food outlets in San José. According to that study, the 450,000 consumers in the Metropolitan Area

reported that they purchase only 12 percent of their grain and 15 percent of their meat requirements in the Central and Borbón Market area. On the purchasing of fruits and vegetables, there are no statistics available; although it is visually obvious that the market areas of San José, as well as Heredia, Alajuela and Cartago, are still major retail points. Simultaneously, however, what is not always so obvious is the fact that outside of these four traditional market areas, in addition to the supermarkets that sell perishable items, there are some 750 small fruit and vegetable stores. Likewise, pulperías often sell a limited number of the less perishable fruits and vegetables. And some fruits and vegetables are sold in the neighborhoods by truckers and others without established stores. Given that such large percentages of the population are buying basic grains and meats in supermarkets and neighborhood stores, it is entirely feasible to expect that a good portion of these same people purchase fruits and vegetables in a similar manner. Many consumers purchase food several times a week, and some purchase daily. The population within the Metropolitan Region is quite decentrally located. Thus the time and money costs of acquiring food from a central market is high for a large number of families in the Metropolitan Area.

Another indicator of the trend toward retail decentralization is the growing number of supermarkets. Since 1955, when the first supermarket was established in San José, the population of these types of food stores has increased to 31, including four supermarket chains with a total of 15 stores, 10 independent supermarkets, and 6 supermarkets that have evolved from smaller traditional personal service stores.

As incomes increase, people are able to effectively demand additional marketing services. In addition, development in Costa Rica has resulted,

among other things, in a growing percentage of the female population employed in jobs outside the household, and in a more competitive employment market for household domestic services. Therefore, consumers are requiring additional services such as more convenient shopping locations, better packaging, greater variety and more processed foods.

Regarding processed foods, family market basket (canasta de mercado) information published in 1964 by the National Office of Statistics and Census indicated that for medium and lower income level consumers in the Metropolitan Area of San José, processed food item expenditures made up 28 percent of the family food dollar. A more recent market basket type study has not been undertaken; hence, precise up-to-date estimates of changes in these percentages are not available. As an indicator, however, a recent food marketing study of the Valle de El General region showed that processed foods represented some 37 percent of all purchases by retailers in that region.[10]

Another example, both of the availability of more packaged and processed foods and of more convenient shopping possibilities, is the greater number of food and non-food items available in retail stores. Supermarkets and larger almacenes (general purpose stores) frequently carry over 5,000 items. The wholesale warehouse of the Cadena de Detallistas de San José (San José Voluntary Chain of Retail Food Stores), which supplies neighborhood and market-located pulperías, provides over 2,000 different items for their affiliates.

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[10] Economic Research Center, University of Costa Rica, "The Production and Marketing of Agricultural Products in the Valle de El General Region," San José, September 1972.

Food Retailing in Secondary Cities and Rural Areas

The Metropolitan Region includes some 705,000 inhabitants. The remainder of the estimated Costa Rican population of 1.9 million is distributed among much smaller secondary cities, rural communities and on farms. It is possible to identify several "poles of development" (polos de desarrollo) which seem to serve as commercial centers for their respective regions. Examples are Puntarenas, Liberia, San Isidro de El General, Puerto Limón and Ciudad Quesada. Each of these secondary cities has its own traditional municipal market which serves as a focal point for food retailing and, to a lesser extent, as an assembly market for farmers. Smaller towns such as Turrialba, Santa Ana and Quepos generally have very small municipal markets dedicated primarily to fruit and vegetable retailing. On certain customary "market days" farmers may bring in fruits and vegetables for sale directly to consumers, retailers, or assemblers. Finally, there are many very small towns with no municipal market. Residents in these areas have historically traveled to larger nearby towns periodically to gain access to municipal markets. But, as in the Metropolitan Region, there has been a growing tendency toward decentralization of food retailing in these smaller cities and towns. Though a large percentage of fruit and vegetable retail sales continue to be made in municipal markets, most other products are sold through individually located stores in the business area around municipal markets, in residential areas, at key points in rural areas and along highways and secondary roads.

Based upon our own research and the study of food distribution in the Valle de El General region by the Economic Research Center at the University of Costa Rica, we have estimated the number of different types of retail food stores in Costa Rica. The estimates are presented in Table 2. The

TABLE 2

ESTIMATED NUMBER AND PERCENTAGE DISTRIBUTION OF RETAIL FOOD STORES IN COSTA RICA BY TYPE OF STORE[a]

	Metropolitan Region		Rest of Country		Total	
	Number	%	Number	%	Number	%
Tramos[b]	1,100	20.75	1,050	11.46	2,150	14.86
Pulperías[c]	3,100	58.47	7,000	76.39	10,100	69.83
Carnicerías[d]	220	4.15	450	4.91	670	4.63
Verdulerías[e]	750	14.14	150	1.64	900	6.22
Estancos de CNP[f]	43	0.81	63	0.69	106	0.73
Supermercados y Almacenes[g]	89	1.68	450	4.91	539	3.73
TOTAL	5,302	100%	9,163	100%	14,465	100%

[a]Estimates based upon preliminary PIMA census of food retailers in the Metropolitan Region and data from the study of food distribution in El Valle de El General region, by the University of Costa Rica.

[b]Tramos: public market stalls.

[c]Pulperías: small-scale, personal-service grain and processed item stores.

[d]Carnicerías: specialized personal-service meat stores.

[e]Verdulerías: specialized personal-service fruit and vegetable stores.

[f]Estancos de CNP: state owned, small-scale general purpose food stores.

[g]Supermercados: large-volume, self-service, full-line food stores; almacenes: large-scale, personal-service grain and processed item stores (sometimes wholesale-retail).

degree of decentralization in areas outside of the Metropolitan Region is suggested by the number of public market stalls in relation to individually located stores (i.e., pulperías, carnicerías, supermercados and almacenes). Complete data are not available on the exact location of these individually located retail food stores. But in the Valle de El General region, a very high percentage of these retailers are located outside of San Isidro, in smaller towns and rural areas. Except for a few almacenes, most of the individually located retail stores in San Isidro de El General are located at least several blocks away from the municipal market area. A similar pattern seems to hold in other regions.

Data on value of purchases by different types of retailers from the Valle de El General study also support the conclusion that, except for fruits and vegetables, food retailing is accomplished primarily through retail stores located near consumers. As an average, only 14 percent of total purchases of all retailers in the Valle de El General are made by municipal market retailers, as compared to 24 percent by individually located retailers in the rest of the city of San Isidro, and 62 percent by retailers located outside of the city. The percentage of grain and processed food purchases made by municipal market retailers is less than 7 percent. On the other hand, their share of total fruit and vegetable purchases is near 40 percent.

Our conclusion is that while municipal markets may continue to be fairly important for fruit and vegetable retailing in secondary cities, they are not the primary retail food channel suggested by conventional wisdom. The question of upgrading municipal markets in secondary cities will be considered later.

Food Wholesaling in Costa Rica

Earlier we noted the beginnings of a trend toward decentralization of food retailing in Costa Rica. It is the natural result of a set of demographic and economic forces. Such a decentralization trend should be regarded as normal and economically beneficial to society. But the continuation of that trend is dependent upon the development of well managed, broad-line, improved service wholesalers. Independent small-scale food retailers, no matter how efficient or competitive, cannot achieve effective economies of scale which are basic to lowering per-unit costs of distribution without wholesalers in the system who provide services such as broader lines of products, order-taking by telephone or sales agents, credit, delivery services, and technical assistance.

Estimates of the total number of wholesalers for all of Costa Rica are not yet available. However, Table 3 shows the number of grain and processed food wholesalers in the Metropolitan Region. Out of a total of 66, some 40 handle both grains and processed foods. The remainder are specialized grain wholesalers. The majority offer both credit and delivery services. Since these wholesalers are not all located in one area of the Metropolitan Region, but are somewhat decentralized, they are more accessable to retailers in the respective areas of the region. Some have retail customers in areas well beyond the Metropolitan Region. Several send out sales agents or receive orders by telephone, making supply procurement for retailers a less time-consuming process. Nevertheless, a majority of processed food manufacturers still maintain their own distribution systems direct to retailers rather than using food wholesalers. Consequently, retailers may have to deal with large numbers of vendors, some offering relatively minor items

TABLE 3

NUMBER OF FOOD WHOLESALERS IN THE METROPOLITAN REGION

	Grains and Processed Items	Grains	Total
San José	20[a]	7	27
Cartago	11	7	18
Heredia	4	9	13
Alajuela	5	3	8
TOTAL	40	26	66

[a]This total includes wholesale warehouses of the voluntary and private chains.

Source: PIMA - Study of Food Wholesalers

and volumes. The net result may be high cost distribution for both the manufacturer and the retailer.

On the other hand, direct distribution for such major perishable items as meat, poultry and dairy products appears to be fairly well organized and efficient.

The data in Table 3 includes several vertically integrated wholesale-retail food chains. There are four private supermarket chains (with a total of 15 stores) and five voluntary chains (with a total of 303 affiliated stores). Voluntary chains are an organization of individual neighborhood and central market retailers who have joined together to perform their own wholesale function. Each affiliated retailer purchases a share in the business. These funds are used to provide operating capital for the wholesale operation. In many cases, the number of services being offered by these retailer-owned wholesalers is minimal. Most are cash-and-carry operations. Yet, the fact that small-scale grain and processed item food stores can have one major wholesale source which provides, at a reasonable cost, a supply of over 1,500 food items is one important prerequisite to providing a major portion of consumers with lower prices and better services.

Effective development of the food wholesaling link in Costa Rica is critical to continued improvement of the food marketing system. Wholesalers can provide a dynamic input by acting as channel captains to assist and encourage retailers in achieving scale economies, reducing transaction costs, and improving inventory control and product handling methods. In addition, effective wholesalers can provide similar stimuli to producers and assemblers. It appears that some food wholesalers in Costa Rica have begun to adjust their business organization and behavior to effectively accomplish

the channel captain role and provide the necessary services for an increasingly decentralized retail system. But significant problems are apparently preventing the majority of existing wholesalers from making appropriate adjustments.

There appears to be a shortage of credit, not only for food wholesalers, but for all food marketing firms. A PIMA study of credit for marketing firms concluded that very little credit is currently being given to food marketing firms for products sold inside Costa Rica.[11] Large amounts of credit are provided for marketing the traditional export crops. Sizeable amounts of credit are available for agricultural production. But in 1971, loans to food marketing firms by the national banking system amounted to only ¢9.8 million, accounting for 0.5 percent of total credit granted. Most of that was short-term credit for a maximum of one year, at an interest rate of 9 percent or more. The subsidized rate for agricultural loans is 8 percent and the going market rate is over 18 percent. Data are not currently available but apparently the private finance companies do provide some credit to food marketing firms. Preliminary data, however, suggest that the total is quite low and interest rates are very high (over 18 percent). Food processing firms are able to obtain credit from the national banking system since they are classified as industry. Food processors, therefore, become a major source of working capital credit for food wholesalers and retailers. But such credit seldom exceeds 15 days for payment. So, retailers and wholesalers may not even have time to sell the product before payment is due. Ano-

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[11] See: "Credit Situation for the Marketing of Agricultural Products: A Diagnosis," an as yet unpublished research work by Carlos Cervantes, PIMA, 1972

ther source of longer-term credit for stored commodities is the almacén de deposito (general deposit warehouse) where products may be physically stored in a public warehouse. The owner may receive a loan, generally amounting to 75 percent of the value of stored commodities. A storage fee and 8 percent interest must be paid on the loan. Thus, longer-term credit for physical facilities, and even intermediate credit for business growth and working capital expansion by food marketing firms is in short supply.

Most traditional food merchants have relatively little education. Most of their knowledge of food marketing methods has been gleaned from experience in a traditional, geographically centralized, small-scale, limited service food system. The forces now shaping change in the food marketing system are bringing about new demands on the managers of food marketing firms. Most are unable to cope effectively with the managerial requirements under the evolving system.

Food retailers are often faced with serious problems of supply procurement and internal management. Food wholesalers are partially responsible for supply procurement problems of retailers because they are unaware of, or are unable to manage, the operational innovations that could improve their services to food retailers. Many of the problems of food merchants derive from a basic lack of knowledge of relatively simple marketing and management methods. But, in addition, there are certain specific problems of management peculiar to food marketing in Costa Rica at this point in history.

We recommend the organization of a program to assist food retailers and wholesalers all over Costa Rica through management training and technical assistance. Special attention should be given to assisting individually located retailers with procurement and handling problems of fresh fruits and

vegetables, since such perishable items present special management problems. The recommended development of an improved wholesaling system for fruits and vegetables should offer complementary improvements in market coordination for these products. Existing voluntary chains should be encouraged and assisted through this technical assistance and training program. And other retailers should be encouraged to organize new chains, especially in some of the more distant parts of the country. We also suggest that PIMA undertake additional research to more specifically identify the magnitude and nature of these problems, to determine specific training requirements, to pinpoint technical assistance needs and to begin identifying potential recipients.

Finally, we recommend that a supervised credit program be organized to increase the availability of credit to food marketing firms. A special line of credit through the national banking system should be made available to those food retailers, wholesalers and assemblers who can demonstrate credit needs, managerial ability and willingness to modernize their businesses. Less emphasis should be placed on collateral requirements. The loan application would have to be approved by the recommended organization that would provide training and technical assistance to food marketing firms. In some cases, the loan applicant would be required to complete a management training course and in all cases he would be required to accept technical assistance and supervision by that organization as a prerequisite for the loan. The interest rate on the loan might include one or two additional percentage points in order to pay for the technical assistance and supervision.

V. DEVELOPING A NATIONAL FRUIT AND VEGETABLE WHOLESALE MARKET SYSTEM

A combination of a review of existing studies and diagnostic observations has led to the conclusion that a high priority should be given to the development of the national market for fruits and vegetables. Fruits and vegetables are important in the diet, both in terms of expenditures and nutrition. Costa Rica has conditions suitable for the production of a wide variety of fruits and vegetables. These products are generally produced by small farmers and are adapted to small-scale, labor-intensive agriculture. A large percentage (perhaps 25 percent) of Costa Rican farmers are fruit and vegetable farmers. These farmers are also probably the most neglected portion of the farm population. Thus, reducing the costs of marketing, providing a more certain market and expanding the market, will benefit many small farmers. Among the major commodity groups, the fruit and vegetable marketing system appears to be both the least well organized and the most difficult to organize. Finally, the fresh fruit and vegetable markets present major difficulties in municipal planning and development. The locations of both the fresh fruit and vegetable wholesale markets, and the traditional retail markets are critical in municipal planning. The physical distribution of fruits and vegetables impose congestion, concentrations of waste products and often undesirable social conditions in the neighborhoods in which they are located, unless the area is well planned for the handling of these products.

Our pre-feasibility observations lead to the conclustion that the development of an effective national wholesale marketing system for fruits and vegetables would be greatly facilitated by the building of a properly located and planned wholesale facility.

Hence, it is recommended that a detailed feasibility study and a planning program be undertaken to determine the most desirable location, design, financing, functions, organization and control of such a facility and, of course, to assess the feasibility of the final project.

Currently, the streets, parking lots and several private wholesale facilities in the area around the Central and Borbón Markets of San José operate as a national market place for fruits and vegetables. It serves as a major assembly-wholesale market. A substantial volume of products come into this market area and are then shipped to many areas outside of San José.

It is important to understand the variety of types of transactions which take place in this market area. On each major wholesale market day (Monday and Thursday) and for many, on the two days following market days, an estimated 750 neighborhood-located fruit and vegetable store owners, 31 supermarket buyers, 300 tramo operators from the municipal markets of San José, Cartago, Heredia and Alajuela, and 400 to 500 permanent and mobile street vendors converge on the Borbón and Central Market area. They come by public or private transportation. These retailers must physically search out, inspect, purchase, handle and transport their purchases back to their respective stores. Some of these buyers, especially the tramo operators from the municipal markets of Alajuela, Cartago and Heredia, do not purchase 100 percent of their needs in this market area; instead, farmers and/or wagon jobbers will arrive directly at their markets to offer certain products. But

these sources constitute neither a continuous, nor complete supply of all fruits and vegetables required by the store owner. A preliminary estimate indicates that about 50 percent of the supply for fruit and vegetable retailers in the Metropolitan Region is obtained directly in the Central and Borbón market area.

In addition, preliminary research indicates that tramo and fruit and vegetable retailers from all over Costa Rica are partially supplied by the San José wholesale market. The arrangements for such purchases are varied. In some cases, the individual retailers travel to San José once or twice a week to make their purchases. In other cases, several retailers from a given area will pool their orders and send one of their members to make the purchases in San José. And finally, for some a verbal contract is developed between the retailer and wagon jobber who buys in San José and distributes on a more or less stable route.

The large number of consumers, retailers, wholesalers, and truckers who converge upon the relatively small and unorganized Central and Borbón market area creates significant physical congestion and has its negative effect on the marketing process. The fact that fruit and vegetable wholesaling must take place in the streets, in private parking lots, in relatively inaccessible warehouses, and even inside the Borbón Market, results in a very inefficient price setting mechanism. There is little sectorization and concentration of individual product sales; small lots of similar products are sold in many different places. Consequently, both buyers and sellers encounter difficulties in collecting the price and quantity information needed for effective decision making. The unorganized nature of the market also acts as

a barrier to improvements in marketing methods such as improved packaging and grading.

The problem for farmers and intermediaries is complicated by the fact that the market for most products in Costa Rica is very "thin," i.e., the absolute quantity available and demanded on any given day is relatively low. Thus, when larger quantities arrive (for example, an additional truck load of papaya) the price will drop drastically. Under such "thin" market conditions, drastic price fluctuations can only be avoided if market participants have efficient access to accurate current supply and price information as well as some idea of the quantities expected in future market days.

This problem of coordination is well illustrated by the market situation during September and October of this year for tomatoes. Because of favorable weather conditions and increased acreage, the volume of tomato production was up significantly during the market season. Prices were low. Farmers charged that middlemen were taking undue advantage and that public agencies should have rectified the situation. But public agencies could do little in the absence of accurate statistics on production estimates, expected fresh market demand, processor demand, and the comparative advantage or disadvantage of Costa Rican tomatoes in the international market. Yet, apparently, in the absence of such information, Costa Rican banks, independent of each other, helped to encourage (through credit offerings) production of the excessive supply of fresh tomatoes.

In the meantime, middlemen reacted to a natural demand and supply situation, offering lower prices because of the large quantity of tomatoes being marketed. Tomato wagon jobbers and wholesalers were often reluctant on any market day to quote an early market price because market confusion and

inadequate information on expected supplies forced them to operate with an almost unmanageable degree of risk and uncertainty. Farmers saw this reluctance to quote a price as evidence of collusion among middlemen. But even when wholesalers did purchase tomatoes, they had to face a reluctance on the part of retailers to pay that price plus the wholesaler's margin. The retailer knew that an unknown quantity of tomatoes in the crate would be damaged or of poor quality. He would find it impossible to sell some, and others would only be sold at reduced prices.

In contrast to the tendency toward over-production and low prices, in 1971 Costa Rica imported processed tomato products (e.g., tomato paste, catsup, juice and soup) and even fresh tomatoes, valued at over ¢700,000. Apparently Costa Rican tomato processing firms were unable to obtain sufficient supplies of appropriate processing varieties (adequate sugar content and color) during the rainy season. And during the dry season, when processors could most economically process tomatoes, farmers could not or would not contract to produce them.

Certainly all of these deficiencies are not the direct consequence of the congested Borbón area wholesale market. However, an organized wholesale level component of the marketing system could play a critically important role in facilitating better coordination of commodity channels for fruits and vegetables. A better organized, less congested wholesale market, supplemented by collection and dissemination of accurate and timely market information would improve coordination significantly and reduce market risks. Similarly, better handling, packaging and storage technologies could be initiated; a more open and competitive market situation could be stimulated; and middlemen interested in providing more services could be identified and

assisted. Perhaps more importantly, a healthy, constructive atmosphere of cooperation between public and private interests could be created. Likewise, farmers, middlemen, and consumers might be made aware of their common interest in an efficient marketing system.

A study of the two major fruit and vegetable supply areas is underway. This study is designed to determine the seasonal pattern and levels of production for important fruits and vegetables in these areas. Also to be investigated are the nature of the assembly systems in these areas. It will be important to determine the extent to which the San José market is being used as the initial assembly market and the extent to which local assembly is being performed, either at the farm level by rural assemblymen or at the local municipal market level. Preliminary evidence is that San José is the major assembly market for these two production areas. One of the incentives for farmers to send products to the San José market is that it is in this market that prices appear to be determined. When selling in a local market, a farmer is not sure he is receiving the "established" price. The study will attempt to identify at what point the farmers typically transfer ownership of their products and the means of determining prices.

Another important aspect of establishing a national fruit and vegetable wholesale market system is the improvement of market information. By establishing an organized market, it will be relatively easy to determine quantities available in the market and the established price. It may be useful to establish some simple descriptive trading grades to facilitate communication and trading. Included in the functions of the wholesale market should be a system of price reporting and price dissemination to the important areas of production. With improved price information and a better organized

wholesale market, savings in transportation would be possible by reducing the quantity of products which move to San José and back to the originating areas.

Further study of production patterns, consumption and marketing channels is required to determine the economic feasibility of regional assembly-wholesale fruit and vegetable markets. However, current evidence is that the San José market will continue to dominate, and that regional markets will be slow to develop.

The practicality of one market in the Metropolitan Region serving as the national fruit and vegetable wholesale market center is enhanced by the fact that most of the production and population is located within four or five hours of truck driving time of San José.[12] Figure 2 shows time and costs of transport by truck from San José for selected locations. Within the general area covered by these locations is located a majority of the production areas for fruits and vegetables. An estimated 60 percent of the population of the country is located within this radius. Over time, the continued improvement in transportation facilities within the country will make the Metropolitan Region even more practical as a national assembly market for fruits and vegetables.

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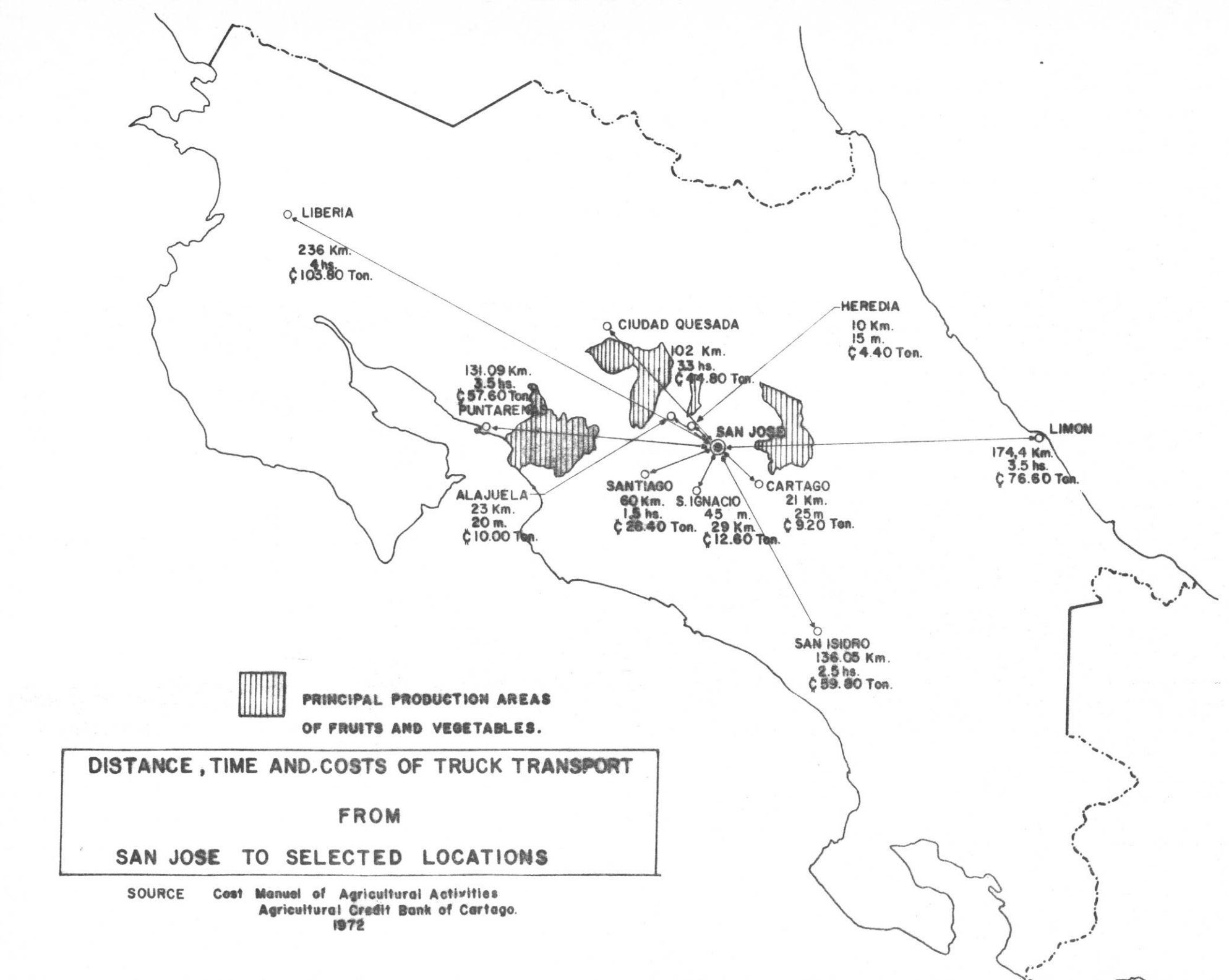
[12]These observations and others are based upon unpublished research on the Costa Rican transportation system by Carlos Alvarado, PIMA, San José, 1972.



DISTANCE, TIME AND COSTS OF TRUCK TRANSPORT FROM SAN JOSE TO SELECTED LOCATIONS

SOURCE Cost Manuel of Agricultural Activities
Agricultural Credit Bank of Cartago.
1972

VI. THE FEASIBILITY OF A METROPOLITAN REGION, REGIONAL WHOLESALE CENTER

In the previous section, discussion centered on the need for improvements in the national market system for fruits and vegetables. A feasibility study for a Central de Mayoristas para Frutas y Verduras (Central Wholesale Market for Fruits and Vegetables) was recommended. While the greatest need is for a facility for fruits and vegetables, preliminary observations are that the wholesale center should not be limited to fruits and vegetables. Thus, we now turn to more specific consideration of the Central Wholesale Market.

In a document presented at a recent conference sponsored by FAO, a Central Wholesale Market was defined as follows:

> Wholesale markets, as conceived here, are those places in cities to which there arrive daily, from local production areas or abroad, major volumes of fruits and vegetables and sometimes also meat, eggs, and dairy products, for presentation and sale to retailers. The main physical function of such wholesale markets is facilitating fragmentation of such large quantities of perishable agricultural products arriving in the city, into smaller lots to meet the requirements of the many retailers. Wholesale markets also fulfill the function of rapidly balancing supply and demand. Thus, the process of price formation as well as price collection and dissemination have great importance to trade and commerce situated outside the market.[13]

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[13] H. J. Mittendorf, "Planning and Operation of Urban Wholesale Markets for Fruits and Vegetables," FAO - Roma, September, 1971.

The following discussion includes tentative conclusions, hypotheses and questions related to the planning and feasibility study for a central wholesale facility.

As previously indicated, the major rationale for the wholesale center is the need for an improved facility for fruits and vegetables. The center is much less needed for other products. The trend toward broad-line wholesalers and decentralized wholesaling and retailing will continue. Thus, the demand for centralized wholesale facilities for most other commodities is not expected to expand.

However, there are some complementary groupings of commodities for wholesaling. And some wholesalers and retailers may find it advantageous to have a broad line of products located at the center. Thus, careful study is required to determine the variety of commodities to be accommodated. Surveys of wholesalers and retailers can be useful in initial planning.

While fruits and vegetables are highly perishable, it must not be assumed that the total quantity of produce coming into the Borbón Market area on the major wholesale days is moved to the retail level on these same days. Because of the concentration of buyer interest on Mondays and Thursdays in the San José market, farmers essentially supply one week's quantity of fruits and vegetables at two points in time. Many retailers, on the other hand, do not purchase all of their fruit and vegetable needs on these two major wholesale days. They have a lack of shelf and storage space, and almost no refrigeration facilities. Hence, they must purchase on a daily basis.

Therefore, fruit and vegetable wholesalers must have adequate storage facilities which permit them to hold commodities for at least two to three

days. A new wholesale market that does not provide this storage will not have incentives, at least similar to present conditions, to attract the larger wholesalers. And since both buyers and sellers are attracted to an active market (i.e., one that moves a major volume) it is important to provide the full services required by the larger fruit and vegetable wholesalers. Also, having adequate storage space and wholesalers willing and able to store, will add substantial stability to market prices, making the market more attractive to sellers.

A preliminary survey of the San José Central Market area indicates that the Borbón Market not only supplies consumers, but also plays a role as a wholesale and storage point. In addition, outside the Borbón Market, but not including the street area where trucks park, it is estimated that individual shops and private warehouses devote more than 4,200 m^2 (about one-half of a city block) of storage space to fruits and vegetables. Thus, a market facility which fails to recognize the critical importance of storage space to wholesalers, assuming that transactions are simply from truck to truck, or from truck to retailer, is likely to have trouble creating an active market.

In addition to warehouse space, it may be necessary to have some refrigerated storage for fruits and vegetables. Thus, it may be desirable to include some other commodities requiring refrigerated storage in order to achieve greater utilization and economies in the use of the space. Fish, poultry, and eggs may be complementary commodities. The possibility of locating the refrigerated warehousing facility planned by the CNP at the proposed central market should be evaluated.

The location of the market facility must be carefully selected. While the greatest concentration of population in Costa Rica is within the Central Canton of San José, the larger part of the population to be served by the wholesale center will live outside of this one canton. Because of the congestion and the necessity of obtaining a fairly large tract of land at reasonable prices, the optimum location of the new center will probably be outside the Central Canton of San José. Important factors affecting the determination of the most economical location include the projected volume of commodities entering and leaving the market by location of origin and destination. Studies are under way to identify locations of production and to identify the routes by which trucks with different commodities currently enter and leave San José.

Obviously, the center should be well located in respect to roads. Since the road system is in the process of development, joint planning of highways and market location needs to be considered.[14] Also, the long-run effectiveness of the location of the center will depend upon the development of complementary activities in the area of the market. Thus, effective zoning of the area becomes important. The tendency, too often, is to move a market to avoid the costs of congestion and then, over time, fail to take sufficient measures to prevent transference of the same congestion to the new area.

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[14] A detailed study of the transportation needs of the Greater Metropolitan Area of San José, with United Nations and World Bank assistance, is to be undertaken starting January 1, 1973. PIMA has made an initial contact with this study effort in order to coordinate the planning for highways with the location of the wholesale center.

The size of the wholesale center will, of course, depend upon the variety of activities to be included. However, it is essential to recognize that in order to be effective, it must exceed a minimum size. It must be able to attract and serve a sufficient number of buyers and sellers to make a reliable market. Buyers must be able to count on a reliable supply, and sellers must be able to count on a number of buyers to ensure competitive prices.

Determining the set of complimentary services best included in the wholesale center is a major objective of the feasibility study. Given past traditions, short-run political and economic pressures, and natural human aprehensions about change, a frequent suggestion is to allow food retailing in the wholesale center. This is understandable, although unfortunate. Fruit and vegetable retailing on a large scale is incompatible with the effective functioning of a major wholesale market. The facilities needed for retailing and wholesaling are quite different. Concentrated retailing creates problems of bus and consumer congestion. Concentrated wholesaling creates problems of truck movement, loading and unloading congestion. Mixing these two kinds of congestion only compounds the problem. Hence, it must be recognized that the development of the wholesale center will take time and that succumbing to short-run pressures will reduce the long-run effectiveness of the new market.

At the same time, it must be recognized that a major advantage of an effective wholesale unit will be improved service to a decentralized retail system. Likewise, removing food wholesaling from the center city area will help to solve traffic congestion problems which, in turn, should help to establish this area as a pleasant place for consumers to shop.

In the short run, it is expected that large quantities of fruits and vegetables will continue for some time to be retailed in the area of the Central and Borbón Markets of the Central Canton of San José. Special institutional and physical arrangements will need to be developed to efficiently serve this concentrated market, minimizing handling and transport costs, etc. Hence, food retailers presently operating in the central city area of San José could take maximum advantage of a new wholesale market. Over the longer run, it is not anticipated that these retailers will be rapidly displaced; rather, as the population grows and locates in an increasingly decentralized manner, new sales of fruits and vegetables will be absorbed by retailers located closer to consumers.

The following, then, are the complementary services which should be considered in the planning and evaluation of the wholesale center: (1) banking services, (2) servicing of trucks, (3) restaurant and sleeping accommodations, (4) farm supply center, (5) facilities for washing, grading, and packaging of products, and (6) a truck brokerage agency.

The market administration might also provide a reliable inspection service, certifying quantities, prices received and condition of commodities. This service would facilitate transactions without visual inspection and the physical presence of parties to the transactions, and would allow farmers to keep title to their products and sell through a reliable commission agency system.

The suggested wholesale center is much more than a physical facility. It is an institution. It represents a significant change in behavior. If it is undertaken without careful consideration of the needs and attitudes of those who will be affected by this change, it may fail as an economic

enterprise. Thus, undertaking a feasibility study without an organization to involve participants in the planning of the center and in its promotion could be futile.

The following activities are suggested.[15] The PIMA group would continue the pre-feasibility activities. This would include a more detailed analysis of the current fruit and vegetable marketing system. The location and seasonal patterns of current production would be identified. The typical marketing channels and practices would be identified, including both the geographic movement of commodities and the types of agents involved in the marketing process. The practices, attitudes and potential economic consequences of a change in the marketing system for potential participants in the wholesale center would be given special consideration. An evaluation would be made of the consequences of several possible locations of the center. Alternative means of organizing and financing the center would be explored.

It is very important that an organization be designated for the planning and promotion of the center. The planning must include participation by private firms who are potential participants, and the public agencies. This process involves a considerable amount of time and should be initiated as early as possible.

An option should be obtained on land at an early stage in the program. The location and size of the land site are critical to the final feasibility evaluation. The strategy of obtaining a large land site is recommended. Properly developed, the center should result in increased land values in its

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[15] See page 6 for a figure showing the sequence of suggested activities for planning and implementing a Central Wholesale Market.

vicinity, and such increase can be used to help finance the project. More importantly, a large site provides an opportunity to control the use of land, developing complementary rather than conflicting enterprises. It may be desirable for the Authority to lease land and buildings for a variety of complementary activities, such as food processors, cold storage, farm supply storage, and offices of transport firms.

Once the relevant policy makers are convinced of the desirability of the wholesale center, the detailed feasibility study and final planning should be initiated. It is suggested that PIMA be assigned responsibility for this study and planning. Final feasibility studies and design of such projects have often been contracted to international organizations. However, much can be lost in such an arrangement. The information and experience of PIMA in the pre-feasibility studies should be fully utilized. The center should be built as an integrated part of the marketing system -- not just as a physical facility; and this is more likely as a follow-up activity of PIMA. Also, the experience gained by the Costa Rican technicians in doing the final feasibility work and supervising the market design would be valuable. It would, of course, be necessary for PIMA to have the resources to contract for specialized technical work, including designers and engineers.

VII. REGIONAL FOOD MARKETING SYSTEMS

At the present time, a number of secondary cities are interested in building new municipal market facilities utilizing loan funds available through IFAM. One of the primary original objectives of PIMA was to evaluate the potential need for such market facilities and recommend a national policy on this issue.

IFAM has adopted an approach to studying regional economic and social development in outlying areas of the country. A pilot project has been developed in the Valle de El General region. One of the components of this program is a bench mark study of the food assembly and distribution system of the Valle de El General area. The PIMA staff participated in the planning stage of this market system research effort. The Economic Investigation Center of the University of Costa Rica did the research. Based on that experience and data collected, as well as the more general analysis of food marketing in Costa Rica, we are offering tentative conclusions and recommendations for a policy on regional market development.

In general, we believe that IFAM's concept of analyzing and planning regional development is an important step. The process of development is complex and cannot easily be planned in final detail in a democratic society. Nevertheless, research and analysis can be utilized to indicate what resources are available, where a region is headed in development terms, and where to adjust public policy and programs in order to encourage the kind of growth patterns that contribute most effectively to public welfare

objectives. While the Valle de El General regional planning study has had its difficulties, we applaud the effort as the beginning of an innovative approach to public policy and program formulation for regional development. We are assuming in the remainder of this report that the efforts will be continued and expanded to other regions of the country.

Regarding then, the issue of municipal market improvements in secondary cities, our research has led us to two conclusions:

First, the majority of retail food sales in secondary cities and surrounding towns and rural areas is not accomplished within the confines of municipal markets. Because of economies of scale, rising consumer incomes and improved management capability, larger sized food retailers have evolved over time. These retailers require larger and more appropriate physical facilities than those offered in municipal markets.

Second, there is evidence to suggest that regional municipal markets, contrary to popular opinion, generally do not serve the function of major agricultural assembly markets. True, there are some markets (such as Cartago for potatoes) which serve as a meeting place for farmers and buyers. There are also cases where some farmers bring produce (often only on certain "market days") to these regional municipal markets for sale to retailers and wholesalers in the market, direct to consumers, or to itinerant assemblers who transship to other regions. Finally, in some instances private businessmen have individual places of business in these secondary cities from which purchases of agricultural products are made.

However, in most areas of the country, a small number of agricultural products are dominant. Assemblers of those products tend to specialize and normally are located in private buildings away from the municipal market in

secondary cities, and sometimes in San José. Itinerant truckers traveling from one farm to another, largely bypassing municipal markets, are another type of assembler. Conditions vary from one region to another and complete descriptions of rural market sub-systems are not available. Nevertheless, there is sufficient evidence to suggest that municipal markets, as such, are not a critical link in the agricultural assembly process for most products, in most areas of Costa Rica.

Considering these two factors, plus our experience in the San Isidro de El General regional development study, and analysis of the feasibility study for a municipal market in Ciudad Quesada, we conclude that municipal markets are likely to be of declining importance in the future. This does not mean that construction of new or improvements in old municipal markets should be completely avoided. It does, however, suggest that careful and complete analysis of each individual situation be completed before decisions are made to invest scarce public resources in what might turn out to be unnecessary facilities. Even more serious, the construction of municipal markets, under some conditions, could become a barrier to more efficient geographically decentralized food assembly and distribution arrangements.

We therefore recommend that IFAM adopt the following policy toward financing regional municipal markets. This policy should be regarded as tentative and would be subject to change based on further marketing research. Our specific recommendations are:

1. IFAM, in cooperation with the suggested permanent national marketing development group, should develop a handbook with detailed guidelines for regional municipal market feasibility studies. In preparing the guidelines, IFAM would draw on its experience in the

Valle de El General and should probably conduct at least one other market feasibility analysis.

2. In order to accomplish that task and provide on-going staff for project analysis, IFAM should hire and train, at the operational level, a market systems specialist.
3. Where possible, municipal market feasibility studies should be preceded by a more complete regional development plan, including the type of bench mark production and marketing study undertaken in the Valle de El General.
4. Municipal governments seeking financing for municipal markets should be required to arrange for feasibility studies following the above mentioned guidelines. In some cases, IFAM may make loans for such feasibility studies. The approval process for a construction loan should be as follows:
   a. IFAM should evaluate the preliminary proposal and decide whether to finance a feasibility study or encourage the municipality to finance and arrange for a study following IFAM technical guidelines.
   b. Once completed, IFAM should analyze the feasibility study and decide whether to proceed with a preliminary agreement for financing the market.
   c. The preliminary agreement would require the borrower to submit preliminary architectural and engineering plans reflecting feasibility study conclusions. Approval of the Operations Division and market systems specialist of IFAM would be required.

d. Next, the borrower would submit final engineering plans for IFAM approval so that IFAM could prepare final loan papers.

e. After final approval of engineering plans and project loan agreement, funds would be disbursed by IFAM as specified in the loan agreement.

VIII. AGRICULTURAL COMMODITY SUB-SYSTEMS

There are many ways of viewing the food and agricultural system. We have previously suggested some priority areas of research, looking at specific functions, geographic areas or policies. Another important approach involves the evaluation of specific commodity sub-systems.

A commodity sub-system is the whole set of related activities involved in the production and distribution of a particular commodity or closely related group of commodities. Marketing is particularly concerned with the coordination of the many activities which are involved in the production and distribution of a commodity. A commodity sub-system study would attempt to identify barriers to improved performance of the sub-system from the distribution of inputs used in farm production of the commodity to the retailing of the product.

The following list of research questions illustrate the possible range of inquiry of a commodity sub-system study:

1. Are there significant barriers to the flow of information coordinating the vertical sequence of activities involved in the production and distribution of the commodity?
    a. Are quality specifications and timing specifications adequate?
    b. Are pricing practices in markets linking the system distorting the flow of coordinated information?

c. Are consumer product characteristics consistent with consumers' preferences? Could quality or service be improved at existing prices?

d. Would alternative institutions improve coordination, for example, contracts, markets for contracts, futures markets, etc.?

2. Are price uncertainties associated with seasonal and annual price variations adding unnecessary costs? What changes would reduce the price variations? For example, what are the costs of the hog cycle and what would be needed to reduce such variations in production due to lagged responses to prices?

3. Are there barriers to technological progress? Are the adoption of new processes or techniques restricted by labor union practices, monopoly control, regulatory practices, practices in related enterprises, etc.? What would be the consequences of the adoption of the new technologies?

4. Are there evidences of waste of resources? Are unnecessary functions or steps included in the production-distribution sequence? Are selling and promotion costs excessive? Are there alternative organizations of particular activities which would reduce costs? What are the barriers to achieving these economies? Are there obsolete regulations or codes which add unnecessary costs or reduce quality?

5. Are the awards or incentive system structured to encourage efficient use of resources? Do workers benefit from restricting output? Are there monopoly profits and restraints?

6. Do the regulations and property rights affecting the commodity sub-systems represent a fair game for all participants? Are regulations effectively and equitably enforced? Are there unethical practices? Are the codes designed to protect consumers and other participants effectively? Are different regulations needed?
7. What are the projected demands for the commodity? How do future demands relate to physical plant capacity at different steps in the sequence? What are the costs and reasons associated with excess capacity? Are bottlenecks likely to develop as the demands for products of the sub-system expand?
8. Who would benefit and who would lose from particular changes in the economic organization of the commodity sub-system?

The need for looking at national commodity sub-systems is illustrated by the problem posed by requests for financing of local or regional slaughter houses. The economic viability of a particular new facility will depend upon volumes of cattle available and distances from supplies to markets. These factors are, of course, influenced by the number and location of competing facilities. One pattern of size and location might make specialized transportation economically feasible and another not.

An important issue is, of course, the question of the consumer acceptance of refrigerated meat. With a refrigerated meat system, as contrasted with the traditional warm meat one, the most economical size and location of plants is quite different. While analysts several years ago argued that Costa Ricans would not accept refrigerated meat, recent evidence indicates that the situation is changing. And further development and experience with refrigerated and frozen meats will produce even greater consumer

acceptance of refrigerated meat products. In any case, the question of refrigerated meat is an issue related to the development of the total meat system. It is not a question to be settled as part of the evaluation of the feasibility of individual loan requests for slaughter facilities. Hence, the basic argument is that analysis of a commodity sub-system such as meat, would provide a much better basis for decisions, than would result from a series of independent feasibility studies.

Thus, we recommend that some resources be devoted to analysis of commodity sub-systems. We further recommend that several technicians specialize in the analysis and monitoring of particular commodity sub-systems. Such technicians would be responsible for accumulating knowledge, making recommendations for improving performance, and would serve as participants in arriving at public policy and investment decisions for that commodity sub-system.

Based upon reviews of existing studies and preliminary observations, it is suggested that the fruit and vegetable sub-system be assigned first priority. The data and analysis from the proposed study of the central wholesale center and the regional studies would provide a substantial base for the analysis of this nature. A more comprehensive review of the national system for fruits and vegetables, extending to more remote areas and including more data on marketing costs and functions, would be very complementary to the wholesale center and regional studies.

Second priority would be assigned to the meat sub-system because of its importance in the economy and the current necessity of reaching some important policy and investment decisions for the livestock economy.

Third priority is assigned to an analysis of the basic grains commodity sub-system. An evaluation was made in 1969 and 1970 on basic grains, and was utilized as a planning tool for the agricultural sector program. Since then, however, significant human and economic resources have been invested for the purpose of assisting small farmers to increase production of these commodities. To assure, over time, that bottlenecks do not form to limit the effectiveness of these efforts, some type of follow-up evaluation ought to be considered.

IX. PRICE POLICIES

The preliminary diagnostic phase of PIMA has not focused upon the basic price control and price support policies. We do consider these policies to be very important factors in the functioning of the agricultural and food marketing systems. Some attention was directed to these policies as part of a general review identifying the laws influencing food marketing.[16] Based upon a brief review of the structure of these policies, along with observations on the Costa Rican food system, the following initial comments are made.

The appropriate objectives of the agricultural price support program is to provide price stability, thus reducing price uncertainty for farmers' investment decisions, and thereby helping to stimulate agricultural production. However, a price support program which maintains prices significantly above the average market price which would have prevailed, in an effort to transfer income from taxpayers and consumers, is generally an inefficient method of supporting farm incomes. The higher prices benefit farmers in proportion to each farmer's output. Small farmers who produce little, benefit little. Also, a price support program, if successful in raising commodity prices significantly above free market non-program levels, tends to be capitalized into the value of the land. Thus, the benefits of the support

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[16] See the as yet unpublished PIMA research paper by Ariosto García Madrigal entitled "A Diagnosis of the Legal Aspects of Agricultural Marketing in Costa Rica," San José, 1972.

programs tend to be distributed to land owners in proportion to the original value of their land adapted to the production of supported commodities.

In contrast, an effective agricultural price stabilization program has a positive effect on agricultural production, benefiting farmers and consumers alike. For commodities which are imported, the stabilization should be achievable through careful management of public and private imports, and storage programs. The storage programs require that a government agency be prepared to purchase and store if prices at harvest fall significantly below the appropriate support level. Private storage should be encouraged in order to create the incentives for economical care and management of storage stocks. Those who store on their own have strong incentives to see that the commodity is protected from deterioration and other losses during storage. The availability of credit to finance both storage facilities and storage stocks is critical for successful private storage. Effective public and private storage requires reliable estimates of production and stocks in storage. Private and non-subsidized public storage also depend upon a reasonable expectation of seasonal price increases to cover the costs of storage, including interest costs and risks. Thus, a stabilization program can introduce a special kind of market uncertainty if it is operated in such a way as to result in unpredictable prices. Farmers and marketing agents expect prices on storable commodities to fall at harvest time and rise steadily until the beginning of the next harvest, reflecting storage and interest charges. A price stabilization program which alters that predictable pattern will discourage private storage.

Thus, imports and CNP storage stocks should be released on the market in such a way that prices be allowed to rise during the period following

harvest to a predetermined level, and only at this point would stocks be released in such quantities as are required to maintain the desired level of seasonal prices.

These price stabilization policies must, of course, be carefully coordinated with the price policies of the other members of the Central American Common Market. Attempting to maintain prices at a higher level than those of Common Market partners could be very expensive.

Countries with very narrow markets, such as Costa Rica, have especially difficult problems in achieving reasonable price stability. With narrow markets, small changes in supplies have big effects on prices. Thus, for many of the specialty commodities, the planting of only a few excess hectares can result in disastrous prices for the farmer. Similarly, the timing of harvest and delivery of products to the market has an important effect on prices. One additional truck load of a specialty commodity can result in a significantly depressed price. Thus, information and supply management programs are especially important in the agricultural economy of Costa Rica and deserve careful analytical attention.

The narrow market also creates potential problems of monopoly. Firms achieving economies of scale may be very large relative to the size of the market. While Costa Rica has an anti-monopoly law, the problem remains a difficult one. At the same time, a legitimate interest in controling inflation adds an incentive to attempt to control prices. However, price control is a very difficult task and can have some serious side effects. A preliminary review of the price control law and enforcement procedures indicates that a substantial emphasis is placed on controling retailer margins. This places the burden of price controls on that segment of the

market channel with the largest number of competitors and the most intensive competition. While some local monopoly may be present in retailing, there appear to be few barriers to entry, and under such conditions one would not generally expect monopolistic prices in retailing. While the impact of the price control program has not been empirically investigated, it may be hypothesized that the program creates some problems in resource allocation. Failure to adjust for differences in costs of retailers in different locations, offering different mixes of products and services, would affect the availability of some products and services. Failure to adjust prices in response to changes in costs will result in temporary shortages. Studies of attempts at price controls in other countries have revealed that, because the controls are enforced more effectively on some types of businesses than others, the controls create a competitive disadvantage for some types of businesses. For example, large self-service stores may be disadvantaged relative to smaller neighborhood stores. Because enforcement of price controls is very difficult and involves the discretion of large numbers of officials, it creates a potential for corruption. The result may be to actually increase the costs of products because of the added expense of avoiding the regulations. Empirical studies would be required to determine the actual consequences of the Costa Rican control program.

The preliminary observations indicate that additional study of both the price stabilization and price control programs could contribute to improved performance of the marketing system. Any research undertaken in this area would, of course, utilize already completed analyses. A review

of the CNP operations is underway and may render further analysis of the price stabilization program superfluous.

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