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9. ABSTRACT

The purpose of this paper is to call attention to the problems of coordinating food marketing systems serving large urban centers with the vertical production-distribution sub-systems that link back to the rural supply areas. Up to this point the Conference has focused its attention upon the organization of retailing and wholesaling activities within the large urban centers. We now want to broaden our perspective to examine the problems of coordinating all phases of the food system which reaches from urban consumer back to the farmer.

The paper is divided into four parts: (1) a brief summary of our view of the basic changes in food system organization during the economic development process; (2) some observations about the potential benefits from vertical coordination of food systems; (3) a few examples of vertical coordination arrangements that we have observed here in Latin America; and (4) concluding remarks.

The ideas and information in this paper draw upon our research and consulting activities dealing with agricultural marketing problems in Latin America. The primary purpose of these activities has been to carry out diagnostic studies of internal food marketing systems and to formulate recommendations for marketing improvements.

In each instance the authors have described and analyzed the food systems serving large urban centers with a particular orientation toward the identification of ways to improve market coordination as a means of reducing food costs to consumers, increasing the volume of food produced and consumed, increasing farmer incomes, and ultimately to stimulating economic development.

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VERTICAL COORDINATION OF FOOD SYSTEMS SERVING LARGE URBAN CENTERS IN LATIN AMERICA

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The purpose of this paper is to call attention to the problems of coordinating food marketing systems serving large urban centers with the vertical production-distribution sub-systems that link back to the rural supply areas. Up to this point the Conference has focused its attention upon the organization of retailing and wholesaling activities within the large urban centers. We now want to broaden our perspective to examine the problems of coordinating all phases of the food system which reaches from urban consumer back to the farmer.

The paper is divided into four parts: (1) a brief summary of our view of the basic changes in food system organization during the economic development process; (2) some observations about the potential benefits from vertical coordination of food systems; (3) a few examples of vertical coordination arrangements that we have observed here in Latin America; and (4) concluding remarks.

Throughout the paper I will distinguish between vertical coordination and vertical integration in a particular way. Vertical coordination will be used as a general term that includes all ways of harmonizing the vertical stages of a food production-distribution process. This harmonization can be effected through an open-market, price-directed system; and administratively regulated system; or some combination of both. Vertical integration will refer only to those situations where two or more stages of the process (such as retailing and wholesaling, or farming and food manufacturing) are joined together into one business unit under a common management. Contract production, while a form of vertical coordination, is an intermediate step that falls short of full integration.

The ideas and information in this paper draw upon our research and consulting activities dealing with agricultural marketing problems in Latin America. The primary purpose of these activities has been to carry out diagnostic studies of internal food marketing systems and to formulate recommendations for marketing improvements. Through financial support from the United States Agency for International Development a small group from Michigan State University has collaborated with local governments and related agencies in a series of specific programs in the Recife Area Northeast Brazil; LaPaz, Bolivia; the Cauca Valley Region in Colombia and more recently in Costa Rica. In each instance we have described and analyzed the food systems serving large urban centers with a particular orientation toward the identification of ways to improve market coordination as a means of reducing food costs to consumers, increasing the volume of food produced and consumed, increasing farmer incomes, and ultimately to stimulating economic development. [1]

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[1] A list of publications derived from these studies is appended to this paper.

Basic Changes in Food System Organization During the Economic Development Process

There are many differentiated concepts of the development process. In our work we have adopted the view that we are dealing with an industrialization process whereby the creation and adoption of new technologies and new institutions leads to increased specialization of labor; greater labor productivity; population migration from rural to urban areas; greater geographic specialization of agricultural production; rising levels of consumer demand and consequently a substantial increase in the relative importance of "marketing services" and the coordinating functions of a market system. In this context we visualize the need to shift from simple local markets, where farmers bring surplus produce to sell directly to consumers, toward longer market channels with significant and increasing transformation of the raw farm products before they are delivered to the final consumer. Indeed, as noted earlier in this conference there are substantial changes in demand for food associated with rising levels of consumer income and changing life-styles in modern, urban-oriented society. These shifts in demand call for new food products, higher quality products, more convenient shopping arrangements, greater stability of supplies, and relatively greater increases in production of highly desired foods such as meat, milk, eggs and certain fruits and vegetables as compared to basic grains and starchy tubers.

The organizational structure of the food system is significantly affected by the dynamics of the labor market which is an integral part of the total economic development process. As economic development progresses, labor productivity increases, and wage rates rise. However, due to labor organization and minimum wage laws, wage rates may rise more rapidly than labor productivity. This serves to encourage the adoption of more capital intensive facilities and equipment[2/] than would be economical without these limitations on wages and related benefits. But the marketing firms in the food industry are usually not directly subject to these kinds of labor regulations and for this and other reasons they tend to become the residual employers of unskilled workers, many of which are migrants from rural areas. This phenomenon becomes a significant constraint upon the rapid modernization of urban food systems in Latin American cities and on related changes in the rural food production-assembly-processing sub-systems. As open unemployment and underemployment declines, wage rates will rise throughout the food system. The tiny street vendors and tienda operators will then find better income opportunities outside the food system or they will either become larger-scale operators or higher paid employees in the food system. As this occurs capital intensive, labor saving methods of producing, processing, and distributing food become more economically feasible and the optimum size of business units will become larger.

2/ For observations on this point see: (1) Towards Full Employment, an ILO report on Colombia, Geneva, 1970; (2) Marketing Coordination in the Development of the Cauca Valley Region-Colombia, Research Report No. 5, Latin American Studies Center, Michigan State University, 1970, pp. 321-23.

Finally, we should point out that in the process of economic development, as perceived above, the farm contribution to the value of the food product finally delivered to the urban consumer declines substantially. But this can be consistent with the increased well being of farmers and consumers as well as other food system participants. To be more concrete, I would point out that the U.S. farmer now receives less than 40 percent of the consumer's dollar spent for food. If you deduct costs of purchased inputs (fertilizer, fuel, machinery, etc.) from the farmer's gross return, it becomes apparent that the on-farm production activity now contributes less than 15 percent to the final value of the products the consumer buys in the retail store. Thus, during the development process the performance of a food production-distribution system becomes increasingly a function of the efficiency of the non-farm segments of the overall food system. This points up the need to continually educate policy makers, consumers, and farmers that the specialized marketing functions performed by so-called intermediaries are essential to the food system and that they must be sufficiently remunerated to stimulate the continuation of these services. If this is not understood, public actions may be taken that will greatly impair the performance of the food system and thereby contribute to higher prices, food shortages, and poor products and related services.

Vertical Coordination of Food Systems

The food systems serving large urban centers consist of a complex set of activities. We might visualize this set of activities as a process whereby the varied demands of urban consumers are communicated back through retailers, wholesalers, processors, and assemblers to farmers. Prices and related information serve as critical messages to individual food system managers as they decide upon the products they will produce, process, or transport and the other marketing services they will provide. The length and organizational characteristics of product sub-systems vary substantially among the basic food groups. Milk, usually moves through a very specialized production-distribution channel. The sub-systems for grains, meat or fruits and vegetables also have their own unique characteristics which are related to the physical attributes of these products and the need for specialized technologies at each stage of the production-distribution process. If the food system is well coordinated consumers will receive a stable and adequate supply of nutritious food at reasonable prices. Prices will move up and down with biologically based patterns of production and other market forces. Price differences between different locations in the market area will reflect actual differences in transfer costs. Seasonal price variations will bear a close relationship to storage costs or to seasonal differences in real costs of production and distribution. Price spreads between raw products at the farm level and prices paid by urban consumers will be closely related to the actual costs of providing the necessary marketing services. Returns to farmers would be sufficient to call forth the quantity and qualities of products that would satisfy aggregate consumer demands, in the sense of clearing the market without significant surplus or shortage conditions.

Now if we move from the macro view of the process to the individual firm we note that vertical coordination of the food system is accomplished through the day-to-day decisions of a multitude of private firms, cooperatives and public agencies. Most managers of these institutions, like most farmers and small industry managers are heavily oriented toward traditional ways of doing business. While those with more formal education tend to be more creative, their behavior is seldom significantly different from their less educated counterparts. Furthermore, those who try innovative behavior often find

themselves limited by scarce resources, resistance from suppliers or buyers, and a lack of expert advise. Often there are few feasible innovations open to the small scale marketing firm acting individually. He is trapped in a low level equilibrium situation. Certain changes in government policy, the legal environment, or even changes in the structure of his market can often produce innovation alternatives for such firms. Or through his own efforts he may be able to organize firms like himself for concerted action through a trade association, a cooperative, a partnership or a corporation. A third alternative depending on the situation is for him to better organize his relations with his suppliers or customers. He may do it by simply providing better information and service and thus assure cooperation with his innovative schemes, he may use contractual arrangements, or he may seek to vertically integrate with his suppliers or customers either through acquisition, merger or cooperative organization. These are all ways for the individual firm to improve coordination in his part of the food system and in the process to contribute to the development of a progressive and effectively competitive system.

Now lets consider the kinds of benefits that can be expected as a result of these efforts. First of all, we must recognize that in a predominately market economy with reasonably effective competition short-term private benefits to individual entrepreneurs will be translated into long-term benefits to society. We can expect less successful firms to try to imitate the more successful firms. More direct vertical coordination reduces uncertainty, enhances the opportunity for joint adoption of innovations requiring buyer and seller agreement, and should make it possible to pass on some of these benefits to consumers and producers. On the other hand, certain factors can impede competition and prevent translation of short-term private benefits into long-term benefits to society at large. These include barriers to imitation, e.g. patents, licenses, legal restraints, financial restriants, limitations on access to technology and managerial skills, collusion, etc. Thus, efforts to improve coordination and therefore market system performance tend to reduce the number of independent transaction-type decisions in the marketing process and efforts to achieve broad development benefits for society can be stymied if vigorous and effective competition is not sustained. It should be the role of government to promote effective competition.

With that in mind we will now discuss several specific economic advantages arising from improvements in coordination in the context of a process of a development involving the creation and adoption of new technologies and new institutions. By improving coordination in one of the ways discussed earlier, firms can look for one or more of the following economic advantages.

1. Improve the individual firms bargaining power vis-a-vis suppliers and customers through immediate improvements in the information base or by the business so that more costly information gathering procedures become feasible. Since bargaining power (i.e., the ability of a firm to exact higher prices for its products or lower prices for its inputs is seldom equal among negotiating firms, we can conclude that an improvement in bargaining power for the weaker party will improve competition and yield economic benefits.)

2. Reduce transaction costs per unit of product by routinizing the transaction through

some kind of standard order procedure or contract. This eliminates the need to spend time collecting market information for each transaction and negotiating a separate price for each small transaction. The larger the volume involved in each transaction the lower the transaction cost per unit of product.

3. Reduce physical distribution costs. Better market coordination enhances the opportunity to more efficiently utilize transport, handling and storage facilities. It opens the way to more efficient utilization of labor through greater division of labor and routinization of work. Improved coordination may make it possible to achieve acceptance of standard grades, package design and handling procedures in a given part of this system leading to longer product shelf life and lower handling costs.

4. Reduce physical losses and improve product quality. The introduction through improved coordination of standard grades, packages, handling and processing procedures can reduce physical losses in the system and improve product quality.

5. Reduce operating costs. In addition to possible reductions in handling costs, improved coordination can lower the firm's costs by permitting more efficient scheduling of processing equipment, and better use of working capital and overhead expenses.

6. Reduce risk and uncertainty. Food production-distribution systems are fraught with risk and uncertainty partly because of the nature of biological production process and partly because of variations in human behavior, imperfect information, variations in market rules, changes in consumer tastes and habits, and continual entry and exit of competitors and trading partners. These risks and uncertainties are costly both in terms of out-of-pocket costs and in terms of their retarding effect on innovative efforts to improve a firm's productivity. On the basis of both theoretical considerations and empirical observation, it appears that individual firm managers adopt certain strategies and management practices in dealing with risk and uncertainty.[3/] At the farm level, there is a tendency to avoid undertaking the production of the high risk crops even though expected net returns might average higher than for a more traditional crop for which market arrangements, production technology, etc. are highly dependable. When incomes are low and near the subsistence level, one cannot afford to try something that may turn out badly causing suffering of his family and a loss of what little property may have been accumulated.[4/] When faced with high risk

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3/ A useful discussion of these issues can be found in Vertical Coordination in Agriculture by Ronald Mighell and Lawrence Jones, Ag. Econ. Report No. 19, Economic Research Service, U. S. Dept. of Agriculture, Washington, D. C. 1963.

4/ See David Peacock's discussion of this in the Adoption of New Agricultural Practices in Northeast Brazil: An Examination of Farmer Decision Making, unpublished Ph. D. thesis, Michigan State University, 1972.

there is a reluctance to borrow for business purposes; production tends to remain diversified; and investments tend toward multi-purpose equipment and facilities rather than more specialized and presumably more efficient management skills and production technologies. This, of course, may be perfectly rational behavior on the part of the farmer, processor or retailer. However, if the risk and uncertainty could be reduced through the development of more stable and dependable marketing arrangements then it would be possible to achieve lower costs production and distribution of food.

In spite of what appears to be some attractive economic benefits that can be achieved through improvements in vertical coordination there are some very real constraints to the exploitation of the economic potentials. Again, in the context of the Latin American food systems that we have studied, we would point to the following constraints:

1. Limited numbers of managers and technicians with specialized skills in modern methods of organizing and operating food businesses limited institutional capability to train people for this type of work.

2. The limited amount of credit available for financing food processing and distribution. This has been especially critical in the development of larger, more modern food wholesalers and retailers. This probably reflects an anti-intermediary attitude and a fear that the granting of credit to the marketing firms might lead to a lessening of competition and possible monopoly profits rather than benefits that would be shared with consumers and farmers.

3. A strong belief that new, physical facilities will resolve most marketing problems.

Some Case Examples of Vertically Coordination in Food Systems Serving Selected Latin American Cities

In our studies of food systems serving some of the large urban centers in Latin America we have encountered several examples of vertical coordination arrangements that have been instrumental in stimulating changes in marketing that were beneficial to consumers and producers as well as marketing firms. There are three examples where larger scale retailing firms have developed supply arrangements for food products that reached back to rural supply sources.

In Recife, Brazil, a local self-service retailer introduced the concept of low-margin, high-volume retail operations using a basic staple food, rice, as a leader item. By arranging a direct source of supply from a rice mill they were able to undersell their competitors by about 15 percent. This proved to be an effective competitive wedge which contributed a general reduction in retail food prices.[5]

5/ C. S. Slater, H. M. Riley, et. al., Market Processes in the Recife Area of Northeast Brazil, Research Report No. 4, Latin American Studies Center, MSU, 1969.

In Bogota, the Carulla Company with nine self-service stores has worked out a system of direct buying of fruits and vegetables that by-passed the old Plaza de Espana in the congested central city. The instability of supplies, the small size of lots presented by farmers and wholesalers, and the lack of uniform classification and packaging stimulated the Carulla Company to employ two agronomists to develop a more rational supply system for these perishable products. These agronomists assisted in the organization of three producer associations and have provided technical assistance on production, harvesting, sorting and packaging of certain fruits and vegetables. Until last year this had been done without formal written contracts with producers but some consideration was being given to this possibility. These activities by the Carulla Company have not only benefitted the company, their customers and the farmers from whom they buy but has also served as a demonstration to other marketing firms who are adopting similar techniques.[6/]

In our studies in Puerto Rico we came across an effectively coordinated production-distribution system for eggs that came into being as a result of the joint actions of a supermarket organization, an agricultural extension agent, and the Commonwealth Department of Agriculture. At the outset egg production was widely scattered on many small farms; supplies were uncertain and quality was poor. With a small grant of money from a retail food chain, the county agent organized a producer association and set up an egg assembly and packaging facility. Producers received technical assistance from the extension agent and were able to make a forward contract to sell the bulk of their eggs directly to the retail chain at stable and remunerative prices. Meanwhile, the Department of Agriculture initiated a regulation making it mandatory that all eggs be sold on the basis of uniform quality grade and size classifications. In a relatively short time the producer association expanded their sales, individual producers increased the size of their flocks and were achieving significantly lower costs of production. The retail chain was receiving a stable supply of high quality eggs and consumers were benefiting through both a better product and lower prices. This was clearly a case where all participants, producers, retailers, and consumers were made better off.[7/]

In many ways the most interesting and potentially the most significant efforts to

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6/ Eduardo Polo, H. Riley, and J. Caritsky, A Case Study of Carulla and Company, Bogota, Colombia, 1971.

7/ H. Riley, C. Slater, K. Harrison, et. al., Food Marketing in the Economic Development of Puerto Rico, Research Report No. 4, Latin American Studies Center, MSU, 1970, Chapter 6.

improve the vertical coordination of a food supply system has been taking place in Bogota, Colombia.

CORABASTOS (Corporacion de Abastos de Bogota) was created approximately three years ago as a public corporation to carry out a broad food marketing improvement program for the City of Bogota and its closely related rural supply areas. The political decision for this new entity grew out of deliberations involving the city council, the mayor and the leaders of several national agencies. The initial impetus for this program grew out of a perceived need for a new wholesale food marketing facility in Bogota. The mayor asked a young councilman to take on the task as Director of the project that became instituted as CORABASTOS.

From the outset, the CORABASTOS project was action-oriented. The Director mobilized resources and moved aggressively to plan, organize, and carry out an ambitious marketing reform program. The general approach drew heavily on diagnostic studies that had been completed earlier in the Cali area and which led to a recommended strategy for improving market organization. 8/

Since 1970, CORABASTOS has accomplished the following:

1. A series of diagnostic studies were completed with contracted assistance from the National University Center for Development Research (CID) and IDEMA, the National Institute for Agricultural Marketing.

2. A long-range market development strategy and a set of programs have been formulated and periodically revised and improved on the basis of new information and actual experience. 9/

3. A five million dollar central wholesale market facility was constructed and placed into operation in July 1972. All of the wholesaling space was rented prior to opening day when wholesalers moved in mass from the old market area in the center of the city. A second stage of the market is being planned to provide additional wholesaling space.

4. A massive educational campaign has been carried forward aimed at informing policy makers, producers, intermediaries and consumers about the food marketing system and the anticipated benefits from CORABASTOS projects.

8/ H. Riley, K. Harrison, N. Suarez, et. al., Market Coodination in the Development of the Cauca Valley Region-Colombia, Research Report No. 5, Latin American Studies Center, MSU, 1970.

9/ See the CORABASTOS annual report to the President, for the year, August 1, 1970 to July 31, 1971.

5. An existing marketing information program has been greatly expanded in collaboration with IDEMA, the national marketing agency. Daily wholesale prices are now collected and widely disseminated for some 150 commodities. Retail prices are also collected and disseminated in a local newspaper and monthly price and supply forecasts are prepared for use by public and private entities.

6. A program has been instituted to facilitate the development of more efficient private sector retailers, wholesalers and assemblers through training and supervised credit. A scheme for larger scale, more coordinated wholesale -retailing operations in Bogota is also going forward.

7. Studies and experimental programs have been directed to rural assembly of fruits and vegetables in areas that supply the Bogota market.

8. In collaboration with MSU consultants a draft document on future national marketing policies was prepared and distributed for discussion purposes.

In summary, the CORABASTOS program is an example of an institutional innovation that is having a substantial impact on the vertical coordination of the food system serving Bogota. Further evidence of this is provided below.

Concurrently with the CORABASTOS program there has been a related effort on the part of the Colombian Federation of Coffee Growers to develop a vertically coordinated marketing system for fruits and vegetables produced in the coffee zone. This has been conceptualized as a coordinated set of rural assembly markets with wholesaling and retailing linkages within the major urban consuming centers. Pilot projects are providing information and data to support the preparation of a feasibility study and a request for an extended loan. A detailed analysis of alternative assembly systems in one of the subregions of the coffee zone near Bogota indicated that truck assembly routes connected to a single wholesale facility in the new market in Bogota can be operated more economically than a series of rural assembly centers that forward products to the larger market.[10/] Additional experimentation is underway to assess the feasibility of rural assembly centers in production areas that are located at greater distances from large urban markets.

It seems evident that the Coffee Federation fruit and vegetable marketing program is very complementary to the market improvement effort of CORABASTOS. Price information, packaging, product classification schemes can be coordinated from the large urban center back to the producer. This promises to be highly beneficial to producers, intermediaries and consumers.

10/ Pablo Torrealba, Improving the Organization of Fruit and Vegetable Production-Assembly Systems in the Coffee Zone of Colombia: A Case Study in the La Mesa Region, unpublished Ph. D. thesis, Michigan State University, 1972.

Concluding Observations

Currently and for the foreseeable future there is a tremendous need for the development of more effectively coordinated food systems linking large Latin American urban centers with their rural supply areas. If this task is neglected or poorly managed, the consequences can be quite damaging to overall socio-economic development. For most Latin American countries food production-distribution activities still makes up a substantial proportion of total economic activity and food is the largest component in urban household budgets, especially for low income housholds.

On the basis of our collaborative efforts to diagnose food marketing problems in selected Latin American communities we see the need for the development of more comprehensive and realistic strategies, policies and programs to foment desired changes in food system organization and operation. This requires a realistic assessment of local conditions and a systems perspective of the food production-distribution process. This systems perspective should be cast within an economic development context that explicitly takes into account the trends toward greater technological innovations, increasing specialization of productive activity, urbanization, rising labor costs, and increasing demands for better foods and additional marketing services.

The implementation of such an approach to marketing improvements may necessitate some institutional adjustments in the national planning and programming procedures if the urban based marketing activities are to be effectively coordinated with rural based production, assembly and manufacturing activities. The Colombian experience is an interesting case example of an attempt to work out a coordinated approach to food system organization. Something similar is now underway in Costa Rica. In both countries there is an orientation toward the development of vertically coordinated food systems with the public sector serving as an important catalyst and coordinator in effecting long-term program of change.

In this conference we have had an opportunity to focus our attention on ways to improve urban food retailing and wholesaling activities. As we move into the final discussions I would hope we will be able to put our ideas into this more comprehensive food system perspective. This will be especially important as we get into tomorrow's session on government policies and services.

APPENDIX

A List of Reports, Papers and Graduate Theses Prepared by Michigan State University and Collaborating Latin American Institutions

Copies of the following can be obtained by writing to the:

LATIN AMERICAN MARKET PLANNING CENTER
Michigan State University
East Lansing, Michigan 48823

RESEARCH REPORTS - Marketing in Developing Communities Series

Food Marketing in the Economic Development of Puerto Rico, Harold M. Riley, et. al., 1970.

Market Processes in the Recife Area of Northeast Brazil, Charles C. Slater, et. al., 1969. (Also available in Portuguese by contacting SUDENE, Recife, Brazil.)

Market Processes in La Paz, Bolivia, Charles C. Slater, et. al., 1969.

Market Coordination in the Development of the Cauca Valley Region-Colombia, Harold M. Riley, et. al., 1970.

Agricultural Marketing in Economic Development, An Annotated Bibliography, Pablo Torrealba, 1971.

Fomenting Improvements in Food Marketing in Costa Rica, PIMA, 1973. (Also available in Spanish)

OCCASIONAL PAPERS

"Approaches to Integration of Rural Urban Food Marketing Systems in Latin America," Kelly Harrison, a paper prepared for discussion at the Agricultural Development Council Workshop in Lexington, Kentucky, October 1971.

"A Case Study of Curruila Supermarkets in Bogota," Harold M. Riley, a paper presented at a conference on Agricultural Marketing Problems in Developing Countries sponsored by FAO and the West German Development Foundation, November 6, 1971.

"Improving Internal Marketing Systems as Part of National Development Programs," Harold M. Riley, a paper presented at the First Interamerican Conference on Marketing and Social Economic Development in Latin America, Cali, Colombia, May 2-5, 1972.

"Development, Unemployment and Marketing in Latin America," Kelly Harrison, a paper prepared for discussion at the Agricultural Development Council Workshop on Agri-

cultural Marketing in Developing Countries, Palo Alto, California, April 13-15, 1972.

"Institutionalizing Marketing Improvement Programs," Kelly Harrison and Harold M. Riley, a paper prepared for discussion at the ADC/IICA Marketing Workshop, San Jose, Costa Rica, April 9 - 11, 1973.

Copies of the following can be obtained by writing to the Corporacion Autonama del Valle, Cali, Colombia.

SUMMARY RESEARCH REPORT

La Coordinacion de Mercadeo y el Desanollo Economico del Valle del Cauca, Harold M. Riley y otros, 1970.

TECHNICAL REPORTS

Numero 1 Aspectos de Integracion de Mercadeo en Algunos Centros de Comercio Rurales en el Valle del Cauca.

Numero 2 Produccion, Distribucion y Uso de Empagues para Producto Agropecuarios en la Zona de Influencia de Cali.

Numero 3 La Distribucion y Uso de Insumos para la Industria Agropecuaria en la Zona de Influencia de Cali.

Numero 4 La Produccion y Distribucion de Algunos Bienes de Consumo en la Zona de Influencia de Cali.

Numero 6 El Sistema de Distribucion Urbana de Viveres en Cali.

Numero 7 Estudio de los Consumidores de la Ciudad de Cali: Ingreso Cantidades y Patrones de Compra de Viveres.

Numero 8 El Sistema de Transporte de los Productos Alimenticios en la Zona de Influencia de Cali.

Numero 9 Sistemas de Informacion y Comunicacion de Mercadeo en la Zona de Influencia de Cali.

Numero 10 Leyes y Reglamentaciones que Afectan los Procesos de Coordinacion de Mercadeo en la Zona de Influencia de Cali.

Numero 11 Produccion y Distribucion de Granos en el Valle del Cauca.

Numero 12 Sistema de Produccion y Distribucion de Leche en la Zona de Influencia de Cali.

Numero 13 Beneficio y Distribucion de Carnes de Res y Cerdo en la Ciudad de Cali.

Numero 14 Produccion y Distribucion de Pollos y Huevos en la Zona de Influencia de Cali.

Numero 15 Produccion y Distribucion de Frutas y Hortalizas en la Zona de Influencia de Cali.

Numero 16 Analisis Economico de la Construccion Residencial en la Ciudad de Cali.

Copies of the following are available for loan from the library of the Instituto Interamericano de Ciencias Agricola. Contact Michael Moran, Director Programa Hemesferico de Comercializacion, IICA, Apartado Aereo 10281, San Jose, Costa Rica.

Doctoral Dissertations from Michigan State University

"Agricultural Marketing Coordination in the Economic Development of Puerto Rico," Kelly Harrison, Department of Agricultural Economics, 1966.

"Food Retailing in Economic Development: Puerto Rico, 1950-1965," John R. Wish, Department of Marketing and Transportation Administration, 1967.

"Evaluating the Consequences of Marketing Change: An Application of Systems Theory," John E. Griggs, Department of Marketing and Transportation Administration, 1968.

"A System Model for Market Development Planning: Northeast Brazil," Thomas R. Webb, Department of Marketing and Transportation Administration, 1968.

"Institutional, Organizational and Managerial Factors in Economic Development--A Consideration of the Cotton Industry in Northeast Brazil," S. Mark Doctoroff, 1968.

"Urban Market Processes in Recife, Brazil," Robert W. Nason, Department of Marketing and Transportation Administration, 1968.

"A Diagnosis of Product and Factor Market Coordination in the Bean Industry of Northeast Brazil," Donald W. Larson, Department of Agricultural Economics, 1968.

"The Adoption of New Agricultural Practices in Northeast Brazil: An Examination of Farmer Decision Making," David L. Peacock, Department of Agricultural Economics, 1970.

"Food Distribution in a Latin American City (Cali, Colombia)," Colin B. Guthrie, Department of Marketing and Transportation Administration, 1972.

"Improving the Organization of Fruit and Vegetable Production-Assembly Systems in the Coffee Zone of Colombia: A Case Study in the La Mesa Region," Pablo Torrealba, Department of Agricultural Economics, 1972.

"A Preliminary Cost Comparison of Alternative Wholesale Facility Arrangements in the Buenos Aires Metropolitan Region," Norberto Frigerio, Department of Agricultural Economics, 1973.

Masters Theses from Michigan State University

"An Evaluation of Market Coordination in the Bolivian Rice Industry," Michael J. Moran, Department of Agricultural Economics, 1968.

"Communication, Consumption and Modernization Behavior in Two Rural Bolivian Villages," David K. Lindley, Department of Communication, 1968.

"Problems of Reorganizing of Cali Food Retailers Procurement Activities in the Planning of a New Central Wholesale Market Facility," Michael F. Weber, Department of Agricultural Economics, 1972.