

CUBA'S NEW AGRICULTURAL COOPERATIVES AND MARKETS: ANTECEDENTS, ORGANIZATION, EARLY PERFORMANCE AND PROSPECTS

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Land tenancy in Cuban agriculture has experienced three pronounced changes since the beginning of the revolution in January 1959. The first agrarian reform law was enacted in May of that year. It proscribed the latifundia (described as estates larger than 405 hectares), and initially distributed some land and encouraged the development of cooperatives on large estates. Most of these cooperatives, however, had been converted into state farms by 1962.

The second agrarian reform law, enacted in October 1963, expropriated the land of most farmers with more than 67 hectares. The state then became the owner and manager of the vast majority of Cuba's agricultural lands. This situation lasted exactly thirty years, until the creation of the Basic Units of Cooperative Production (UBPCs) in October of 1993, which is considered by many as a third agrarian reform.

The objectives of this paper are: (a) to summarize the causes and effects of the current Cuban economic and agricultural crises; (b) to study in some detail the organization and operation of both UBPCs and new agricultural markets; and (c) to discuss the implications of these changes for Cuba's future agricultural productivity.

ANTECEDENTS¹

The General Economy

In mid-September of 1990, Cuban officials announced that the country was entering a "Special Period in Time of Peace" as a result of the demise of socialism in Eastern European countries and the changes taking place in the Soviet Union. The subsequent collapse of the Soviet Union and of the Council for Mutual Economic Assistance (CMEA) eliminated the framework within which the majority of Cuba's commerce and economic activity were taking place.

At the end of the 1980s, Cuba was conducting around 80 percent of its external commercial relations with the member countries of the CMEA. This group of countries was purchasing the majority of Cuba's total exports (63 percent of sugar, 73 percent of nickel, 95 percent of citrus), and was the origin of around 86 percent of Cuba's total imports including 63 percent of food, 86 percent of raw materials, 98 percent of fuels and lubricants, 80 percent of machinery and equipment, and 57 percent of chemical products (Alvarez González and Fernández Mayo, 1992, pp. 4-5). Furthermore, the trade relations between Cuba and the CMEA took place under favorable terms of trade for the Cuban economy. For example, Alvarez González and Fernández Mayo

1. González Jordán (1995, pp. 84-88) contains a brief but interesting account of agricultural developments going back to the early days of the revolution.

(1992, p. 4) estimate that, during the period 1980 to 1990, Cuban import revenues were about 50 percent higher than they would have been if their exports had been sold at world market prices.

In 1989 Cuban imports exceeded 8 billion pesos, but by 1992 they had decreased to 2 billion pesos for a decline in value of more than 70 percent in only three years (Alvarez González and Fernández Mayo, 1992, pp. 4, 8). As a result, the living standard of the general populace in Cuba deteriorated during the Special Period. Food availability in the official distribution system (rationing system) continually worsened, oil shortages for power generation grew so critical that rolling power black outs became a regular part of life throughout the country, and gasoline and repair parts for automobiles and buses became so scarce that a large proportion of the population was relegated to using bicycles as their primary means of transportation. However, perhaps the most significant event of the Special Period was the development of food scarcity into a crisis.

The Food Crisis

Food scarcity in revolutionary Cuba is not a new phenomenon. It dates back to 1962 when it was the motivation for the introduction of the rationing book. Wide variations in food availability (in terms of both quantity and variety) have been experienced since that time. The present crisis is the result, in order of importance, of the inefficiencies inherent to central planning, the demise of the Council of Mutual Economic Assistance (CMEA), and the U.S. economic embargo.

The failure of central planning to solve the food scarcity problem is well documented in the literature. For example, Alvarez and Puerta (1994) have shown that, as the state intervention decreased among Cuba's agricultural production units, the quantity and quality of output of most commodities under study generally increased despite more limited access to factors of production and other resources. In addition,

Peña Castellanos and Alvarez (1996) have shown that the intensive use of land and inputs, and high levels of investment, along with the specific forms of organization and management that characterized Cuba's sugarcane extensive growth model during the 1980s, could not overcome the challenges posed by the need for close coordination between sugarcane crop production and corresponding industrial processing activities. Furthermore, Alvarez and Puerta (1994, p. 1666) demonstrated that nonstate farms performed better than state farms in each of the last 21 harvest seasons for which official data are available. To make things worse, state agricultural enterprises were subsidized to cover all of their losses even when the losses were the result of poor management (González Jordán, 1995, p. 92).²

Research has not only shown differences in productivity but also disparities in income levels among workers in farms with different agricultural production. Field research conducted in three different Cuban municipalities show that peasant households (in regions characterized by sugarcane, mixed cropping, and livestock production) generate the highest income levels in the agricultural sector. Moreover, private sector incomes were considerably higher than those of households of state farm wage workers (Deere et al., 1995). According to these authors, the relatively high incomes earned by members of Agricultural Production Cooperatives are indicative of the higher profitability and, hence, productivity of Cuba's production cooperatives as compared to the state farms (p. 231).

Nova González (1994) confirms that, in the last fifteen years, and particularly since 1986, Cuba's agricultural and livestock activities in general experienced production declines, loss of efficiency, and/or stagnation in key production areas. This happened despite the strong investment process that took place in agriculture (around 30 percent of total investments in the country during the decade of the 1980s), the high availability of tractors, high use of

2. This practice, however, is being discontinued at present. Despite that fact, data from the Cuban Ministry of Finance show that subsidies to state enterprises comprised 42.3, 29.8 and 26 percent of the country's total budget in 1993, 1994 and 1995, respectively (CIEM, 1996, p. 25).

nutrients per hectare, as well as continuing increases in productive expenses and in the labor force. Furthermore, while 39 percent of state agricultural enterprises showed positive financial results in 1986, only 27 percent did so in 1990.

The Food Plan (*Plan Alimentario*, PA) was the most recent attempt at solving Cuba's food problem through central planning.³ Although this plan dates back to the mid-1980s following the closing of the free farmers' markets, it increased in importance after the establishment of the Special Period in September of 1990. The general objective of the PA was to make Cuba self-sufficient in most agricultural commodities. After initial mixed results, and facing increasingly labor and input shortages, the PA was abandoned in 1993.

With the severe economic crisis, and the resultant food crisis, the Cuban government was facing after the demise of the former Soviet bloc, the above evidence prompted the Cuban leadership to break up the large state farms into smaller units that could perform as well as the private and cooperative sectors (Acuerdo, 1993; Varela Pérez, 1993). The Basic Units of Cooperative Production, or *Unidades Básicas de Producción Cooperativa* (UBPC) were born in September of 1993. This radical change is especially significant from a philosophical point of view when one considers that Fidel Castro had consistently referred to the state farms as the "superior form of agricultural production."⁴

THE BASIC UNITS OF COOPERATIVE PRODUCTION (UBPC)

Establishment and Organization

On 20 September 1993, the Council of State enacted Law-Decree No. 142 establishing the Basic Units of

Cooperative Production on state lands (*Gaceta*, 1993, p. 15). Article 1 states that the activity of the UBPCs will be based on the following principles:

- a. the linking of the man to the land;
- b. the self-sufficiency of the workers' collective and their families, with a cooperative effort, and the improvement of their living conditions;
- c. the workers' earnings will be rigorously related to the production achieved; and
- d. to develop the autonomy of management and to administer their resources with the objective of achieving self-sufficiency in the productive process.

Article 2 establishes that the UBPCs will:

- a. have the usufruct of the land for an indefinite period of time;
- b. be the owners of production;
- c. sell their production to the state through the enterprise or in the manner that the state decides;
- d. pay insurance premiums;
- e. manage bank accounts;
- f. purchase the fundamental means of production on credit;
- g. collectively elect its leadership who will render periodic accounts to its members; and
- h. fulfill the corresponding fiscal responsibilities as their contribution to the general expenditures of the Nation.

3. For detailed descriptions of the PA, consult Deere (1993) and Roca (1994).

4. This effort is being complemented with a significant land distribution program to families who are willing to move to the countryside. According to Orlando Lugo, president of ANAP, until early 1995, about 6,000 families had received around 12,000 ha of land in usufruct for tobacco production in the province of Pinar del Río; more than 430 urban families, especially in the province of Santiago de Cuba, had moved to the mountains after receiving land for coffee production, while 2,600 individuals were in the process of obtaining such approval; and 369 livestock workers and their families had received 19,870 ha and livestock for dairy production in the province of Ciego de Avila (Alfonso, 1995a).

Table 1. Average Farm Size for State Enterprises in 1990 and UBPCs in 1994, by Main Activity (in hectares)

Main Activity	State Enterprise	UBPC	Average decline in size (%) ^a
Sugarcane	13110	1190	91
Mixed crops	4276	456	89
Citrus and other fruits	10822 ^b	100	99
Rice	32760	5132	84
Tobacco	2778	241	91
Livestock	24865	1595	94

Source: Compiled by González Jordán (1995, p. 90) from several Cuban sources.

a. Calculated by the authors.

b. Does not include the Jagüey Grande enterprise with 48,200 hectares.

Through August 2, 1994 the total number of sugarcane and non-sugarcane UBPCs established amounted to 2,643, with a total area of 221,300 *caballerías* (cabs.), or 7.4 million acres, and more than 257,000 members. This represented approximately 50 percent of the total area in state hands, with 93.5 percent of state cane area going to cane UBPCs and 29 percent of state non-cane area allocated to non-cane UBPCs. Average UBPC size is 84 cab. (2,800 acres), with 97 members per UBPC, or 1.2 workers per cab. (33.3 acres) of total area (Comité Estatal de Estadísticas, 1994, p. 2).⁵

One of the indications of the magnitude of the change is the difference in average farm size between state enterprises in 1990 and UBPCs in 1994 (Table 1).

Although the Table reflects the average UBPC to be less than 10 percent of the size of the average state farm, González Jordán (1995, p. 91) believes that the average UBPC size is still too large and may be the

reason for their low productive and economic efficiency.

During several field visits conducted by the authors during 1994, 1995 and 1996, cooperative leaders and members provided useful information concerning their experiences with the UBPCs' establishment and organization.⁶ Former state farm workers were given the option of becoming members of the new UBPC and the coop members elected their leaders (referred to as a "Direction Board") from among their membership. Cooperative members also have the right to vote on the addition of new members and the termination of members who may not be adequately conducting their duties at the UBPC.

UBPCs were given the right to farm their land in perpetuity, although title to the land remains with the state. While in some cases, each UBPC was assigned a proportionate share of machinery and equipment from the former state farm (without any input from coop members); in other cases the members selected the amount and type of machinery and equipment they wanted to purchase from the state enterprise. However, each coop has complete control over which and how many of the pieces of equipment they maintain and use. Provisions were made with the Cuban National Bank for the UBPCs to obtain low interest loans to purchase the machinery and equipment from the state.

UBPCs still have production quotas which they must sell to *acopio* (the state collection agency). In the interest of maintaining a balance of production between crops throughout the country, the state enterprise which supervises the UBPCs offers them relatively little autonomy in what to produce as their primary crops at the present time. For example, UBPCs which were formed from a state farm producing mostly bananas and plantains must continue to pro-

5. In addition, in 1992 there were 383 sugarcane CPAs and 185 CPAs of miscellaneous crops, with a total area of 14,500 and 36,000 acres, respectively (Polo Científico, n.d., pp. 9, 10).

6. One important point to recognize is the similarities between, but also discrepancies among, sugarcane UBPCs and non-sugarcane UBPCs. Perhaps the most important difference is that sugarcane UBPCs maintain their dependence on the Ministry of Sugar's former Agro-Industrial Complexes, or CAI (vertically integrated organizations), while non-sugarcane UBPCs' relationship is with state enterprises under the Ministry of Agriculture.

duce similar volumes of bananas and plantains. There is speculation (and hope) that more autonomy may be permitted in the future.⁷

This autonomy is expected to develop as part of the process of negotiating production quotas which occurs annually between the UBPC Direction Boards and the state. Annual “production potentials” (i.e., goals) for the principal commodities produced by the UBPC are initially based upon a proportionate share of the previous state farm’s quota. However, UBPC Board members hope that, over time, they may be able to convince the state negotiators to allow them to increase the production of crops which they are more efficient at producing and decrease those which they are less.

The Incentive System⁸

With the opening of the agricultural markets (discussed later in the paper), policy changes were also implemented for the UBPCs which provided important production incentives. Once the production goals are agreed upon between the state enterprise and the UBPC Direction Board, the UBPC quota for sale to *acopio* is established at 80 percent of the overall production goals. This quota is broken up into monthly commitments levels. The UBPC is free to sell the remaining 20 percent of the production goal and 20 percent of any excess above the production goal to the agricultural markets.

UBPCs have some degree of autonomy within this system. For example, they are free to sell surplus production in any agricultural market they choose; it obviously costs less to transport their crops to local markets, but prices in these markets are typically lower than the prices in the markets in the city of Havana. Conversely, the government charges a lower tax rate on crops sold in agricultural markets in the cities than they do at rural markets to encourage shipment of food into the cities. UBPC leaders understand these tradeoffs and carefully assess the relative costs

and benefits when deciding where to market their surplus. Indeed, two neighboring UBPCs visited made different decisions with regard to where to market their crops because they produced different commodities. For one of them, the additional cost of transporting their crops to markets in the city of Havana was more than offset by the lower taxes and high prices which they received while the other UBPC elected to sell in the local markets because their crops did not command a sufficient premium in the city market. The UBPC Simón Rodríguez sells its surplus of mixed crops in the city, while the neighboring UBPC Fidel Borrego elected to sell its bananas and plantains locally.

Furthermore, UBPCs do not actually need to produce any volumes beyond that which they are obligated to sell to *acopio*. For example, some UBPCs that were visited had found that, since bananas and plantains remained relatively plentiful in Cuba at that time, the price which they received for these products in the agricultural markets did not even cover their production costs. These UBPCs therefore had chosen to only produce their quota requirements of bananas and plantain for *acopio* and reallocate the inputs (labor as well as limited amounts of fertilizer and pesticides) to production of crops which will return a profit.

Actually, the UBPC members do not use the term profit, preferring instead to use the term “surplus.” These surpluses are extremely important because, in addition to being the source of funds that the UBPC uses to pay off its equipment loans, they also are the source of incentive compensation to the individual workers.

Despite their different areas of specialization, all UBPC members are considered to be the same level and generally receive the same base wage for their work. Individual UBPCs have a great deal of flexibility in how they structure the incentive system for dis-

7. In fact, this is one of the issues of the current internal debate concerning UBPCs. More information about it may be found in later sections of this paper.

8. In discussing current Russian reforms, Bromley (1993, p. 6) states that the key economic issue is not that of nominal “ownership” but the institutional arrangements that define the incentives under which production is to be undertaken.

tributing their surplus. For example, one UBPC visited divided their members into three-person work brigades. Each brigade was assigned a specific small plot of land and their compensation from the UBPC surplus was tied to the level of production which they were able to generate on their plot. This arrangement requires an elaborate system of record keeping and control and not all UBPCs choose to use such a complex system. Indeed, the structure of the system varied depending upon both the type of crops produced and the mix of crops within the UBPC. UBPCs which produced a large variety of crops recognized the difficulties in measuring productivity of the individual members or groups of members when they were producing different crops and their systems therefore tended to share the surplus fairly equal among members. Conversely, UBPCs which produced chiefly a single crop tended to have more elaborate methods of measuring productivity to provide incentives to the individual members or groups of members. One UBPC was actually attempting to adjust its compensation plan for work brigades whose plots were on the windward side of banana fields because of losses which their plots sustained from heavy winds and storms.

A common practice among UBPCs is to distribute 50 percent of their surplus to the workers. The other half is used to pay off equipment loans and for other production-related expenses such as purchasing inputs. The balance of these monies remains in a common fund for construction of facilities for the coop members such as housing, recreational facilities, expanded health care, technical training, and others.⁹

Differences Between UBPCs and CPAs

The similarities between the Agricultural Production Cooperatives (CPAs) and the UBPCs are obvious. In fact, the latter were developed following the economic framework and the means of collective and individual remunerations of the former.

The only major exception is land ownership in legal terms. CPA members are the owners of their land while the UBPC leases state lands for an indefinite

period of time. An additional difference exists on members' affiliation to a mass organization. CPA members belong to the National Association of Small Farmers (ANAP). UBPC members, on the other hand, remain enrolled in the Agricultural, Livestock, and Forestry Workers' Union. Under this arrangement, CPAs have a greater degree of autonomy than UBPCs.

Although we believe the autonomy issue to be a temporary difference, it surfaced dramatically during a visit to one sugarcane CPA and a neighboring sugarcane UBPC a few weeks after the conclusion of the 1993-94 sugarcane harvest. The CPA had standing cane belonging to different stages of the production cycle. The UBPC did not. The CPA officials had refused to harvest any of this cane in order not to disrupt the normal production cycle despite pressure from the CAI. The contiguous UBPC, however, had to yield to the CAI's "persuasion" to fulfill a national production goal. This difference is explained by the fact that, from the outset in the mid-1970s, the CPA members have been the owners of their land and equipment and had been granted a degree of autonomy they were not willing to relinquish.

Early Performance

The performance of the UBPCs is very difficult to evaluate for two obvious reasons. First, it is a very short period of time to allow the UBPCs to grow and mature; and, second, this drastic transition has taken place within an economy going through its worst economic crisis in many decades. What follows is a summary of statistics provided by Cuban officials and a description of the results of two major efforts aimed at finding the causes for the first-year apparent disappointing performance.

Although established in late 1993, UBPCs' preliminary performance results were being released in early 1995. According to Alfredo Jordán, Minister of Agriculture, Cuban agricultural production in 1994 (1,050,000 short tons), declined by 200,000 short tons when compared with the previous year, and by 600,000 short tons when compared with 1992. The

9. This is identical to what Agricultural Production Cooperatives (CPAs) do (Junta Directiva, 1994, p. 7).

figures include total production (grains, fruits, tubers, roots, and vegetables) except sugarcane (Alfonso, 1995b). Later, the National Council of the Agricultural, Livestock, and Forestry Workers' Union met to analyze the losses and low productivity inherited by the UBPCs from the former state farms. Salvador Valdés, general secretary, enumerated a long list of material difficulties the UBPCs are facing (Alfonso, 1995d), most of which are discussed later in this section.

The sugarcane UBPCs did not fare any better. In mid-March of 1995, Raúl Trujillo, first deputy Minister of MINAZ stated that, during the 1993-94 harvest, only 127 (9 percent) of the 1,426 UBPCs in operation increased production and generated profits; another 712 (50 percent) have many problems that could be solved within a one-year period, while the remaining 587 (41 percent) show a series of problems without immediate solution (Alfonso, 1995c).

The release of these statistics generated opposite reactions among scholars who study the Cuban situation. Carmelo Mesa-Lago, a professor of Economics at the University of Pittsburgh, stated: "The co-ops are not working. They don't have the proper incentives. The majority of the cooperative members say, 'Why should I be productive for the state, if the state is going to pay me much less?'" Julio Carranza, an economist with Havana's Center for the Study of the Americas, however, believes that the "UBPCs constitute the transformation of the economy. Results are not high enough, but that does not mean they are a mistake. It's just that they haven't matured" (Alvarez, 1995, p. 4A). Two studies conducted in Cuba may shed some light on the issue.

One of these studies was conducted by the Center of Demographic Studies at the University of Havana, and the National School of Union Leaders "Lázaro Peña" (Molina Soto and García Santiago, 1995). Research objectives included determining what needs to be done in the UBPCs to reach the following goals: (a) obtain the necessary labor force; (b) link remuneration

to all members to their productive results; (c) obtain the necessary working tools; (d) satisfy the food needs of the workers and their families; and (e) advance in the building of housing for their members.

A questionnaire was developed to obtain information on actions taken and date of expected fulfillment of the previous goals. A sample of 774 UBPCs was drawn from Cuba's 14 provinces and the Special Municipality of the Isle of Youth in May 1995, resulting in 630 actual UBPCs visited. The interviews were conducted in pairs by 1,100 students of the provincial schools of union leaders during one week. Most of the UBPCs visited included sugarcane, miscellaneous crops, and cattle.

A summary of the research findings are reported in relation to the goals:

- a. *obtain the necessary labor force:*¹⁰ The total number of workers required is 79,790, for a shortage of 18,844 workers, or 23.6 percent of the necessary labor force (p. 4). Of special importance is the fact that 74.1 percent of the worker shortage was in sugarcane, followed by miscellaneous crops with 10.2 percent (p. 5). The majority of UBPCs will fulfill this goal in 1996, while the rest will do so in 1997 (p. 6);
- b. *link all members to their productive results:* 40.8 percent of the UBPCs are already working in that direction, while 27.9 percent are not doing anything in that regard. In addition, 19.4 percent are linking members to their areas, and the remaining 11.9 percent are doing so to their productive results (p. 8). Sugarcane UBPCs are doing better than the rest in the fulfillment of this goal (p. 7) although no specific dates were given for achieving this goal;
- c. *obtain the necessary working tools:*¹¹ It was estimated that 26,114 animals were necessary and that there was a shortage of 10,664, or 40.8 percent. Highest needs are present in sugarcane

10. The study does not specify what criteria were followed to determine the number of workers needed by UBPC.

11. Also in this area, the study does not define the criteria followed to determine the number of necessary tools, especially animals.

(63.7 percent), livestock (19.2 percent), and miscellaneous crops (11.5 percent) (p. 9). Achievement of this goal is expected between the years 1996 and 1998 (p. 11);

- d. *satisfy the food needs of the workers and their families*: 63.7 percent of the UBPCs are already working in self-provisioning plots, while the remaining 36.3 percent are not. Figures by type (crop) of UBPC are very similar to the national averages. Expected dates of fulfillment for the majority of the UBPCs is 1996, and 1997 for the rest (p. 12); and
- e. *advance in the building of housing for their members*: Of the 20,250 dwellings needed, there is a deficit of 10,273 units, or 50.7 percent. Livestock UBPCs show the lowest shortage (30.2 percent), while citrus UBPCs have the highest (78.9 percent) (pp. 15, 16). Housing needs are expected to be fulfilled between 1998-2010 because of the current lack of construction materials (p. 17).

The second study was directed by Polo Científico de Humanidades (1995) at the University of Havana (UH), although actual participation included seven research centers at the UH and three at other institutions.¹² This project consisted of several multidisciplinary efforts with the common goal of researching problems in the UBPCs in the provinces of La Habana, Cienfuegos, Ciego de Avila and Granma through the use of questionnaires and surveys.

Although results are still considered preliminary, the following seven themes (Coordinación, 1995, pp. 5-9), can be considered relevant due to the consistency of the replies to the questionnaires:

- a. *the UBPCs' autonomy*: It is a key structural element to improved efficiency of the UBPCs. As

stated above, sugarcane UBPCs' linkages with the CAI and MINAZ are very strong since the CAI receives the production and offers technical services such as machinery repairs, land preparation, and oil supplies. Non-sugarcane UBPCs depend of the Ministry of Agriculture's enterprises. These historical ties of subordination represent one of the most important obstacles to overcome. There exist numerous examples of the CAIs and enterprises continuing to function with their old styles of control, which they exerted on the state farms, leading to the obstruction of the UBPCs' development. Some examples include (1) close operational control such as the sale of oil being tied to detailed reporting on how it was used; and (2) imposing strategies that do not correspond to the realities faced by the UBPCs such as prohibiting the burning of sugarcane fields not suitable for hand harvesting, and an obligatory planting schedule;

- b. *leadership and technological organization, especially in the area of economics*: It became evident that there are difficulties for exercising these roles because of lack of knowledge, which have an effect on the system of participative democracy that must characterize the UBPCs. For example, there exists ignorance in the complexities of the accounting system, calculation of production costs and the relationship between advanced payments and profits. This is related to the low qualifications of the personnel involved;
- c. *use of agricultural biotechnology*: The use of science and technology becomes critical during the Special Period, which provides a favorable framework for emphasis on the use of substitutes of fertilizers and chemical pesticides, leading to the shift from conventional to an economically

12. This impressive and objective summary of research on the UBPCs contains an introduction by Coordinación (pp. 1-9), and articles on labor force issues by Capó Pérez and Colectivo (pp. 39-41); on accounting by Castillo Díaz (pp. 37-38); on general issues in miscellaneous crops by Díaz et al. (pp. 31-36), Lorenzo Delgado et al. (pp. 44-45), and Romero Valcárcel et al. (pp. 42-43); on computing for sugar CAIs by González Surribas and Jhones Menéndez (pp. 26-30); on sugarcane by Jústiz García and Díaz Pérez (pp. 10-16), Limia David and Salazar (pp. 17-19), and Pampin Balado et al. (pp. 20-25); on dairy by Martínez Figueredo et al. (pp. 47-50); on marketing by Miranda Forés et al. (p. 51); on livestock by Molina Soto (p. 46); and, finally, on the agricultural markets by Rodríguez Castellón (pp. 52-54).

efficient sustainable agriculture. However, a change in attitudes is a must. The use of substitutes is considered by many as a transitory ill of the Special Period because the aspiration to return to traditional production practices remains alive;

- d. *stabilization of the labor force*: There are problems in this area, which differ between sugarcane (most critical) and non-sugarcane UBPCs. The problems are related to the lack of housing and self-sufficiency. The members' exodus results in a non-stable labor force since they have to be replaced by mobilized workers. The study recommends the recruitment among the members' family, avoiding mistakes such as the formation of mixed brigades where women are expected to perform like men;
- e. *lack of a broad-based appreciation for the concepts of property and ownership*: There is a challenge to convert the workers into self-managed owners. This is the result of all the factors discussed from (a) through (d), in addition to the strong traditional forces within a paternalistic state;
- f. *living conditions*: Where housing shortages exist, it is necessary to be flexible regarding conditions which would facilitate multiple families living in a single domicile. In addition, there is a strong demand for recreational activities, job transfers, and bicycles; and
- g. *immediate effect of the establishment of the agricultural markets*: Although not fully discernible yet, there appears to be a positive impact on production increases in UBPCs of miscellaneous crops. This issue should be investigated in sugarcane UBPCs.

THE AGRICULTURAL MARKETS

Establishment and Organization

Initially, the UBPCs operated under the same system as the CPAs, where they sold their quota volumes to the state at the fixed official price and they received a premium for production in excess of their quota. During the late 1980s this system provided incentives for the CPAs to produce in excess of their quota levels and sell the extra production to the state. However, food shortages which developed in the early 1990s caused a dramatic increase in prices on the black market, thus the incentive to sell excess production to the state declined significantly (Deere, 1995, p. 15).

The lack of ability to import foodstuffs, coupled with declining agricultural production and the incentive to redirect excess production (and, in some cases, even quota production) to the black market created severe food shortages in the ration stores in Cuba. These shortages are, in part, considered responsible for the civil unrest which developed in Cuba in mid-1994 and culminated in the rafters or refugee crisis that summer. This, in turn, helped to bring about the second major policy change for the agricultural sector: the opening of the agricultural markets (*mercados agropecuarios*, MA). The decision was somewhat surprising based on an earlier experiment with free farmers markets (*mercados libres campesinos*, MLC) which the Cuban government had attempted during the 1980s and closed six years later for a variety of reasons.¹³

On September 19, 1994, the Council of Ministers enacted Decree No. 191 establishing the agricultural markets (Pagés, 1994, p. 3).¹⁴ The main objective of these markets is to increase the production levels of food intended for the population's consumption. The MA are organized by the Bureau of Commerce

13. For more information on the MLC, see Alonso (1992), Alvarez and Puerta (1994, pp. 1670-1672), Benjamin et al. (1986, pp. 57-77), Deere and Meurs (1992, pp. 829-836), Figueroa and García (1984), Mesa-Lago (1988, pp. 69-72), Pérez-López (1995, pp. 83-90) and Rosenberg (1992). In addition, Espinosa (1995) discusses the agricultural markets from political and ideological perspectives.

14. In fact, the disclosure had been made by Raúl Castro in an interview conducted on September 11 and published on September 19 (Báez, 1994) —the same day that Decree No. 191 was enacted by the Council of Ministers and two days before it appeared in the official press. Rumors on the establishment of these markets, however, had been circulating throughout the island since the second half of August (Torres and Pérez, 1994, p. 32).

of the Administrative Councils of Popular Power, who determine the number and location of these markets in each municipality.

Only the surplus beyond the production agreement between the farmers and the state agency will be saleable at the MA. Thus, the more production, the higher the quantities that will be available to be sold at prices agreed upon freely between buyers and sellers. Sellers have to pay a tax for the space and other services provided. The Administrative Councils supervise and control the functioning of the MA, according to current regulations. Producers who fail to fulfill their obligations with the state but sell in the MA will have to pay a penalty equal to the product of multiplying the unfulfilled volume times the highest price at the MA at the time of the violation. The Ministries of Agriculture and Internal Trade will be responsible for regulating the organization and functioning of these markets. In addition, the Ministries of the Revolutionary Armed Forces, Interior, and other state central organizations, will establish their own regulations to participate in the MA.

On September 30, 1994, the Ministries of Agriculture and Internal Trade signed a Joint Resolution regulating the participation in, and products to be sold at, the MA (Pagés, 1994, p. 3). The following entities and individuals, or their appointed representatives, will be able to participate in the agricultural markets: (a) state farms and enterprises; (b) non-cane basic units of cooperative production (UBPC); (c) agricultural production cooperatives (CPA); (d) farms under the Working Youth Army (*Ejército Juvenil del Trabajo*, EJT); (e) cooperatives of credit and services (CCS) representing their members; (f) small farmers; (g) budgeted enterprises and units that produce in their areas for self-consumption; (h) producers in areas allocated for family self-consumption; and (i) producers in yards and small parcels.

The following products are excluded from the MAs: bovine, buffalo and equine beef; fresh milk; coffee, tobacco and cocoa, as well as their derivatives; and rice from the agro-industrial complexes (which will

be entirely contracted with the state). The sale of some of these products, however, may be authorized in certain periods and territories.

The characteristics of the MAs during the first 15 days of operation was studied by Lee (1994) and summarized by Torres and Pérez (1994, pp. 35-39). The description focussed on three major topics:

- *participation by sectors*: On opening day, 1,491 sellers showed up in the 121 MAs of the country to face hundreds of consumers, some of whom had been waiting since the previous night. During the first days there was a strong presence of the state sector with a relatively low showing of the independent farmers, but the opposite was true by day 15;
- *volumes, variety, display, and quality of products*: In terms of volumes, seasonality dictated the strong presence of *viandas* (68.5 percent of the total), while vegetables represented only 5.5 percent (Table 2). However, although pork accounted for only 2.9 percent of the volume, it represented 30.3 percent of total sales value. In addition to seasonality, the scarcity of beans and vegetables is explained by the early absence of independent farmers since they produce about 72 percent of the beans and 45 percent of vegetables. In general, the level of management was poor and was reflected in the disorganized and uncleaned manner in which the products were displayed. The presence of health inspectors, however, guarantees the sale of livestock products in good conditions;¹⁵
- *demand, price movements, conditioning and organization*: The presence of consumers, especially in the city of Havana, was very high in the first days and continued at high levels thereafter. For example, the total national value of sales was of 14.5 million pesos in the first two days, and of 61.9 millions during the first 15 days. During the first days of operation, prices in the MAs were high in relation with the purchasing power

15. Our observations indicate that this problem is the result of the lack of marketing savvy on the part of sellers.

Table 2. Sales During the First 15 Days of Cuba's Agricultural Markets (October 1 to October 15, 1994), by Commodity and Volume

Commodity	Volume (cwt)	Percent
Viandas^a	112765	68.5
Plantains	42000	25.5
Cassava	32000	19.4
Sweet Potato	27000	16.4
Pumpkin	9200	5.6
Other	2565	1.6
Vegetables	9105	5.5
Peppers	2200	1.3
Garlic	2030	1.2
Other	4875	3.0
Citrus and fruits	24572	14.9
Citrus	12368	7.5
Avocado	5270	3.2
Papaya	2600	1.6
Other	4334	2.6
Rice	4618	2.8
Beans	1154	0.7
Pork	4782	2.9
Ovine Beef	1080	0.6
Other	6836	4.1
Total	164912	100.0

Source: Adapted from Torres and Pérez (1994, p. 37) as it appears in Lee (1994).

a. In addition to those listed, the term *viandas* also includes taro and potato.

of average Cubans.¹⁶ Sellers price their products according to market conditions at the beginning of the day. Prices are adjusted throughout the day depending on a variety of factors. However, a negative influence is the fact that taxes are imposed based on the price of the products at the beginning of the day. The average tax is of 8 percent of the gross value, but it is 5 percent in the city of Havana and 15 percent in other areas of the country. The MA occupy the facilities where previous markets and the MLCs were located. Availability of facilities and equipment is low and varies from place to place. Warehouses are scarce. Times of operation are not fixed.

Differences Between the MA and the MLC

There are three major differences between the free farmers' markets (MLCs) of the 1980s and the new agricultural markets (MAs):

- First, in addition to independent farmers and their representatives, participation in the MAs includes CPAs, non-cane UBPCs, state enterprises and organizations (such as farms under the Working Youth Army, EJT), and all other individuals and collectives who work on self-sufficiency plots. The first three, however, must show proof of having met their delivery quotas to the state.
- Second, MAs are subject to a taxing system that has been designed to generate revenues for the state during the current economic crisis. It ranges from 5 percent of the value of projected gross sales in the city of Havana (to channel the greatest volume to the capital, where food shortages are potentially the most politically volatile) to 15 percent in the small, rural markets of the interior (Deere, 1995, p. 16).
- And third, as opposed to the MLCs where this phenomenon was insignificant, sales of processed foods are an important part of the new MAs (Torres and Pérez, 1994, p. 36).

Early Performance

Although the previous section also contains some description of the early performance of the agricultural markets, there are additional important issues for discussion. Torres and Pérez (1994, pp. 39-41) report a series of statements from both buyers and sellers about the benefits and early performance of the MA. In general, they deal with the advantages of the access to the markets by the working population, the availability of fresh products as opposed to the ones purchased in the state stores, and the expectations about future declines in prices.

The first specific positive impact of the MA has been the lowering of prices that had prevailed in the black

16. For example, while the average monthly salary of a Cuban worker amounts to 180 pesos, the price of one pound of pork was 45 pesos and a pound of turkey cost 30. Likewise, one orange or one banana cost one peso.

Table 3. Selected Average Prices of All Participants in the Agricultural Markets in the City of Havana and in the Country, by Month, October 1994 Through March 1995 (Cuban pesos/pound)

Item	BO		1994				1995					
	CH	WC	October		November		December		January-February		March	
			WC	CH	WC	CH	WC	CH	WC	CH	WH	CH
Rice	45	10.3	10.7	9.4	9.7	8.6	9.1	7.5	8.5	7.66	8.52	
Beans	30	16.4	25.4	17.0	24.1	14.9	19.5	11.6	12.6	11.37	12.19	
Pork	75	37.4	41.2	38.9	41.9	38.5	42.1	35.7	38.8	35.88	38.87	
Sweet Potatoes	6	1.3	1.8	1.2	1.5	1.1	1.4	1.4	1.9	1.52	2.01	
Cassava	6	1.5	3.0	1.5	2.7	1.5	2.6	1.6	2.6	1.59	2.50	
Taro	15	7.3	8.3	7.0	7.8	6.5	7.2	5.4	7.0	5.64	7.11	
Garlic	30	20.0	23.6	20.8	20.6	19.9	19.9	23.4	22.7	21.26	19.52	

Notes: BO—Before the opening of the agricultural markets; CH—City of Havana; WC—Whole country.

Source: Compiled by Nova González (1995a, p. 66) from "Ventas en el Mercado Agropecuario," Oficina Nacional de Estadísticas, 1994 and 1995.

Table 4. Selected Prices in Three Agricultural Markets in Havana, 1994-1996 (in Cuban pesos/pound)

Item	Black Market June 1994	Agricultural Markets		
		January 1995	June 1995	January 1996
Rice	50	7	9.5	4
Black beans	30	13	9	9
Pork steak	75	45	35	28
Jam	150	70	60	45
Cassava	15	2.5	2.5	1
Sweet potatoes	15	2.5	3	1.5
Pumpkin	40	5	3	2

Source: Summarized from Deere (1996).

market (Scarpaci, 1995, p. 14). For example, the presence of the state enterprises was responsible for bringing the price of pork down from its June 1994 black-market level of 75 pesos to 45 pesos per pound. Also, rice prices in the black market were around 50 pesos per pound in June 1994 but decreased to between seven and 10 pesos per pound in January 1995 in the MAs. Similarly, the price of cassava went down from 15 pesos a pound to between two to three pesos during the same time period (Deere, 1995, p. 16). More detailed (sometimes contradictory) information appears on Tables 3 and 4. However, prices still remain high relative to the purchasing power of

the average consumer.¹⁷ On the other hand, quantities sold have remained relatively stable (Table 5), while independent farmers seem to control the highest percentages of most of the commodities sold in the markets (Table 6).

Perhaps the most important contribution of the agricultural markets to the economy in general has been the depreciation of the U.S. dollar in relation to the Cuban peso. Deere (1995) states that the dollar reached a peak of 120 pesos in the black market in July 1994. By the following June, the dollar was valued at between 30 to 35 pesos (p. 17). During the authors' last visit in the spring of 1996, the exchange rate of the dollar had declined to between 21 and 23 Cuban pesos.

IMPLICATIONS FOR FUTURE AGRICULTURAL PRODUCTIVITY

Who would have thought that we, so doctrinaire, who fought foreign investment, would one day view foreign investment as an urgent need?

— Fidel Castro, 26 July 1993

This quote is a powerful confirmation of the magnitude of the transformation which is currently under way within Cuba.¹⁸ The two most important changes in the agricultural sector have been partially de-

17. This gap has prompted requests for governmental intervention. (See, for example, Economics Press Service, 1996.)

18. We have excluded any discussion of foreign investment in the agricultural sector (Pagés, 1995), despite its importance (Nova González, 1994, p. 4), because it is largely occurring in only a few isolated commodity sub-sectors almost exclusively for export, and therefore it has relatively little influence on domestic food supply.

Table 5. Sales in the Agricultural Markets, by Month, October 1994 through March 1995 (1000 cwt)

Product	1994				1995				% Change IQ 1995/ IVQ 1996
	October	November	December	IV Quarter	January	February	March	I Quarter	
Agricultural	294.2	262.7	399.0	955.9	321.7	311.4	316.6	949.7	-6.2
Meat	13.5	14.2	17.9	45.6	12.9	13.7	15.7	42.3	-3.3
Total	307.7	276.9	416.9	1001.5	334.6	325.1	332.3	992.0	-9.5

Source: Compiled by Nova González (1995d, p. 71) from "Ventas en el Mercado Agropecuario," Oficina Nacional de Estadísticas, January-April 1995.

Table 6. Percentage Participation of Independent Farmers in the Agricultural Markets, by Selected Commodities, October 1994 through March 1995 (percent)

	1994			1995	
	October	November	December	January - February	March
Taro	82.6	89.7	92.3	92.4	92.0
Cassava	41.3	49.5	56.7	69.7	71.3
Tomato	54.3	72.0	73.7	74.1	74.5
Onion	87.4	93.3	93.3	90.6	88.0
Garlic	86.5	86.1	87.8	94.8	91.5
Pepper	43.6	56.9	65.4	74.3	66.1
Rice	69.9	77.0	79.8	85.1	85.0
Bean	57.7	69.9	77.0	90.3	91.4
Pork	71.6	80.5	78.6	82.4	85.2
Corn ear	63.7	62.6	64.6	47.4	60.3
Banana	12.7	18.3	21.3	30.2	31.0

Source: Compiled by Nova González (1995d, p. 66) from "Ventas en el Mercado Agropecuario," Oficina Nacional de Estadísticas, October-December 1994 and January-March 1995.

scribed in this paper. The establishment and organization of the UBPCs and MAs have important implications for future agricultural productivity. Since the two organizations are complementary, the issues are discussed together.

UBPCs and MAs

Let us start with a series of statements and direct quotes appearing in the Cuban publication Economics Press Service (1995, pp. 6, 7):

- The production takeoff of agricultural food did not materialize as expected six months after the opening of the agricultural markets in the island [Official sources].
- The production increase due to the stimulus of participating in this market has not been achieved yet. Although the overstocking of the stands may point to the contrary, all seems to indicate that what is being sold "already existed" but, simply, was not delivered to the state collection agency. A good portion of these products were being sold in the black market and at prices

even higher than those being exhibited now in the agricultural markets where the law of supply and demand governs [*Granma*].

- From October through March [of 1995], these markets only sold 19 percent of the total tons of agricultural products distributed to the population, although their variety is wider than the one collected and sold by the state in the places of rationed sales [Official sources].
- As a farmer, one has to fulfill a quota of sales to the state but the payment is sometimes laughable. You sell and, when you go to the nearest town market, you find your orange three or four times more expensive [An independent producer].
- The fact that prices in agricultural markets do not go down is another more than sufficient proof that agricultural production has not experienced the expected takeoff. "When it happens, deliveries to the state collection agency as well as

supplies will increase, and prices will tend to decrease," specialists stated [*Granma*].

- The Cuban countryside has been stagnant during a long period of time and one can not revive it overnight. One has to plant and wait for the results [An anonymous economist].

In fact, while the economy as a whole experienced a modest growth of 0.7 percent in 1994 with respect to 1993 (Oficina, 1995, p. 3), activity in the agricultural sector decreased by 4.9 percent (p. 4). Modest growth was present in rice, corn, fruits, milk, eggs, and poultry and pork, while *viandas* and vegetables decreased by 16.6 percent (p. 5).

The previous quotes and statements serve as good background for the discussion. The main issue revolves around the reasons for the stagnant agricultural production. It is true that dramatic production increases, within the current economic crisis, can not be realized in a short period of time. But it is also true that there are mechanisms that hinder such increases. For example, as the independent producer expressed above, *acopio* prices are very low when compared with prices at the MA. In addition, as discussed earlier, there is little incentive to produce be-

yond the established production goal since 80 percent of any surplus will also have to be sold to the state agency at very low prices.

An important point is that most agricultural markets have a relative abundance of multiple agricultural commodities. When one observes this fact, the question arises about the remaining 80 percent that was supposed to be delivered to *acopio* since most of these products are not available in the ration stores.

After examining the differences in gross and net revenues (Table 7) and average costs of production (Table 8) between the state and non-state sectors, one wonders about the reasons for the existence of some state farms. There is speculation that some state farms are being held by the government as potential joint venture operations. Or, it simply may be that, since the majority of state farms have already been converted to UBPCs, the incentive to complete the process has decreased. Nevertheless, the fact that the majority of state farms have been broken up into UBPCs is a clear indication of the commitment on the part of the Cuban government to this fundamental policy change.

Table 7. Average National Gross and Net Revenues in the State and Non-State Agricultural Sectors, by Crop, 1993 through December 1995 (in thousand pesos/ *caballería*)

Item	State		EJT ^a		UBPC ^b		CPA ^c	
	GR	NR	GR	NR	GR	NR	GR	NR
Sweet potato	90.1	29.3	95.1	33.7	83.5	24.2	105.0	41.5
Taro	491.7	365.4	515.3	387.1	361.6	254.6	326.9	268.6
Cassava	94.7	12.2	172.4	74.1	91.0	8.7	126.4	72.2
Banana	704.2	384.5	836.2	599.6	863.7	527.5	1234.6	793.3
Plantain	498.4	248.7	489.9	242.9	439.2	190.5	294.8	152.9
Tomato	411.8	277.2	523.0	376.1	328.0	203.1	499.9	378.1
Onion	1548.0	1274.6	1282.4	1033.5	804.6	612.6	1175.1	1001.0
Garlic	474.8	328.4	907.3	717.7	697.3	508.8	1108.9	930.4
Pepper	206.4	85.2	761.4	576.5	444.9	295.7	400.1	306.3
Pumpkin	39.8	12.9	38.5	11.7	32.5	6.5	49.8	26.9
Rice	554.8	468.8	562.5	475.5	620.8	527.4	484.0	407.3
Bean	77.1	52.9	75.9	51.8	49.2	28.8	158.1	131.1
Corn ear	36.3	12.1	60.3	32.9	27.7	4.6	22.9	6.1

Note: GR—Gross Revenue; NR—Net Revenue; 1 *caballería* equals 33.3 acres.

Source: Compiled by Nova González (1995d, p. 68) from several official Cuban sources.

- Ejército Juvenil del Trabajo* (Working Youth Army).
- Unidades Básicas de Producción Cooperativa* (Basic Units of Cooperative Production).
- Cooperativas de Producción Agropecuaria* (Agricultural Production Cooperatives).

Table 8. Average Costs of Production in the State and Non-State Agricultural Sectors, by Commodity (pesos/cwt)^a

Item	State	CPA	Independent (Private)
Sweet potato	28.43	4.36	2.99
Taro	86.68	13.89	10.05
Cassava	72.04	5.64	2.64
Banana	11.55	2.43	2.43
Plantain	10.46	13.50	7.50
Tomato	27.87	5.05	3.29
Onion	67.64	16.43	9.39
Garlic	272.93	70.97	40.28
Pepper	82.94	11.69	7.78
Pumpkin	33.03	3.94	2.82
Rice	8.13	8.04	5.62
Bean	203.21	43.38	43.38
Corn ear	39.73	5.04	5.04

Source: Compiled by Nova González (1995d, p. 69) from Cuban official sources.

a. Date or time period not specified.

State Collection Agency (*Acopio*)

The role of the state collection agency (*Acopio*) is extremely important in any discussion of the implications of the two new agricultural entities. *Acopio* has been the official link between producers and consumers since the early years of the revolution. Through the years, it has become a highly centralized entity intended to collect and distribute all farm production. Production, however, could never be recorded in its totality since it excluded on-farm consumption, barter, and sales in the black market. During the time period when the MLCs were in existence (1980-1986), surplus production was legally sold directly to consumers. When these markets were closed, the state assumed total control of procurement and distribution.

With that goal in mind, *Acopio* was completely reorganized at that time both in terms of collection and distribution by: (a) placing the system under the Ministry of Agriculture rather than the municipal Councils of People's Power where it had been until

then; (b) establishing the Enterprise of Selected Fruits (*Empresa de Frutas Selectas*), also under the Ministry of Agriculture, to purchase the surplus fruits and vegetables from private farmers and Agricultural Production Cooperatives and sell them directly to the population and to the tourist sector; (c) increasing the prices paid to producers, especially those paid by the newly created Enterprise of Selected Fruits, to avoid drastic decreases in farmers' incomes after the closing of the free farmers' markets (Torres and Pérez, 1994, p. 30); and (d) investing in additional refrigerated trucks and warehouse facilities (Deere and Meurs, 1992).

Restructuring of *Acopio* at the national and local levels continued during the early 1990s with the establishment of a new procurement process and an increase in the number of *Acopio* procurement personnel (*visitadores de Acopio*).¹⁹ Multiple collection points were created in the countryside for peasants to deliver their products on a given day of the week. According to an official interviewed, the probability of the *Acopio* official, the cashier who pays for the crop, and an *Acopio* truck all converging at the same point at the same time, is most unlikely. Despite success in production plans and deliveries in different areas and products, further debate concerning the new structure includes, among others: (a) the possibility of ANAP officials and extension agents performing the role of area chiefs as well as increasing number of state officials; and (b) as discussed earlier, the continuing state intervention on farmers' cooperatives.

Facing the economic realities of the Special Period within a process of economic reforms in the agricultural sector, one has to wonder about the feasibility of maintaining a system originally designed to operate within a highly centralized and subsidized agricultural sector. The debate has already started in Cuba. Carriazo (1994) states that the UBPCs are tied to a system of *acopio*, inefficient by itself and now suffering greater limitations such as in transportation

19. What follows in this paragraph is a summary of field research conducted by Deere et al. (1994, pp. 224-228) in three municipalities located in the three natural geographical regions of Cuba: Güines, in the western province of La Habana; Santo Domingo, in the central province of Villa Clara; and Majibacoa, in the eastern province of Las Tunas.

and containers (p. 23). And he adds that “*Acopio*’s pricing system reveals its rigidity by not reflecting with the required celerity the changes in supply, demand, quality, cost and other factors” (p. 24). He ends by questioning whether the UBPCs should be required to render all of their production to a system of *acopio* traditionally inefficient and lacking transportation resources (p. 24). González Jordán (1995, p. 91) criticizes *Acopio*’s current pricing system for not “stimulating” either production or sales to the state. The reason is low prices that do not correspond with the economy’s general price level. Orlando Lugo, president of the National Association of Small Farmers (ANAP) has stated that the mechanisms developed through *Acopio* are now obsolete, and the norms used by *Acopio* to purchase from the farmers do not respond to the present realities (García Luis, 1994, p. 5).

Some of the early difficulties due to the lack of transportation have been mitigated. Soon after the creation of the agricultural markets, Resolution 178/94 of the Ministry of Transportation authorized state enterprises and private parties involved in public service activities, who possess the corresponding operative license, to engage in the transportation of products to the markets.

This, however, is a timid step. More radical reforms are needed. For example, Torres and Pérez (1994), in addition to several recommendations to improve the markets, one could also think in the explosion in the number of commercialization chains, marketing cooperatives and others that would serve as the intermediaries between producers and consumers, taking charge of the purchase, transport, cleaning, promotion and sales. Such chains would not only operate in the agricultural markets, but in supermarket chains and other small businesses (p. 42).

The above recommendation does not seem to enjoy official support at present. At the end of May 1996, the weekly *Trabajadores* (official organ of the Confederation of Cuban Workers, CTC) sent a strong message to the “new rich”, alluding specifically to the middlemen in agricultural markets (Noticias, 1996, p. 1B). A few days before, however, Vice-President Raúl Castro, in an unusual open letter to the Minis-

ter of Agriculture published in the official daily *Granma*, strongly criticized the state *Acopio* system. He stated that one-fourth of agricultural commodities intended for distribution under the state system for Havana residents in April were rotten and had to be discarded (Raúl, 1996, p. 9A). Such problems, however, have been constantly present. Pérez Marín and Muñoz Baños (1991, p. 4), for example, estimated losses of 225 kg/ha (13 kg/capita) in tubers, roots, vegetables and grains left unharvested in the fields.

CONCLUSION: “IT DEPENDS ON THE MARKET”

The statement “it depends on the market” was the reply received by the authors on numerous occasions from UBPC Direction Board members in response to questions related to how they decide what commodities to send to the market, which market (city or local) to send their crops to or when to send them. This demonstrates that, despite having lived for over 30 years under a planned economic system, there is an understanding of the operation of markets.

The degree of control and autonomy which UBPC members have in the operation of their coop is certainly limited as compared to what farmers in market economies have. However, even this limited ability to influence production and marketing decisions is a substantial improvement over their days as workers on large state farms. As a result, UBPC members are beginning to feel a new sense of stewardship toward the land and other productive assets. At the same time, they recognize the UBPC as a mechanism to potentially improve their personal well being. These are important incentives, but, they will not continue to motivate without further reinforcement.

The decision to dismantle the state farms into UBPCs and to establish the agricultural markets would appear to have created a window of opportunity for the Cuban government to improve domestic agricultural production and food availabilities. As discussed earlier in this paper, obstacles still exist which hinder the efficient operation of these new institutions in Cuba. Even if these obstacles are removed, chronic shortages of fertilizers, pesticides and fuel oil will restrict the ability of the agricultural sector to respond in dramatic fashion. However, if the obstacles are not

removed, the failure to increase agricultural output and food accessibility could potentially lead to another

food crisis and further civil unrest.

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