FOODFIRST

INSTITUTE FOR FOOD AND DEVELOPMENT POLICY

Development Report No. 14

Cuba's New Agricultural Revolution:
The Transformation of Food Crop Production in Contemporary Cuba

May 2000

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INTRODUCTION

The first half of the 1990s witnessed the initiation of a major transformation of Cuban agriculture. From an emphasis on state farms, as the politically and technologically appropriate strategy of agricultural development, to the adoption of a new approach highlighting the advantages of tying producers to small areas; from an export-oriented production emphasis to the promotion of food crop production; and from a reliance on high technology to one on alternative technologies, this transformation is touching on a number of the central aspects of agricultural production and development. Together these changes have become the core of the Cuban government's overall effort to resolve the dramatic crisis that had come to characterize the country's agricultural sector and food security in the early 1990s. Their success or failure will be integrally related to the future course of Cuban socialism.

The most immediate stimulus for these changes was the desperate situation Cuba found itself in following the disintegration of the international division of labor, of which it had formed a part. With the societal transformations that occurred in Eastern Europe and the former Soviet Union in 1989 and 1990, and the resulting dissolution of the Council of Mutual Economic Assistance (COMECON) that they had been the centerpiece of, Cuba was suddenly faced with a drastic shortfall of imports of all kinds and the disappearance of preferential markets for its own principal exports.

The problems that Cuba experienced as a result of the COMECON's disappearance pointed to a underlying tension, which also played a significant role in creating the need for the modifications currently underway in Cuban agriculture. That tension stemmed from the limitations inherent in the model of agricultural development that was adopted by Cuba's socialist government in the early 1960s. Referred to by some (Pérez Marín and Muñoz Baños 1992; Rosset et al. 1993) as the "classical model" of agricultural development, it was characterized by its emphasis on agroexport production, its heavy reliance on mechanization of production processes, with a concomitant development of social services (especially its educational system) that encouraged a constant increase in this reliance through the exodus of people from the countryside, and overall priority being placed on state versus private farms. By the early 1990s it had become readily apparent there were fundamental weaknesses in this strategy, which made its appropriateness for a relatively small, strongly-agricultural economy highly questionable.

The following essay will examine the evolution of the transformation taking place in Cuban agriculture today. It will do so by focusing on the ways in which these changes have emerged and are taking shape in one sector of agriculture, that directed at the domestic market. By focusing on the food sector of agricultural production and distribution, we can obtain a clear picture of both the dimensions of the contradictions inherent in the classical model of development, as well as the importance of the modifications that are currently being implemented in Cuba's countryside.

The arguments set forth in this essay are based on fieldwork conducted in Cuba during

the 1990-1998 period, which involved interviews with policy-makers and implementers in the Ministry of Agriculture (MINAGRI), the Ministry of the Sugar Industry (MINAZ), and the National Association of Small Farmers (ANAP), as well as with agricultural producers organized in several forms of production relations: Basic Units of Cooperative Production (UBPC), Agricultural Production Cooperatives (CPA), and Credit and Service Cooperatives (CCS). In addition, analysis of secondary sources and government data was undertaken, which provides some of the "harder" evidence for my assertions about this transformation.

Our exploration of Cuba's agricultural transformation will begin with a sketch of the classical model of development that dominated the policy making process toward this sector and society. The government's response to the food crisis triggered by the disintegration of the COMECON will be analyzed through an assessment of the numerous efforts that have been initiated to address it, which form integral parts of the larger process of agricultural transformation. Finally, the agricultural transformation underway in Cuba today will be situated within a larger discussion of the transformation processes that have been set in motion in a variety of socialist, or formerly socialist, countries, with the goal of highlighting the similarities and differences between the Cuban case and the others. In so doing, I seek to assess the extent to which the changes taking place in Cuban agriculture approximate the emerging trend of transition away from what has heretofore been known as "socialist agriculture."

THE CLASSICAL MODEL OF DEVELOPMENT

The new Cuban government's adoption of the so-called classical model of development in the mid-1960s stemmed in part from the structure of agricultural production that already characterized the country in 1959, and in part from the pattern of agricultural development that had been set by the country that was its closest ally, the Soviet Union. Several of the central components of that model were its heightened external dependence; its emphasis on input-dependent, large scale approaches to production; and a resultant acceleration in rural-urban migration (Pérez Marín and Muñoz Baños 1992). Each of these components contributed to the profound crisis that characterized Cuban agriculture in the early 1990s, and the measures that have been experimented with to resolve it are essential aspects of the transformation that is currently underway there. Thus, a brief acquaintance with them is in order.

The predominance of export agriculture within the economy and a strong dependence on food imports to feed the population, which had described Cuba throughout the period that the socialist government has been in power, had prevailed prior to 1959. In fact, these were standard features of the agricultural model that had gradually been adopted over the first half of the century throughout much of the Caribbean basin region and the Third World more generally (Barraclough and Marchetti 1985; Brockett 1990; Friedmann 1990). With the spread of agroexport production, food crop cultivation was increasingly

relegated to less fertile areas and cut off from receipt of the resources necessary for its growth and modernization (Williams 1986; Wolf 1969).

In the case of Cuba, the pitfalls inherent in this strategy of development were perceived early on, and some efforts were made to expand food crop production so as to reduce the country's vulnerability to price changes in the international economy. Yet sugar exports still provided slightly more than 80 percent of Cuba's foreign exchange earnings at the close of the Fulgencio Batista era, while food imports represented approximately 21.2 percent of the country's total imports and provided for almost one-third of the food consumed on the island.

The country's overwhelming dependence on sugar was the subject of disdain of the revolutionaries who overthrew Batista's regime in 1959, and agricultural diversification was a high priority for them in the early 1960s. But by mid-1962, in the face of the U.S. embargo, a growing foreign deficit resulting from the Cuban government's various efforts to promote diversified economic development more generally, and the Soviet Union's offer to purchase growing quantities of the country's sugar production, this crop once again came to be seen as the key to development. Although the precise nature of Cuba's sugar trade proved to be more positive than that which had characterized it in the past, diversification of agricultural production reverted to being a medium- to long-term goal.

This is not to say that sugar cane production remained the same as it had been before the change in regime. Over the course of the 1960s, and especially the 1970s, it became increasingly industrialized and this process, in turn, fostered related industrial development (Pollitt 1985; Pollitt and Hagelberg 1992; Edquist 1985). At the same time, Cuba's relationship with the COMECON led to a broadening of the array of products that it exported to this group of nations. Nonetheless, in the second half of the 1980s, sugar and its derivatives still generated, on average, 75 percent of Cuba's export earnings.

As the development plans drawn up in the mid-1960s had stipulated, domestic production of food stuffs did expand gradually over time (Enríquez 1994). As a consequence, food imports were reduced somewhat, so that food products came to represent 17.3 percent of total imports in 1980 and 12.4 percent in 1989. However, Cuba continued to be strongly dependent on imports to satisfy its consumption needs for a number of crucial food items. Estimates of the weight of the population's caloric intake that was derived from imported goods ranged from 44 to 57 percent.

Cuba's classical model of agricultural development was also characterized by several additional phenomena. These included its emphasis on utilizing high input approaches to agricultural production. In this regard, the pre-revolutionary historical development of Cuba's sugar industry set a high input tone that was maintained in later years. Likewise, worldwide this was a period of seeking "technological" answers to the "agrarian problem" through the Green Revolution. However, in relying on this approach, Cuba was also following closely in the footsteps of the strategy of agricultural development that had been pursued by the Soviet Union (Selden 1982; Deere 1986). One of the earliest efforts Cuba made to raise the level of technology employed in production was directed at

mechanizing the sugar cane harvests. During the 1960s and 1970s machinery was also developed to channel cut cane onto vehicles for trans-shipment to the refinery and to clean the cane that had been mechanically harvested, prior to its refining.

Nonetheless, technological innovations were not restricted to the sugar cane sector of agriculture. Notably, rice production came to be even more mechanized than sugar cane. Likewise, a strong reliance on chemical fertilizers and pesticides had come to prevail in all sectors of agricultural production (i.e. the state, CPA, and private sectors) and in food crop, as well as sugar cane, cultivation. And specialized animal feed became the basis of state and CPA livestock industries.

Although much of the equipment ultimately employed in the sugar sector was produced in Cuba, this was not necessarily the case with machinery used in the production of other types of crops. Moreover, the chemical fertilizers and pesticides, specialized feeds, and the fuel for all machinery were almost entirely imported. Prior to 1989 Cuba was able to look to its COMECON counterparts for provisioning all of the crucial inputs for its agricultural production. But after that time, it became painfully clear that the country's high input agricultural development strategy had only added to the already existing, heavy external dependence.

At the same time, a central feature of Cuba's high input strategy was its "bigger is better" approach to farm size. Here, too, Cuba was following the example set by the Soviet Union (Selden 1982; Deere 1986). If the production process of a crop was to become largely mechanized, Cuban policy makers argued, then areas under cultivation had to be compacted so as to take full advantage of the machinery employed through working large areas. This logic coincided with the government's clearly established preference for state farms, as opposed to those of peasant farmers (Deere 1986; Benjamin et al. 1984; C.R. Rodríguez 1983). Its preference stemmed from the conception that this was the appropriate means of bringing about the socialist transformation of Cuban agriculture. Through completion of the process of proletarianization of the agricultural population-a process that was already far advanced-and the consolidation of an overarching state farm sector, many of the dilemmas arising from the now classical "peasant question" could be avoided and the benefits derived from production in the state sector could be redistributed according to social, as opposed to individual, criteria.

One of the inadvertent outcomes of the government's strong promotion of state farms was the undercutting of food crop production. Given that much of food crop production was carried out on peasant farms, their relegation to nonpreferred status meant, at the least, that their production failed to develop at a similar pace to that which occurred on state farms. Moreover, some (Lehmann 1985) have argued that the Cuban government effectively lost much of the food production that might have been generated by this sector because of the limited attention that it paid to the peasantry.

In addition to lost production, over the course of time the better part of the population of agricultural producers and laborers was also "lost." During the three decades following the establishment of the revolutionary government, a significant exodus from rural areas

took place. The migration out of agricultural work was first noted in relation to the shortage of labor for the sugar cane harvests beginning in the mid-1960s. A realization of the more generalized depletion of agricultural workers was slower to emerge. The causes of the shift from agricultural to other kinds of labor were multiple, including the new opportunities for owning land made possible by agrarian reform and other kinds of full-time employment on state farms; and the overall improvement in prospects for social mobility for rural dwellers resulting from the opening up of public education (Lehmann 1985). Educational and employment opportunities that had been unimaginable in the past for the sons and daughters of small farmers and agricultural laborers drew them out of agricultural production and, in many cases, out of rural areas entirely. The end result was the increasing need-independent of the ideological preference for-to mechanize more and more of agricultural production.

Although some Cuban policy makers were aware of the weaknesses inherent in these various aspects of the "classical model" of agriculture, full comprehension of their potential for fundamentally undermining production did not arise until the first signs of change in Eastern Europe and the Soviet Union had emerged. By then it was too late to bring about modifications swiftly enough for a crisis in agricultural production to be averted. Within a few short years imports from Eastern Europe and the Soviet Union had fallen dramatically: in 1990 alone Cuba experienced a 25 percent shortfall in USSR petroleum imports from the quantities stipulated in bilateral agreements drawn up between the two nations; by November 1991 food shipments from the USSR had fallen below agreed upon amounts by more than 50 percent. Because at least 80 percent of Cuba's imports and exports had been channeled through the COMECON during the 1980s, the trade alliance's disappearance had drastic consequences for the Cuban economy generally, and its food situation in particular. Almost overnight the country's relatively modern agricultural sector, which had been so heavily dependent on imports, was partially crippled, and the population's levels of food consumption experienced a severe contraction.

THE TRANSFORMATION OF CUBA'S AGRICULTURAL PRODUCTION

With the deepening of Cuba's economic crisis following the disintegration of the COMECON, the socialist government began to implement major changes in a number of areas. Agriculture production has been one such area. The changes affecting agriculture have become more significant each year, addressing important aspects of both production and distribution. While the idea for several of these had been toyed with for some time, their adoption on a grand scale has clearly been a response to the present crisis.

The Birth of "Autoconsumo" Production

The first such change was that of the spread of the "autoconsumo" system, or the setting

aside of land on all farms for subsistence production. This system contrasted with the previously dominant one of maintaining virtually complete crop specialization on farms within the state and CPA sectors; the state farm sector alone controlled roughly 78 percent of cultivated land in 1989. The move toward maintaining a self-provisioning section on each farm actually began in 1980, with the initial experimentation of this strategy in the sugar sector of agriculture. But by the early to mid-1990s it had reached production sectors that had not previously participated in it.

As a consequence of the implementation of Cuba's Food Program, state farms and CPA have begun to pay increasing attention to the self-provisioning of their workers and members. The goal became to use the areas that were not already being completely exploited for either annual or perennial food crops. In addition, livestock "modules" for self-provisioning by the workers/cooperative members were to be established on all state farms and CPA. It was taken for granted that CCS members and parceleros (both of whom farm individually and will be discussed below), as opposed to those participating in the other two sectors, maintained the traditional practice of raising livestock for their own consumption. Thus, all farms were to provide for at least part of the consumption needs of those who worked them. The underlying assumption in this strategy was that, at a minimum, it would lead these producers to eventually give up the food supplies that they had previously purchased through the state distribution system, even if their expanded production did not actually contribute to increasing the amount of food products sold for the general population's provisioning.

Beginning in about 1993, CCS members-who farm individually-also began to practice self-provisioning for themselves and their workers. One such CCS member had previously set aside a small amount of his overall production for his and his family's consumption. But, given the general difficulty of obtaining food products, the offer of being provided with food to supplement what was available through official channels was a powerful incentive for attracting workers who might otherwise find some other activity to engage in. Through this self-provisioning plot, he provided his employees with corn, plantain/bananas, sweet potatoes, rice, beans, tomatoes, coffee, arum root, sunflowers (for oil), and a number of other products. He estimated that this provisioning actually doubled the value of the salary he paid them. This farmer justified his recent decision to set aside part of his small farm for this purpose as the only means by which he could insure that the eight laborers that he regularly employed would continue to work for him.

The problem this small farmer was attempting to ameliorate, the deepening crisis of labor shortages, had been developing for some time. It had grown in seriousness since the early 1990s, given the lack of incentives for most salaried labor. The problem was not specific to agricultural labor; it reflected the overall economic crisis-in this case expressed in wages that had very reduced purchasing power (Carranza Valdés 1992; Iglesias-Caruncho 1994). Prices in official channels were still well within the reach of most consumers. Yet in the early to mid-1990s, the black market was so important for meeting the consumption needs of most sectors of the population, price changes there had the greatest negative impact on purchasing power. Between 1991 and 1993, the average rate of

inflation in the black market was calculated at 700 percent, with some key items (e.g. chicken, pork, eggs, soap, and cooking oil) experiencing inflation rates of 1000 percent during this period. Even after the opening of the Agricultural Markets (see below), the prices for consumer goods in non-official markets remained significantly higher than official prices. With wages remaining stagnant, the incentive to work for a salary had clearly diminished. Given the fact that agricultural labor is harder on workers than most other types of jobs and continues to have a low status, it is not surprising that potential laborers chose other options and farmers were forced to provide extra incentives to insure their labor needs were met.

Self-provisioning is also occurring at another level. In addition to the officially organized self-provisioning areas and livestock modules geared toward those employed on state farms, another option has opened up in unused areas on these farms for workers and non-workers alike. On October 1, 1993, the Cuban government ratified a series of measures that included a provision for retired people, and for others who are able to demonstrate justifiable cause for not being incorporated into agricultural production in another form, to have usufruct rights for cultivating a small area of land (its size depending on the number of members in the family) on state farms.

According to Deere et al. (1994), the loaning of parcels to workers and non-workers had been taking place since at least early 1992. Moreover, she and her co-authors speak of land takeovers occurring to establish these parcels, as well as their more orderly distribution by state farm managers. The takeovers indicated a strong demand for land for self-provisioning, a phenomenon corroborated by a MINAGRI official who estimated that around 5,000 applications for usufruct rights to a small parcel had been submitted to the ministry in the first few months after this legislation was enacted. By April 1998, usufruct rights for 10,943 hectares had been given to 45,804 people-known as parceleros-so that they could engage in self-provisioning. The objective of this policy has been to ease the pressure on official channels of food distribution, as well as to reduce potential discontent about food shortages, by permitting people to grow their own food.

Basic Units of Cooperative Production

Self-provisioning also represents a central aspect of the new organizational structure established on many former state farms, the Basic Units of Cooperative Production (UBPC). On September 29, 1993 it was announced that many state farms would be turned over to those who worked them, to farm them in a collective fashion with usufruct rights that would extend for an indefinite period of time. There were several impetuses behind this major shift in policy away from state farms and toward cooperatives. Perhaps the most immediate was the disastrous drop in sugar production during the harvest of 1993. From producing an average of 7.8 million tons of processed sugar during the first half of the 1980s, to the 1992 harvest in which 7 million tons were achieved, the harvest fell to 4.2 million tons in 1993. The enormity of this drop, with its many repercussions throughout the economy, required the government to respond in some dramatic fashion,

which it did by announcing the birth of the UBPCs.

Several other issues also undoubtedly came into play, including the long-term, and worsening problem of low productivity among workers on state farms. Low labor productivity has been a widely discussed issue since, at least, the late 1960s. A shifting back and forth between material and moral incentives for work had taken place during this period, with the former largely prevailing after 1970. But productivity problems persisted.

On one UBPC that I visited in the province of Havana, although the personnel chief was loath to specify exactly how many hours workers had formerly put in a day on the state farm that formed the basis for his UBPC, he finally admitted that regular workers had clocked in 6.5-7 hours a day, instead of the stipulated eight hours, and Contingent members 8.5-9 hours, instead of the stipulated ten hours. However, the number of those now working on the UBPC, when compared with the number of workers formerly employed on the state farm that had been located on the same land, suggests even lower productivity than this: 216 as opposed to approximately 625.

The problem of maintaining the labor force also contributed to the decision to transform much of the state farm sector into UBPCs. As mentioned above, this historic problem has been greatly exacerbated in the previous few years because of the falling value of wages. In fact, the UBPC I visited had very few permanent workers (only approximately 11 percent of the work force was permanent) prior to the change in organization, instead relying very heavily on members of the Army of Working Youth (EJT), and long- and short-term volunteers that had been mobilized to work there. By offering workers a share in the ownership of the farms-with a corresponding share in profits-government policy makers hoped to retain former workers, long-term volunteers (i.e. Contingent members), and perhaps even attract new labor from the surrounding municipalities.

But exactly how were these UBPCs to work? What about them was to provide strong incentives for membership in them? Most of the UBPCs set up to date have been established on what formerly made up smaller pieces of the state farms in the area. Their relatively smaller size has facilitated their management as cooperatives. So, in theory, the greater economic benefits that are anticipated in terms of higher productivity and so forth, will be achieved without having to resort to complete privatization. Workers partake in the distribution of any profits that are derived from production and they have a voice in management matters through the UBPC General Assembly meetings. UBPC members become owners of their production, but not of the land. In the process they, as an UBPC, purchase with bank credit the equipment and crops previously belonging to the state-owned granja located there. Nonetheless, given that they are only provided with usufruct, as opposed to ownership, rights, they are not required to pay for the land worked by the UBPC-either in the form of rent or a mortgage.

However, the UBPCs are not completely autonomous farms. They remain under the sponsorship of the state farm enterprise from which they were formed. Concretely, this means several things, including: 1) whereas CPAs and CCSs look to ANAP and a

specific branch of MINAGRI to provide them with farm inputs, facilitate machinery purchases, etc., the UBPCs rely on the state farm enterprise that sponsors them for these types of assistance; and 2) they are not entirely free to make their own production plans-i.e. choose what they will grow-instead, they continue to coordinate this with their state farm enterprise. On an UBPC that I visited in May of 1994 this particular issue was the source of some tension within the UBPC and between the UBPC and its state farm enterprise. The latter wanted this recently formed cooperative to maintain the production plans drawn up earlier to extend its acreage in the UBPC's principal crop, plantain, while UBPC members preferred to move ahead with planting self-provisioning crops in this same area. Ultimately, a compromise was reached, but a precious six months (one crop cycle) had been lost before the members were permitted to move ahead with planting subsistence crops.

With regard to sponsorship by the state farm enterprises, the UBPCs were to be subsidized for the first three years of their existence, by the state in general, and provided with various resources free of charge by their respective state enterprises. It was taken for granted that some time would be required before the UBPCs would be profitable and entirely able to stand on their own economically. In essence, they represented an intermediate form of organization located somewhere between state farm granjas and CPAs.

The UBPCs' membership would be composed of former workers, Contingent members, and others who were willing to participate in this experimental organizational form. Shortly after the UBPCs were legally constituted as an alternative form of organization, it was estimated that approximately 60 percent of those in Contingents were willing to join them. The principal incentive that the UBPC held out for potential members was the food products that they would have access to through the cooperative's self-provisioning plot and its livestock module. In interviews that I conducted with three UBPC members, they all mentioned this as something that was very important to them and as a reason for why they felt positive about having joined the UBPC. One early estimate put the number of people who would potentially benefit by having greater access to food through the formation of the UBPCs (including members and their families) at three million. Even if the number of beneficiaries does not reach this high when all of the UBPCs that are planned are fully functional, they will still, in all likelihood, improve the food security of a large population. At the same time, they will facilitate the incorporation of a sector of the population into agricultural production that might not otherwise participate, helping to resolve the labor shortage dilemma.

By late spring of 1994, just seven months after the legislation that created the UBPCs was enacted, 100 percent of the state-owned sugar farms had been transformed into UBPCs. In the non-sugar sector significant advances had also been made: by May 10, 1995, 971 UBPC had been formed of the 2,656 that were projected; and by the end of 1997, the non-sugar UBPCs had reached 1,576 in number. At least initially, more of these were in the livestock sector, but UBPCs had also been established on mixed cropping farms (which grow root crops, vegetables, and plantain/bananas), and other food crop farms. Clearly,

the strategy of moving to smaller-sized farms and shifting from state-owned to cooperative production was proceeding apace.

"Vinculando el hombre con el area"

A further scaling-down that is currently underway in Cuban agriculture has been the emergence of a new concept of how to organize production in the CPA and UBPC sectors, which is known as "linking the worker with an area." In its essence, it consists of the formation of small work teams (typically four people), who are responsible for the entire production process in one relatively restricted area, one caballeria or 13.4 hectares. The goal is to provide them with an incentive-in the form of receiving a certain percentage of the profits derived from yields surpassing a basic level in their area-so they are committed to insuring their production reaches its full potential.

The principle behind this approach to organizing production is not entirely new. The concept underlying it was first articulated as early as 1981, with the formation of the Permanent Production Brigades in the state farm sector (Kay 1988). From the 1960s in which there was virtually no relationship between either the quantity or quality of work and the salary received, the relationship between work completed and wages paid became increasingly linked over the course of the 1970s. With the formation of the Permanent Production Brigades, this relationship was further refined to assigning a specific group of workers to a particular field or group of fields. Wages would reflect production levels in the area under their responsibility. The objectives behind their formation were to increase worker productivity and yields, and improve the maintenance of soil fertility in assigned areas. But a typical Brigade might include 75 members, and the area under their control still represented that of a medium- to large-sized farm.

Behind the reorganization of workers into Permanent Production Brigades in the 1980s, and the current further scaling-down of production unit size, lies the implicit recognition that production levels are higher on smaller farms-especially those of cooperatives or individual farmers. In describing the situation in the early 1980s, Medea Benjamin et al., speak of one area where onions were grown in which yields were 50 percent lower on state farms than on private farms (as related to them by the state farm administrator). Moreover, production costs on state farms were notoriously high compared to those of cooperatives, and the latter were nearly all profitable while almost none of the former were.

In the 1990s, with high input agriculture confronting serious limitations due to shortages of supplies, and lower input approaches being best suited for smaller-sized farms, scaling-down the size of production and increasing the link between the farmer and the land have come to be seen as important means of alleviating the agricultural crisis. Yet, the worsening problems of labor productivity and shortages played similarly decisive roles in contributing to this policy shift. Now with widespread support for this new emphasis in production organization, both ANAP and MINAGRI are promoting its adoption. ANAP

was clearly the forerunner here, however, through its earlier campaign to organize cooperatives as an alternative to state farms.

Application of the concept of linking the worker to an area of production is still in somewhat of an experimental stage. But movement in this direction, or planning for it, can be found on most UBPCs and CPAs. On an UBPC I visited, a month earlier a group of four members had been assigned to take complete responsibility for one caballeria. They were being paid strictly according to what they produced in this area. Their wages so far averaged about 25 percent higher than those of other UBPC members as a consequence. The UBPC's administrators were contemplating offering them even higher wages if their production increased further. They calculated that the UBPC would still come out ahead, even with the proposed wage hikes, given the higher production levels. Illustrating production level differences, the UBPC's personnel director estimated that the average CPA would have routinely assigned ten members to an area this size-or seventeen workers on a state farm-in order to obtain the same amount of production. They definitely planned to expand this type of organization elsewhere on the UBPC, but over an extended period of time, so that they could keep mistakes arising from the change to a minimum.

On a CPA I visited in this same area, the membership had agreed to organize part of the cooperative's land in this manner. Members assigned to a particular area would be able to keep approximately 30 percent of the profits earned from their production, on top of the other payments they normally received. Those who were working in plantain/banana production on this CPA were already linked more closely with these crops' production; their assignment to this crop group was fixed and they did not rotate to other areas like most fieldwork brigades in the CPA. A group of five of the members of yet another CPA were entirely responsible for the small area of grapes grown on their CPA. All of these members were older men, who would probably no longer have been assigned regular tasks among the fieldwork brigades. When they were assigned to this area, they received specialized training in cultivating grapes. But "linking the person with an area" had yet to become the norm on the CPA as a whole.

All who favored this new strategy of organizing agricultural work, from government planners to those engaged in administering CPAs and UBPCs, thought that the process of conversion from large scale to small scale production areas should proceed very gradually and spread by example. If the change was imposed from above, its whole purpose would probably be defeated. That purpose was, as one CPA president described it, "so that each person feels even more like she/he is the owner of the land she/he farms." Clearly, the objective behind this shift in organization is to move toward approximating the close relationship a small farmer has with his/her land-especially in terms of the productivity and production levels yielded by such a relationship. Yet, this objective was to be moved toward in the context of a work group so that the collective orientation that has underlain the reformed sector of Cuban agriculture until now is not lost.

The "Tiro Directo"

Another key area in which change has taken place in the agricultural sector is that of local produce commercialization. To date, this change has taken two principal forms. The first was begun in the early 1990s and was known as the "tiro directo" (or "direct throw"). This commercialization arrangement involved an agreement between a specific CPA and a central market or neighborhood produce center (Agro). Instead of delivering the CPA's produce to Acopio (the state marketing and distribution agency) and letting it take responsibility for the goods' distribution, a step in the chain of distribution was eliminated. At least in theory, the produce reached consumers more quickly through the tiro directo. In return for this service, the CPA received payment for transporting the goods, in addition to payment for the produce itself.

While certainly not doing away with Acopio entirely, the tiro directo represented another example of the move away from the "bigger is better" approach to agricultural production and commercialization. By taking produce directly from the field to urban markets, a statement was being made that-especially given the perishable nature of the goods involved-the job of transporting them can, in all likelihood, be accomplished more efficiently when it is undertaken on a smaller scale. Moreover, this arrangement also reflected the implicit recognition that the producers themselves can contribute to resolving distribution problems in a way that the state is unable to.

Formally, the tiro directo only operated between the Province of Havana and the capital. Moreover, not all CPAs were privy to this arrangement. According to an ANAP official working in the area of food crop production, only eight to ten CPAs engaged in transporting their produce directly to urban areas. But in other parts of the country, similar arrangements existed without the label of "tiro directo" being applied to them. According to another ANAP official, in some smaller towns this kind of informal tiro was the only source of produce for those who lived there.

The relatively limited extension that the tiro directo system reached before its effective replacement by other mechanisms belied the interest that existed in the cooperative and UBPC sectors to engage in more direct commercialization of their produce. That interest stemmed from several sources. First, farmers had clearly experienced limitations in terms of Acopio's ability to insure that produce was picked up from the fields at the appropriate time so as to guarantee that it entered the chain of distribution in optimal condition. These limitations appeared not to be new: one CCS president spoke of problems with Acopio's produce pick-ups existing as long ago as the mid-1980s. But they were exacerbated in the 1990s with the growing shortages of fuel, tires, spare parts, and so forth. Second, because producers are paid according to the value of their produce once it has been picked up, instead of when the farmer first has it ready for Acopio, farmers have been concerned about the reduction in its value due to late pick-ups. Finally, given the problem of theft that has characterized Cuban agriculture during the 1990s, once a crop has been harvested it has to be guarded until Acopio arrives. One UBPC administrator complained of the extra work time lost to guarding produce that resulted from Acopio's vehicles arriving

after the appointed time, which might mean several days, rather than hours.

In order to reduce losses deriving from such limitations on Acopio's part, farmers have begun to take matters into their own hands. When produce quantities are small enough to fit in their own vehicles, the producers themselves often deliver to Acopio, instead of waiting for Acopio to reach them. One analyst predicted that with the sub-division of state farms into UBPCs and the overall trend toward smaller-scale production, farmers would be increasingly encouraged to do this because Acopio would be unable to attend to growing numbers of producers, each of whom has a limited amount of produce.

Nonetheless, producers also regarded the tiro directo arrangement as being economically beneficial to them. They looked at the profits that could be earned by transporting their own produce (because of the fees they could charge for this service) and concluded that they were better off doing this than maintaining a relationship with Acopio. Listening to CPA and UBPC administrators' recitations of what their earnings amounted to with a tiro directo marketing arrangement, it was quite apparent that they thought of their farms as business enterprises-taking into account calculations of profits and losses. Thus, they would seem to have come a long way from attitudes of the 1960s, when economic efficiency was a very low priority in agricultural production.

The state was clearly somewhat reluctant to promote the further spread of tiro directo-type arrangements. In addition to obvious material limitations-for example, in terms of the possibility of providing trucks for all of the cooperatives and UBPCs that might want to participate-an unwillingness to completely eliminate Acopio seems to exist. Although not all of those who are influential in policy making necessarily share this reluctance, those who do have evidently been strong enough to shape policy thus far vis-à-vis this aspect of the production/circulation process.

The Opening Up of Agricultural Markets

An even more significant change in the area of commercialization of agricultural goods has been the opening up of "Agricultural Markets." Their opening was announced on September 23, 1994, and the governmental decree-No. 191/94-that legalized them took effect on October 1, 1994 (Granma 1994; Los Angeles Times 1994; and New York Times 1994). Although initially they were few in number, by the spring of 1998 there were more than 300 Agricultural Markets throughout the country and approximately 65 in the city of Havana alone.

Among the various factors that led to this liberalization was the desire to undercut the operations and effect of the black market that existed for these goods. The black market has existed as long as there have been shortages in Cuba-and shortages first appeared there in the 1960s. In the years of relative abundance-especially in the first half of the 1980s-however, it had much less importance than in times of shortage. Needless to say, it grew exponentially each year after 1990, so that by the early to mid-1990s much of the income of urban dwellers was spent on black market purchases of food products. Given

the increasingly limited supply of goods that were available through official channels, almost all urban consumers were forced to resort to unofficial channels in order to obtain a minimum supply of basic foods. (See Table 1 for a listing of the quota of food distributed through official channels in the springs of 1994 and 1998.) At the same time, extreme shortages of manufactured goods (such as soap, detergent, shoes, clothes, etc.) in the rural areas drove some producers who might not otherwise have participated in black market sales to engage in this kind of "desvio" of their production. Their only means of obtaining these latter goods was by paying inflated prices on the black market.

The gap in producer prices between that offered by Acopio, and that offered in the black market also proved to be a temptation than many producers could not resist. For example, consumers paid $0.20 pesos per pound ($1.00 U.S. was equivalent to $1.00 Cuban peso at the official exchange rate, or $100.00 Cuban pesos at the black market exchange rate in May of 1994) for the rice they purchased through official channels in May of 1994, versus $40 pesos per pound for that bought in the black market during the same period. Given increasing shortages each year between 1990 and 1994-1995, prices for goods in the latter market rose constantly. By mid-1994, black market prices were generally either calculated according to the black market exchange rate for dollars, or purchases had to be made directly in dollars. This was true of manufactured goods, as well as nationally-grown food products. The net result was that consumers who did not have access to U.S. dollars or extraordinarily high salaries were only able to buy small amounts of goods through this market. Thus, an important consequence of food shortages (and those of most goods) and the burgeoning black market, was a notable growth in differentiation in purchasing power.

By mid-1992 the Cuban government had stepped up its efforts to clamp down on the black market. It greatly increased its level of vigilance over produce sales by private farmers through the establishment by MINAGRI of a system of jefes de area who were in constant contact with them throughout the production process and "facilitated" the sales of farm products to Acopio. Moreover, the setting of examples, with occasional application of the "Agrarian Law"-which called for confiscation of the land of producers who failed to sell their produce to Acopio-also played a role in government efforts to reduce the size of the black market (Enríquez 1994). Finally, in August 1993 the Cuban government legalized the holding and use of U.S. dollars by Cuban citizens, legalizing their access to state-owned stores offering food items (as well as most other kinds of goods) for sale in foreign currency. The number of such stores grew dramatically in the years following the enactment of this legislation, in the process making possible the purchase of scarce food items through a channel other than the black market.

Despite the implementation of these various measures, the black market continued to thrive. Its size, omnipotence, and obviousness led most observers to the conclusion that the government was turning something of a blind eye to its existence, contrary to its highly publicized campaign to crack down on it. In a large town surrounded by highly productive farm land in the Province of Havana, I was easily able to observe the marketing activities of those engaged in illegal produce sales near the local train station.

Without a doubt, local authorities were also aware of the functioning of this market, suggesting an implicit recognition that its size was so large that it would be difficult to eliminate and that it represented an important source of food products for a population (which included local police officers and municipal workers) that could potentially become increasingly disgruntled if cut off from even this supply.

Despite being a safety valve for the potential build-up of discontent about shortages, the black market had multiple deleterious effects on Cuban society. To mention only two of these, the black market contributed to the radically accelerating process of social differentiation that had come to characterize Cuba since 1990. Perhaps as important, from the point of view of the socialist society that Cuba was supposed to represent, the mechanisms underlying the black market's functioning-theft of state-owned goods and the completely mercantilist mentality of those participating in its exchanges-clearly weakened its political, ideological, and moral foundations. At a certain moment the majority of Cubans were bound to ask what they were sacrificing themselves in the name of, because this could not have been what was meant by the term socialism.

Whether it was for moral and ideological reasons, or strictly political and economic ones, in September 1994 the Cuban government overcame the resistance held by some sectors within it and opened the way for the country's farmers to engage in marketing their own produce. Moreover, the government has built (where necessary), maintained, and administered the Markets. More recently it has also begun to organize monthly "fairs" in which state enterprises sell their surplus produce at prices which often undercut those of the Markets.

The farmers, in turn, have taken advantage of these opportunities to market their produce, and producers (from all sectors) have received a warm reception from urban consumers. As a result of their opening, access to food products has fundamentally changed for the better for many consumers-despite the high prices that prevail in the Markets. At the same time, black market sales for most products have been reduced.

However, the opening of the Agricultural Markets was oriented towards doing more than undercutting the black market. The decree legalizing their existence explicitly states that their principal goal is to incentivize production (Granma 1994). Farmers would be encouraged to work harder and to produce more if they knew they would be rewarded with extra income for everything produced in excess of their stipulated quotas with Acopio. They are earning extra income both in the sense of getting paid for more produce than what they have been required to sell until now, but also in the sense that prices in the Markets are set according to the law of supply and demand, and thus are significantly higher than those paid in state-regulated agreements (i.e. by Acopio). Provided they have sufficient access to key inputs-which has, by and large, been the case-farmers should feel motivated to overcome the numerous obstacles presented by "the special period."

In addition to stimulating absolute production increases, the Markets also make "excess" goods more available to consumers. This is the case because food products beyond the spare pickings of the consumer quota are now available in clearly specified locations, at

regular times, and in reasonably large quantities, thereby insuring that those with the money to pay for them will have access to them. They no longer have to depend on the vagaries of the black market. This has resulted in these goods being within the reach of a larger population than that which relied on the black market for its food purchases.

Sales in the Agricultural Markets also represent a mechanism for facilitating the larger effort of absorbing the tremendous excess of currency in circulation. A number of mechanisms have been established to achieve this goal in an attempt to control the economy's rate of inflation. Sales in the Markets contribute to both the larger and more specific efforts by increasing the supply of goods that can be purchased in Cuban currency (thereby increasing its value vis-à-vis the U.S. dollar) and through the requirement that produce vendors pay taxes on all of the goods that they bring into the Markets to sell. This last requirement also assists in the campaign to reduce the government's massive budget deficit.

It would appear that the Markets have reached at least some of their objectives. Consumer turn-out has been significant, and with the initial consumer frenzy leveling off, it has become clear that most of the time the supply can meet the demand. By and large, consumers also appear to appreciate the opening of the Markets and consider them to be of considerable assistance in resolving their food problems. Yet, given continuing shortages of food in official channels, prices are quite high in the Markets, which does nothing to undercut the growing pattern of social differentiation and causes resentment among those with less income.

In the early period of the Markets' existence, produce seemed to be in relatively good supply. Moreover, the variety of goods has improved with each passing month, due to the ever increasing presence of private farmers (CCS members and those working household plots and self-sufficiency plots). At first the state farm sector had the greatest presence in the Markets, with its less varied range of goods. But as the fears of private farmers have diminished, their products have entered the Markets and enriched the array of goods for sale. Those fears were undoubtedly a product of both the ambiance in which the Peasants' Markets were closed in 1986, as well as concerns about being seen as having been withholding production until the Agricultural Markets' opening.

Now, not only are farmers being encouraged to market their excess production, they are also being incentivized to sell it where demand is greatest. This is especially true in the city of Havana. The principal mechanism being employed to facilitate marketing in Havana is a differential rate of taxation. Nationwide, taxation ranges from 5-15 percent, but the capital's Markets are at the lowest point on this scale. The government has also made transportation easier and more available for those traveling to Havana's Markets from elsewhere in the country.

Aside from special incentives for farmers to bring their produce to Havana's Markets, the position of the government of opening and promoting participation in the Markets represents a change in policy of significant magnitude. As recently as 1990, most policy makers did not openly admit that the Peasant Markets of the early 1980s had many

positive aspects. While acknowledging that produce had been more available when they were legal, most of those working in any official capacity would be quick to point out their deleterious effects in terms of the tensions generated between workers and farmers (i.e. between consumers and producers) because of their high prices. Yet, in spite of the great potential for a similar dynamic to develop in the country today, the government has firmly embraced the Agricultural Markets as a means of remedying Cuba's food crisis.

A final change underway in Cuban agriculture represents yet another major departure from policies promoted by the socialist government in the past. This change is the acceptance of foreign investment in production and processing in the agricultural sector of the economy. Legal provisions for foreign investment in Cuba first appeared in early 1982 (Decree-Law 50 of February 15), with these being expanded in 1992. But it was not until 1993 that foreign investors entered agriculture. By mid-1994, Israeli investors were partaking in Cuban citrus production and Spanish capital was engaged in the processing of Cuban tobacco. By the spring of 1998 there were 17 such joint ventures in agriculture, representing approximately $60 million (U.S.) in investments. Each such effort involved provision of some combination of capital, inputs, and know-how by the foreign counterpart. Undoubtedly, Cuba's socialist government has opened its doors to this kind of enterprise as a result of the crisis that is affecting the economy as a whole, and agriculture in particular. At this point, foreign capital is not permitted to purchase agricultural land. But should the crisis worsen, that could be the next step.

CUBA'S AGRICULTURAL TRANSFORMATION IN COMPARATIVE PERSPECTIVE

The reentry of foreign capital into the Cuban countryside is only one of the various dramatic changes that have been initiated in agricultural policy in recent years. No less dramatic were the down-scaling of agricultural production and its shift toward collective- as opposed to state-ownership, the move toward self-provisioning on all farms, and the partial institutionalization of short-cuts in the official system of produce commercialization that exclude the principal state purchasing/distribution agency.

The clear preference of policy makers during the first three decades of socialist government was toward what has been termed the classical model of agricultural development. That model, based on strategies pursued in more developed countries-most especially, in the former USSR-emphasized economies of scale combined with a high input approach to production. Several additional aspects of Cuba's agrarian sector prior to 1990 were common components of agricultural policy in other socialist countries besides the USSR, including the collectivization of production-typically in large-scale form-and the assumption of control over produce marketing by state agencies. Each one of these aspects has undergone some modification in the past few years in Cuba, adding up to the agricultural transformation described above.

Cuba's shift away from some of the key aspects of what has come to be thought of as socialist agriculture has coincided with similar processes that are, or have been, taking place in a number of former and current socialist countries. While the changes initiated in the Cuban countryside bear a resemblance with some of those occurring elsewhere, there are also important differences between Cuba and the other cases. Let us briefly review the nature of these resemblances and differences, to see if a new model of "socialist agriculture" is emerging that is common to those countries still purporting to have socialism as an objective, a model that might represent a more appropriate strategy of development in light of the many weaknesses inherent in the formerly predominant one.

Probably the most important change that Cuban agricultural policy has in common with a number of former socialist countries, as well as several countries that continue to be identified as socialist, is that of a move away from the very large production units that reigned supreme in the heyday of socialist regimes. Although the former Soviet Union is the only socialist country besides Cuba to have been characterized by the major role played by state farms in the agrarian sector (Deere 1986), a general trend is identifiable even in those countries where cooperatives had been preponderate towards reorganizing production into smaller unit sizes.

In the case of the former socialist republics of Eastern Europe, this trend has been part and parcel of the overall process of privatization of property taking place there. This can be seen especially clearly in the cases of Hungary and Czechoslovakia; despite notable distinctions between them, in the recent past they did share the existence of a strong cooperative sector (Swain 1994; Swain 1993). These countries' collectivized farms were, for the most part, organized into large-scale, factory-style production units that had a complex division of labor and in which the "members" were in many respects similar to wage workers.

With the transition away from socialism that began in Eastern Europe in 1989-1990, a process of privatization of collective property was initiated. In Hungary and Czechoslovakia this process has had two fundamental aspects: the restitution of properties confiscated during earlier "agrarian reforms," with compensation being in money or bonds or land; and the "personalization of cooperative property." It has yet to become clear what percentage of former cooperative members will opt to continue to farm their now privatized land in a collective fashion. Given the broad spectrum of participants benefiting from the respective restitution processes (besides those who had been cooperative members in 1990), the large-scale units that had made up the cooperatives in each country during their socialist eras will undoubtedly experience a significant downsizing.

In contrast, the process of downsizing of cooperative production is already notably advanced in two Asian socialist republics, China and Vietnam. This process was initiated in both countries in the late 1970s and has been much more gradual than those of Eastern Europe and Cuba. In the former two cases downsizing through decollectivization was begun in response to a crisis in agricultural production that policy makers believed could

be resolved through the adoption of measures deemed to allow greater freedom to the peasantry (Werner 1984; Watts 1995; Bramall 1993; and Gray 1982).

In China decollectivization was set in motion with the establishment of a new system of contracting out farm production, which replaced the previous system in which commune leaders oversaw the entire production process and members carried out tasks assigned to them. Households, or groupings of them, have since become the most common unit of production, although Bowles and Dong note that by the early 1980s "village collectives" were once again on the increase. In Vietnam, a sub-contracting system was also set up that came to rely heavily on households as the key unit of production. Thus, in both cases, large-scale production on collectivized farms has given way to forms of production which, although admittedly somewhat varied in their make-up, are clearly of a more small-scale nature.

In addition to sharing the shift from large-scale to smaller size units of production with a number of former and current socialist countries, Cuba also has followed the growing trend within this group of nations toward reintroducing some elements of a market economy into agriculture. Where state controlled marketing of agricultural produce predominated in almost all of these regimes in the past, each has moved in varying degrees towards liberalization of domestically-oriented marketing. This process has been of a piece with the changes that have characterized production relations in each case.

For Eastern Europe, the introduction (or expansion, in the case of Hungary) of market relations in the commercialization of agricultural produce was part of the overall package of reforms that brought these countries back into the realm of capitalism. Despite the call for agricultural support policies in Hungary, Czechoslovakia, and Poland, the general thrust of the agricultural strategies adopted by post-socialist regimes there has been to permit the market to determine prices, dictating the farmers' success or failure.

In China, as was true in a number of other cases, state control over produce marketing had long been a highly contested aspect of agrarian policy. In spite of any concerns for the well-being of the peasantry that might have motivated the establishment of a state monopoly in produce marketing, over time it became an arena of struggle between the state and the peasantry. The loosening of state control over grain marketing there and in Vietnam-which began in the late 1970s-has been credited with playing a major role in notable production increases since that time (Bramall 1993; Oi 1989; and Watts 1995). It was precisely this outcome that was sought by policy makers in Cuba when the decision was made in 1994 to reopen that country's farmers' markets.

Production increases were also the principal objective underlying most of the other major changes characterizing Cuban agriculture, as policy makers there, like their counterparts in other former and current socialist regimes, responded to what had become a crisis in agricultural production. Despite these key similarities, Cuba's transformation differs in important ways from those taking place in some of the other countries. Perhaps the most significant of these differences is that cooperative production is still considered viable in Cuba, even though downsizing is on the agenda for this sector as well.

The decision to convert the previously dominant state farms into cooperatives (UBPCs) underlines the perception held by policy makers there that collective production is not only desirable (for the maintenance of socialist production relations), but also that this sector is capable of insuring increases in production if provided with the proper incentives. Although a novel type of cooperative has been introduced and further systems of accountability of workers have been implemented, land is still considered to be a social good that should be owned and profited from in a collective fashion. The new emphasis on cooperative production in Cuba distinguishes it from changes underway in Eastern Europe, China, and Vietnam. In each of these latter cases decollectivization has become a major tendency, if not the order of the day. The typical result of decollectivization in most of these cases has been a return to household production.

In Cuba, it is only where individual households are provided with access to state farm land that a change has occurred permitting an expansion of family farming. Yet even there, access to land is governed by usufruct agreements and no passing of land titles is being carried out. In strong contrast to the various other cases we have examined, Cuban policy makers remain convinced of the practicality and organizational importance of collectivized agriculture. Nonetheless, within this parameter, the experimentation taking place in Cuba in both UBPCs and CPAs with "linking workers with the land," represents a new, more nuanced approach to "cooperative" forms of agricultural production. This suggests a recognition that small-scale production, in which links between labor inputs and produce outputs are clearly identifiable, will yield better results in production terms. So, despite their continuing preference for cooperative over family farms, Cuban policy makers appear to be acknowledging that factory-style production relations are inferior to those approximating (without arriving at) household production, at least in the present circumstances. It remains to be seen if the transformation underway in Cuban agriculture will eventually go the way of China and Vietnam and open the door more completely to family farming.

A further distinguishing feature of the changes underway in Cuban agriculture, at least with regard to those characterizing Eastern Europe is that restitution or compensation for land confiscated during the former country's agrarian reform is not on the agenda. Even if certain analysts might describe the virtual elimination of state farms as a process of privatization (Deere 1994), it has not been accompanied by, nor has there been mention made of, compensation now being made in any form to those whose land was taken from them by the agrarian reform.

This last distinction is one that Cuba shares with China and Vietnam as opposed to Eastern Europe: Cuba's agricultural transformation is being carried out by a socialist regime whose objective is to fortify its economy and government in the face of serious threats to its existence. The major changes in agricultural policy that were set in motion in Eastern Europe formed part of a larger, societal transformation from socialism to capitalism. In Cuba, as in China and Vietnam, agricultural transformation represents a modification of the socialist model of development, rather than its wholesale abandonment.

As such, Cuban case continues to represent a stark contrast with the majority of nonsocialist Third World countries, in that providing everyone who wants to farm with access to land is a key priority of the Cuban government. This last aspect of Cuban agrarian policy dramatically distinguishes it from the position that has become increasingly widespread in the nonsocialist Third World: that agrarian reform as a strategy is now passé, and what must instead be emphasized is the search for off-farm means of supporting the rural poor. Where de-peasantization is becoming the accepted norm in most places, the Cuban government has launched a concerted effort to make and keep land available for small farmers.

CONCLUSION

Cuba's agricultural transformation has been accompanied by a number of other reforms in economic policy since mid-1993 as part of the government's response to the economic crisis that reached its nadir in the mid-1990s. These included the legalization of holdings and expenditures in foreign currencies and self-employment in certain specified areas; the active promotion of foreign investment in Cuba; the elimination of subsidies on some items of popular consumption; and a move toward implementation of a system of taxation. The outcome of these and other measures will have a notable impact on the effort to bring about the recovery of specific sectors of the economy, such as agriculture. The potential for improving agricultural production contained in the changes that are underway in that sector of the economy, will be conditioned by the degree of stability that is achieved in the economy as a whole. At the same time, recovery in agricultural production will have a major impact on Cuba's overall economic situation.

Moreover, all of the changes implemented in policy making-in agriculture as well as the rest of the economy-will require some time before they are able to produce noticeable positive effects. Such changes, in and of themselves, result in dislocations that cannot be set right overnight.

The urgency of Cuba's agricultural crisis of the early to mid-1990s highlights in a dramatic fashion the fundamental weaknesses inherent in the classical (socialist) model of development that its government adopted more than three decades ago. That model, whose applicability in more developed countries is even open to question, heightened many of the problems already existing in Cuban agriculture. It increased the country's external dependence, while reinforcing its reliance on one crop to fuel international economic relations. At the same time, it exacerbated the rural exodus that had been initiated by the spread of agroexport production, creating a situation in which, once jobs were available in agricultural production, there were few people to fill them.

The transformation that is currently underway in Cuban agriculture is designed to resolve a number of the dilemmas produced by Cuba's classical model of development. The changes that compose it are quite daring in nature and scope. In addition to perhaps

fulfilling its promise of providing a new stimulus to that country's agricultural production, the maturation of this transformation will allow us to assess the potential inherent in Cuba's new approach to agriculture for offering policy-oriented and theoretical alternatives for those concerned with agricultural development elsewhere in the Third World.

TABLES

TABLE 1. Guaranteed Quota of Food Products Per Capita (Studies done May 25, 1994 and April 15, 1998)				
	1994		1998	
Product	**Quantity**	**Frequency**	**Quantity**	**Frequency**
Rice	5 lbs.	per month	5 lbs.	per month
Sugar	6 lbs.	per month	3 lbs.	per month
Coffee	1 oz.	bi-monthly	1 oz.	bi-monthly
Beans	20 oz.	per month	16 oz.	per month
Cooking Oil	.5 lb.	per month	.25 lb.	every 4 months

TABLE 2. Non-Guaranteed Food Products Per Capita

(Studies done May 25, 1994 and April 15, 1998)

	1994		1998	
Product	**Quantity**	**Frequency**	**Quantity**	**Frequency**
Beef (for each child under 6 years of age)	.5 lbs.	per month	no information	
Chicken	no information		1 lb.	every 2 months
Fish (for each 3 persons)	2 lbs.	per month	1 lb.	per month
Eggs	4 units	3 times/month	6 units	per month
Ham or Soy Meal	6 oz.	bi-monthly	1 lb.	every 3 months
Bread	1 roll	daily	1 roll	daily

TABLE 3. Seasonal Availability *(Quantities and frequency depending on availability.)*	
1994	**1998**
Bananas	
Cabbage	
Carrots	
Corn	
Cucumbers	
Garlic	
Grapes	
Lettuce	
Plantain	
Potatoes	Potatoes
Sweet Potatoes	
Tomatoes	Tomatoes (Every 3 months)

TABLE 4. Goods Occasionally Available	
1994	**1998**
Additional Coffee	Additional Coffee
Cinnamon	
	Corn Flour
Pasta	Pasta
Salt	Salt
Wine, Dry	Wine, Dry
Yogurt	

ENDNOTES

1. The author visited and conducted fieldwork there each year between 1990 and 1994; and returned there for an update visit in 1998.
2. Archibald R. Ritler, The Economic Development of Revolutionary Cuba (New York: Praegor, 1974).
3. CEE (Comité Estatal de Estadísticas), Anuario estadístico de Cuba (La Habana: Editorial Estadística, 1989), Table XI.8.
4. Medea Benjamin, Joseph Collins, and Michael Scott, No Free Lunch: Food and Revolution in Cuba Today (Oakland: Food First Books, 1984), pg. 9.
5. It was more positive in the sense that the Soviet Union (and the COMECON as a whole) paid consistently better prices for the country's sugar and offered several-year purchase agreements that permitted for economic development planning.
6. For various points of view on the degree and nature of Cuba's dependency on the Soviet Union and the COMECON, see Mesa Lago (1981); Leo Grande (1979); and Pérez-López (1989).
7. Lage Davila (1994) provides a nice description of the development of Cuba's citrus crop as a response to the existence of a niche within the COMECON as citrus supplier.
8. Calculated from Anuario estadístico de Cuba, Table XI.5.
9. Pérez-López (1991) and Deere (1992) differ as to the extent to which these figures can truly be understood as pointing to a drop in dependence on imported food. Rather than dwell on the absolute number, it is the trend that I am interested in demonstrating.
10. Enrique Pérez Marín and Eduardo Muñoz Baños, "Agricultura y alimentación en Cuba," Agrociencia, serie Socioeconómica, 3, 2 (May-August 1992): 2; Luis A. Cardet Hernando, "El programa alimentario: su estrategia económica," Cuba Económica 1, 1 (April-June 1991): 40.
11. As Brian H. Pollitt and G.B. Hagelberg ably demonstrate in "Labour Supply, Harvest Mechanization, and the Demand for Cuban Sugar" (occasional paper, No. 54, Latin American Studies, University of Glasgow, 1992, pg. 17), the need to respond to growing labor shortages gave rise to the search for means to mechanize the various stages of the harvest, culminating in slightly more than 70 percent of the 1989-1990 harvest being cut mechanically.
12. Forster and Handelman (1985) and the Anuario Estadístico de Cuba (any issue) demonstrate the weight of peasant producers in food crop production; and Lehmann (1985) and Burnhill (1985) speak of the consequences of the prioritization of state farms over private sector production.
13. See Pérez Marín and Muñoz Baños (1992) for figures illustrating the dropping rate of rural residency between 1970 and 1989.
14. Laura Enríquez, The Question of Food Security in Cuban Socialism (Berkeley: International and Area Studies, University of California at Berkeley, 1994), pg. 22.
15. Anuario estadístico de Cuba , Tables XI.3 and XI.4.
16. Ibid., Tables VIII.8, VIII.14, VIII.15.
17. An additional area that self-provisioning has reached into is what has come to be known as "urban agriculture." Given the predominantly rural focus of this paper, I will not address this new avenue of food crop production. For further information, see Murphy (1999).
18. In fact, by mid-1992, a full 90 percent of the CPAs had set up modules containing sheep, goats, pigs, rabbits, dairy cows, chickens, and ducks (The Question of Food Security in Cuban Socialism, pg. 40).
19. Personal interview with CCS member, Güira de Melena, May 21, 1994.
20. One CPA president also pointed to the self-provisioning offered by his cooperative as the reason behind the new interest shown by many in joining the cooperative (Personal interview, Province of Havana, May 24, 1994).
21. Manuel Iglesias-Caruncho, "Cuba en la mitad de los noventa: Medidas de reforma y reinserción internacional," Tiempo de Paz 1994: 92.
22. MINAGRI (Ministerio de la Agricultura), Legislación sobre las Unidades Básicas de Producción Cooperativa, Atendidas por el Ministerio de la Agricultura (La Habana: MINAGRI, 1993), pg. 4.
23. Personal interview with MINAGRI economist, June 2, 1994.

24. Unpublished data from MINAGRI, April 14, 1998.
25. See also Figueroa Albelo (1996); and Pérez Rojas and Torres Vila (1996) for discussion of the reasons behind the formation of the UBPCs.
26. These figures were taken from Iglesias-Caruncho's "Cuba en la mitad de los noventa," pg. 88. However, it should be noted that in an interview with Granma, Carlos Lage Davila (a member of the Political Bureau of the Cuban Communist Party and Secretary of the Executive Committee of the Council of Ministers) cited the figure of 4.3 million tons as the amount of sugar harvested in 1993 (Granma, "Nos sentimos esperanzados porque tenemos seguridad en las medidas que estamos aplicando, en los pasos que estamos dando." Interview with Carlos Lage Davila, October 30, 1993b: 3).
27. Personal interview, May 27, 1994.
28. Personal interview with UBPC administrator, May 20, 1994.
29. Ibid. Labor mobilizations of both a short and long term nature grew dramatically after 1990, in response to increased labor shortages and the augmented demand stimulated by expansions in food crop acreage resulting from the Food Program's implementation. The number of people mobilized had reached 600,000 by the end of 1992 in Havana province alone (The Question of Food Security in Cuban Socialism, pg. 27).
30. Each state farm enterprise was composed of a number of granjas (farms) and these granjas have been the basis of the UBPCs. However, it should be noted that some UBPCs have also been formed on previously uncultivated plots of land in urban areas.
31. In a presentation to the Sub-Committee on Agriculture and Hunger of the U.S. Congress, Carmen Diana Deere ("Implicaciones Agrícolas del Comercio Cubano.") characterized the transformation of state farms into UBPCs as being virtually equivalent to privatization.
32. Personal interview with UBPC administrator, May 20, 1994.
33. "Nos sentimos esperanzados porque tenemos seguridad," pg. 7.
34. Personal interviews, May 27, 1994.
35. "Nos sentimos esperanzados porque tenemos seguridad," pg. 7.
36. By the spring of 1998 approximately 130,000 people were incorporated into UBPCs in the non-sugar sector of agriculture; the figure for the sugar sector by mid-1995-when the sector had been completely transformed into UBPCs-was 133,685 (Personal interview with MINAGRI official, April 10, 1998; and Beatriz Díaz, "Cooperativización agrícola reciente: Estudio de caso en Cuba," respectively). If these figures are multiplied by the average family size in rural Cuba of 4.5-5, the total number of people benefited would be between 1,186,583 and 1,318,425.
37. Personal interview with MINAGRI official, May 10, 1994.
38. Unpublished data from MINAGRI, 1994; and personal interview with MINAGRI official, April 10, 1998.
39. Cristobal Kay, "Recent Developments in Rural Cuba: Collectivization, Economic Reforms and Rectification," Bulletin (EADI-European Association of Development Research and Training Institutes, 1988) 1: 10.
40. No Free Lunch: Food and Revolution in Cuba Today, pg. 171.
41. Forster (1982) and Lehmann (1985) also describe the dramatic differences in productivity between these sectors.
42. Personal interview, UBPC, Province of Havana, May 27, 1994.
43. Personal interview, CPA president, May 24, 1994.
44. Ibid.
45. One promoter of this strategy suggested that it should also help to cut down on thefts, as those responsible for an area will have a concrete interest in insuring that precautions are taken to prevent them.
46. In fact, one of this strategy's strong promoters pointed to the risk of losing the sense of collectivity inherent in it and the consequent need to move slowly in its implementation (Personal interview, ANAP national office, June 2, 1994).
47. Personal interview, April 15, 1998.

48. It should be noted that this figure had remained constant since 1994 (Ibid.; and personal interview with ANAP official, June 2, 1994).
49. Personal interview, May 31, 1993.
50. The same problems also appear to exist vis-à-vis the state purchasing agency that was responsible for distributing produce to the tourist sector of the consumer population.
51. Personal interview, Province of Havana, May 25, 1994.
52. This phenomenon has existed for some time in Cuba, but clearly increased in the early 1990s. Certain kinds of goods are particularly subject to theft, including garlic, potatoes, plantain/bananas, and arum root. Even more vulnerable than produce in this regard are various species of livestock, most especially cows and oxen. Some stolen goods may be consumed by those who steal them, but most are destined for the black market.
53. Personal interview, May 20, 1994.
54. Personal interview with MINAGRI official, June 2, 1994. Personal interviews with UBPC administrator, May 20, 1994; and CPA economist and agronomist, May 24, 1994.
55. See No Free Lunch: Food and Revolution in Cuba Today.
56. In a radio program aired in the Province of Havana on May 22, 1994, a recording of a speech given by Raul Castro Ruz was played in which he lambasted Acopio, calling it a "white elephant," among other things.
57. Personal interview with ANAP official, April 13, 1998.
58. While noting these prices, it is important to bear in mind that most salaried positions provide wages that make purchases in the black market very costly-a veterinarian earns approximately $250 pesos a month, while a law professor earns approximately $310 pesos a month.
59. On May 1, 1994 the government announced its new campaign to crack down on the macetas, who were the biggest operators in the black market. In the following weeks, several very heavily publicized arrests were made based on the May 1 decree.
60. There are a number of items whose sale is not permitted in the Markets. They are the following: beef, horse or mule meat, tobacco, coffee, cacao, potatoes, and milk. The rationale behind this prohibition are the extremely limited supply of some of these items or that their production is geared for the export market.
61. See especially Julio Carranza Valdés, "Cuba: Los retos de la economía," Cuadernos de Nuestra América 19 (October-December 1992): 131-158.
62. In addition, government currency exchange houses have been set up near most of the Markets-facilitating the exchange of dollars earned through remittances, in the tourist sector, etc. -which contribute to sales in the Markets.
63. Torres and Pérez (1994) note, however, that demand in some of the markets at least initially outstripped supply.
64. Although prices have dropped notably since the Markets were first opened, the difference between official prices and those for goods sold in the Markets is still dramatic. For example, rice is sold through official channels for 0.20 pesos a pound and in the Market for 6-7 pesos a pound; plantain is sold for 0.45 pesos a pound in official channels and at 1 peso per plantain in the Market; and carrots sell for 0.40 pesos a pound through official channels and for approximately 1.66 pesos a pound in the market (based on prices in the Mercado Agropecuario, Plaza, 4 April, 1998).
65. See especially Cary Torres and Niurka Pérez, "Mercado Agropecuario Cubano: Proceso de Constitución," Economía Cubana: Boletín Informativo, 18 (November 1994): 29-42.
66. State farm participation in the Markets represents one, if not the, principal difference between the current Markets and the Peasants' Markets of the early 1980s.
67. On the Peasants' Markets of the early 1980s see Rosenberg (1992); Deere and Meurs (1992); and Figueroa Arbelo and García de la Torre (1984).
68. The figures for 1998 are from a personal interview with MINAGRI official, April 10, 1998.
69. As of November 1993 foreign capital was permitted to purchase up to 50 percent of industrial facilities (Granma, 1993), so it is not unimaginable that a similar course might be pursued in agriculture. In a lengthy interview with the editors of Time Magazine ("Castro's Compromises,"

February 20, 1995), Fidel Castro implied that foreign ownership of agricultural land might soon become legal. Yet as of this writing, this is still not the case.

70. It should be noted here that the Hungarian agrarian sector had a greater presence of family farms than was true of Czechoslovakia and that agricultural policies in the former country were significantly more liberal than in the latter (cf. Nigel Swain's Collective Farms Which Work? and "Transitions from Collective to Family Farming in Postsocialistic Central Europe: A Victory of Politics Over Sociology.").
71. Bowles and Dong, as cited in Michael Watts, "Agrarian Thermidor: Rural Dynamics and the Agrarian Question in Vinh Phu Province, Vietnam." Unpublished manuscript, 1995.
72. See especially Jean C. Oi, State and Peasant in Contemporary China: The Political Economy of Village Government (Berkeley: University of California Press, 1989).
73. It should be noted that in addition to the land made available through usufruct rights for self-provisioning, usufruct rights to land have also been granted to those willing to cultivate coffee, cacao, and tobacco. As of April 14, 1998, 78,137 hectares had been made available in this form for coffee and cacao production; and 41,605 hectares for tobacco production (Unpublished data from MINAGRI, 1998). All of these crops are grown for export.

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