The Restructuring of Cuba's Sugar Agro-industry: Impact on Rural Landscape and Communities

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Abstract

In mid-2002, the Cuban government announced a radical transformation of its sugar agro-industry. The element of the restructuring plan that has received the most attention is the initial shutting down of 71 of the nation's 156 sugar mills, and the assignment of 14 others to produce sugar derivatives. This was followed by a second announcement of additional closings, thereby further reducing the sugarcane-milling capacity of the industry. Less attention has been given to the shift of land from sugarcane to other crops, and to the elimination of about 100,000 sugar agro-industry jobs, which together have resulted in drastic changes in Cuba's rural landscape and communities.

This article intends to fill that void. The first part provides economic context for the restructuring process. The second part describes the impacts of restructuring on grinding capacity, geographic distribution and the rural landscape, and labour redeployment. The third part analyzes some results of the restructuring process, including sugar production, agricultural diversification, and labour and community adjustments. The paper ends with some thoughts about the planning and implementation of the restructuring process and the future of the Cuban sugar agro-industry.

1.0 The Economic Rational For Restructuring

The Cuban sugar industry was in the doldrums in the 1990s (Pérez-López and Alvarez 2005a)Faced with a large and unwieldy sugar agro-industry starved for investment, and unwilling to take unpopular action to downsize the industry by shutting down redundant capacity, beginning in the mid-1990s the Cuban government adopted a policy of temporarily shutting down some 45 mills during the harvest season (Varela Pérez 2004a), spreading the pain of economic idleness across the country.

Since about the same time, Cuban authorities had been contemplating a drastic restructuring of the sugar industry, including the possibility of permanently closing down some sugar mills, and turning some sugarcane lands to other agricultural uses. The delays in implementing those changes were in large part the result of the

very centralized decision making process at the Ministry of Sugar (MINAZ), an institution that has been insulated from most of the economic reforms that took place in the 1990s (Sperberg Fuentealba 2002). A Cuban economist (Fernández Font 2000, p. 232) set out the paradigm shift behind the restructuring of the sugar industry:

> ... considering today's international economic context and what can be foreseen, and the fact that prices of the so-called basic commodities have been falling in international markets, it is difficult to envision that, at least in the medium term, Cuba would again return to production levels of 7-8 million tons of sugar per annum, the pattern of the 1980s. It appears that a restructuring of the industry is required, a restructuring that places greater importance on efficiency, costs, and profits over the strictly quantitative output targets pursued under the earlier model.

In 1997, MINAZ began to develop a short-term plan for the industry through 2002 and a longer-term plan through 2010 (MINAZ 1999). The objectives of the plans were (pp. 2-3):

- To raise sugarcane production and sugarcane yields per hectare.
- To raise the efficiency of sugar production and to reduce costs.
- To concentrate sugar production in the about 100 agroindustrial complexes with highest industrial yields and best-suited soils for sugarcane production.
- To convert other sugar agroindustrial complexes into producers of specialty sugar products, energy, and sugar by-products.
- To diversify output of the sugar agroindustrial complexes in favor of high value-added products suitable for domestic sale in hard currency and for export.
- To prioritize energy generation from bagasse (biomass) within the sugar agro-industry.

According to CEPAL (2000, p. 373), the plan contemplated production of 5.5 million tons of sugar in 2002, from the 90-100 agroindustrial complexes deemed to be most efficient. The plan also foresaw converting 30 mills from raw sugar to derivatives production. Numerous other organizational changes in agricultural, industrial, transportation, and marketing activities were also anticipated.

As the sugar agro-industry continued to falter between 2000 and 2002, the need to implement the restructuring plan became more apparent than before. Nevertheless, the decision by the Cuban government, in April 2002, that about half of Cuba's 156 sugar mills would be closed permanently took most analysts by surprise. Cuban officials offered three justifications for the drastic restructuring program: (1) depressed world market sugar prices; (2) negative outlook for the world sugar market; and (3) the Cuban sugar agro-industry's excess capacity, well above current and future needs.

Drastic changes in the world sugar markets compelled the sugar industries of other nations to undergo a restructuring process around the time of Cuba's announcement. A partial review of the literature reveals a wide range of state and neoliberal prescriptions in contrast with Cuba's persistence in strengthening state

control. The nearby Caribbean presents a mixed scenario. In the Dominican Republic, the restructuring program initiated in 1999 involved the privatization of all sugar mills along with diversification of sugarcane lands and an emphasis on sugar byproducts and derivatives (Peña 2005). A similar path was followed by Trinidad and Tobago in 2003, while Brazil announced in 2005 that it would assist Barbados in restructuring its sugar industry (Bennett 2005). St. Kitts and Nevis has taken steps to close part of its industry, and the rest will need to be restructured in order to survive (Mitchell 2005). Guyana's sugar industry implemented a restructuring program earlier on, in 1993-1996, under the guidance of the World Bank (World Bank Group, 1993).

With regard to larger sugar producers, a Reform Bill to restructure the sugar industry was passed by the Australian legislature in April 2004 (Government of Australia 2004). Meanwhile, a comprehensive restructuring plan, mainly based on incentives, has been proposed for Fiji (Lal and Reddy 2003). Finally, Doner and Ramsay (2004) analyzed why Thailand's sugar industry has been so successful at adapting to world market changes, but not so at economic upgrading. The reason appears to be the existence of supporting institutions regarding the former and the lack of them with respect to the latter (Doner and Ramsay 2004).

2.0 The Restructuring Plan

Restructuring is a widely used concept which denotes rapid, and often far-reaching, socioeconomic transformation processes in communities, localities, regions and nations (Neil and Tykkylainen 1998). Cuba's agro-industry restructuring plan was given the name *Tarea Alvaro Reynoso* (Alvaro Reynoso Task), in honor of the well-known 19th Century scientist who made seminal contributions to the cultivation of sugarcane. Also referred to by Cuban sources as redimensioning, reconversion, or rationalization of the agro-industry, it has three stated general objectives: (1) to achieve efficiency and competitiveness in sugarcane and sugar production; (2) to increase food production through agricultural and industrial diversification; and (3) to develop a sustainable agricultural sector, supported by knowledge and human capital.

In an August 2002 press conference, MINAZ head General Ulises Rosales del Toro stated that the restructuring plan was intended to maintain an industry capable of producing 4 million tons of sugar per annum, roughly the average production volume during the second half of the 1990s, but with higher efficiency, lower costs, higher profitability, and able to make a greater contribution to the national economy (Varela Pérez 2002). In so doing, Cuba scrapped earlier plans to boost yearly output to 6 million tons (Hagelberg 2003). According to Minister Rosales del Toro (2002, pp. 4-5), implementation of the sugar agro-industry restructuring plan would encompass the following tasks:

- Out of the existing 156 sugar mills, 71 would continue to produce raw sugar; 14 would continue to operate, but would produce sugar and molasses intended for animal feed; and the remaining 71 would be deactivated. Out of the latter, 5 would be converted into museums for tourists; 5 would remain idle and held in stand-by to meet future needs, and 61 would be dismantled (Alvarez and Pérez-López 2005, pp. 148-50, show the planned disposition of each of the 156 sugar mills).

- Sugarcane production for sugar would occupy 700,000 hectares of the most productive and best-suited soils. The goal would be to achieve yields of 54 metric tons of sugarcane per hectare from harvests lasting only 90-100 days. An additional 127,344 hectares would be devoted to produce sugarcane for molasses.
- Annual sugar production targets would be set at a level that would: (1) satisfy domestic consumption of 700,000 tons; (2) fulfill export commitments; and (3) allow sales in the world market whenever the world market price made it profitable to do so.
- Extensive soil testing would be conducted on lands shifted out of sugarcane production (1,378,000 hectares) to determine their suitability for growing mixed crops, livestock, fruit trees, and forestry, thereby complementing the ambitious agricultural diversification program announced in 1998 (MINAZ 1999).

Apparently, the restructuring plan was originally conceived to be implemented over three harvests (*i.e.*, by mid-2005). However, according to Manuel Cordero, Secretary General of the Sugar Industry Workers Union, the restructuring plan would be completed in a shorter time period, *i.e*., by 2004 (Valenzuela 2002). Sugar Minister Rosales del Toro stated in early 2004 that the initial objectives of the restructuring plan had been accomplished (Varela Pérez 2004). As part of the restructuring plan, the Cuban government has established 594 enterprises dedicated to sugar and molasses production, agriculture, livestock, and forestry. Sixty-seven new state farms (called *granjas estatales de nuevo tipo*) have been created near the deactivated sugar mills (Varela Pérez 2003a). In addition, investments have been made in 58 projects to supply energy to the deactivated mills (Varela Pérez 2003b).

3.0 Selected Restructuring Impacts

3.1 Grinding Capacity

The information on the disposition of sugar mills does not tell the whole story of the depth of the restructuring process and its regional impact. Part of the story is obtained by looking at the combined grinding capacity of the 71 sugar mills slated to continue as raw sugar producers, the 14 that would become sugar and molasses producers, and the 71 destined to be taken out of production (Table 1):

- The 71 mills slated to continue as sugar producers had a combined daily grinding capacity of 342,900 metric tons of sugarcane per day, or 53.0% of overall sugarcane grinding capacity prior to the implementation of the restructuring plan.

Table 1. Cuban sugar mills Based on the 2002 Restructuring Plan and Grinding Capacity.

Province	Active				Deactivated		Total	
	Sugar Production		Sugar & Molasses Production					
	No. Mills	Capacity	No. Mills	Capacity	No. Mills	Capacity	No. Mills	Capacity
Pinar del Río	2	8,300	1	2,000	2	6,000	5	16,300
La Habana	5	20,00	1	3,000	9	27,200	15	50,200
C. de la Habana	0	0	0	0	1	5,000	1	5,000
Matanzas	6	27,600	2	6,000	13	45,000	21	78,600
Villa Clara	11	35,800	2	6,500	15	39,400	28	81,700
Cienfuegos	7	26,900	0	0	5	15,600	12	42,500
Sancti Spíritus	3	20,900	2	6,200	4	8,200	9	35,300
Ciego de Avila	6	53,000	0	0	3	13,500	9	66,500
Camagüey	7	42,300	2	12,600	5	24,100	14	79,000
Las Tunas	4	30,800	1	7,400	2	19,500	7	57,700
Holguín	6	27,000	1	8,000	3	20,100	10	55,100
Granma	6	25,300	0	0	5	14,100	11	39,400
S. de Cuba	6	21,400	1	4,600	1	1,800	8	27,800
Guantánamo	2	3,600	1	2,500	3	6,000	6	12,100
Total	71	342,900	14	58,800	71	245,500	156	647,200

Source: Calculated from information in Alvarez and Pérez-López (2005, pp. 148-50).

- The 14 mills that would become molasses producers had a combined grinding capacity of 58,800 metric tons of sugarcane per day, or 9.1% of overall grinding capacity.
- And the 71 mills destined for deactivation had a combined grinding capacity of 245,500 metric tons per day, or 37.9% of overall sugarcane grinding capacity.

Taken together, the 85 mills that would remain as sugar and sugar/molasses producers had a total daily grinding capacity of 401,700 metric tons, 62.1% of the overall sugarcane grinding capacity prior to the restructuring. The restructuring plan concentrated on eliminating small factories, presumably because they were less efficient than larger ones. Forty-eight (or 68%) of the 71 mills being taken out of production (dismantled, converted into museums, or held in reserve) had grinding capacity of 3,000 metric tons per day or less, while only 5 of the mills (7%) had grinding capacity of over 6,000 metric tons per day. The average grinding capacity of the 85 mills that will remain active is 4,726 metric tons per day, about 15% higher than the 4,149 metric ton per day average grinding capacity of the 156 sugar mills that existed prior to restructuring.

3.2 Geographic Distribution and Rural Landscape

Although all 14 provinces have been affected to some degree by the restructuring plan, the central provinces have been particularly hard hit. This is not surprising because the smaller mills were concentrated in the central provinces. The province of Matanzas, for example, had 21 mills and only 6 (29%) are slated to continue as sugar producers. Villa Clara had 28 mills, the largest number of any province, and after restructuring was left with only 11 (39%) as sugar producers. With restructuring, the locus of the sugar industry has moved farther east. Prior to restructuring, Villa Clara province had the highest milling capacity, at 81,700 metric tons per day, closely followed by Camagüey (79,000 metric tons per day).

After restructuring, the most significant provinces in terms of grinding capacity for sugar production include Ciego de Avila (53,000 metric tons per day) and Camagüey (42,300 metric tons per day).

The 156 mills that existed prior to restructuring were located in 100 of the 169 municipalities of Cuba. Sugarcane was also the predominant economic activity in another 25 municipalities. Many of the mills, built in previously undeveloped areas, were the economic lifeline of their communities. So important were the mills to the economic and political life of their regions that the cities or towns that grew around the mills were the seat of government of their municipalities; 7 of these 29 mills were deactivated as a result of restructuring (Table 2).

The diversification program will also alter Cuba's rural landscape. Food crops, fruit tress and forest will occupy most of the land previously in sugarcane. Why does the plan put more emphasis on diversification into other forms of agricultural production than on diversification within the sugar agro-industry? Production of sugar by-products, derivatives, and energy would increase the sugar agro-industry's efficiency and competitiveness, although they may involve higher hard currency capital investment costs. For example, diversification into organic and other types of sugar, as well as into electricity generation, are mentioned only briefly (Varela Pérez 2004). These potential paths, however, have been recently analyzed thoroughly by a group of international specialists (Pérez-López and Alvarez 2005b).

3.3 Labour and Communities

The need to understand restructuring processes in rural areas – in order to help design appropriate responses to the pressures generated by the process – seems obvious. After analyzing ten case studies, which include capitalist and neo-capitalist restructuring in the East and West in traditional, modern, post-industrial, and trans-local communities– Neil and Tykkylainen (1998) concluded that communities and entire regions are adapting continuously to changing economic conditions. Their recommendation is that a local development policy be developed that is:

- reflexive and dynamic;
- contains economically and socially sustainable solutions which take into account the long-term socioeconomic prospects;
- possess the ability to adapt to new circumstances; and
- proficient in anticipating economic development and individual needs.

While Cuba's restructuring plan appears to have taken these variables into account in its development, the results have yet to correspond with the expected outcomes.

Table 2. Municipalities With a Sugar Mill as Seat of Government, Share of Grinding Capacity, and Disposition After Restructuring.

Province/ Municipality	Name of Mill	% Prov. Grinding Capacity[1]	Disposition after Restructuring
Sancti Spíritus			
Jatibonico	Uruguay (Jatibonico)	37.0	Sugar
Ciego de Avila			
Bolivia	Bolivia (Cunagua)	7.5	Deactivated
Primero de Enero	Primero de Enero (Violeta)	13.1	Sugar
Ciro Redondo	Ciro Redondo Morón)	17.4	Sugar
Venezuela	Venezuela (Stewart)	17.4	Sugar
Baraguá	Ecuador (Baraguá)	15.6	Sugar
Camagüey			
Carlos M. de Céspedes	Carlos M. de Céspedes (Céspedes)	5.7	Sugar
Vertientes	Panamá (Vertientes)	13.4	Sugar
Las Tunas			
Manatí	Argelia Libre (Manatí)	15.9	Deactivated
Jesús Menéndez	Jesús Menéndez (Chaparra)	15.9	Sugar
Majibacoa	Majibacoa (new)	8.3	Sugar
Jobabo	Perú (Jobabo)	17.8	Deactivated
Colombia	Colombia (Elía)	8.0	Sugar
Amancio	Amancio Rodríguez (Francisco)	12.8	Sugar and molasses
Holguín			
Rafael Freyre	Rafael Freyre (Santa Lucía)	6.5	Deactivated[2]
Báguanos	López Peña (Báguanos)	7.3	Sugar
Cacocum	Cristino Naranjo (Cacocum)	11.3	Sugar
Urbano Noris	Urbano Noris (San Germán)	7.3	Sugar
Frank País	Frank País (Tánamo)	6.3	Deactivated
Granma			
Río Cauto	José Nemesio Figueredo (Río Cauto)	11.9	Deactivated
Media Luna	Juan Manuel Márquez (Isabel "B")	17.3	Sugar
Niquero	Roberto Ramírez Delgado (Niquero)	8.9	Sugar
Pilón	Luis Enrique Carracedo (Cape Cruz)	5.1	Deactivated
Bartolomé Masó	Bartolomé Masó (Estrada Palma)	8.6	Sugar
Santiago de Cuba			
Contramaestre	América Libre (América)	10.1	Sugar
Mella	Julio Antonio Mella (Miranda)	25.2	Sugar
Palma Soriano	Dos Ríos (Palma)	16.5	Sugar
Guantánamo			
El Salvador	El Salvador (Soledad)	20.7	Sugar and molasses
Manuel Tames	Manuel Tames (San Antonio)	9.9	Sugar production

[1] Calculated from Table 1 and Alvarez and Pérez-López (2005, pp. 148-50).
[2] Converted into a museum.
Source: Based on Castellanos Romeu (2001, p. 20).

There are no precise statistics on the number of sugar workers affected by the sugar agro-industry's restructuring plan. Trade union official Cordero stated in mid-2002 that approximately 100,000 workers would lose their jobs, with the job losses are split evenly between agricultural and sugar mill workers (Valenzuela 2002). At about the same time, a MINAZ spokesperson reported that 60,000 sugarcane workers and 40,000 mill workers would be affected by the restructuring (Sequera 2002). In contrast to the estimates of 100,000 dislocated workers, President Castro (2002) stated that the 20 or so mills that would be closed down in 2002 – he ignored the 45 mills that did not operate during the last few *zafras* but would now be permanently shut down under the restructuring plan – would only result in the dislocation of 58,000 to 60,000 workers. By the end of 2003, about 122,000 former sugar agro-industry workers were reported to be enrolled in educational programs (Rodríguez 2003; Varela Pérez 2004).

Dislocated sugar industry workers were to continue to be paid their salary (although it was not clear for how long) and to be provided with educational and retraining opportunities. Moreover, MINAZ guaranteed sugar communities – whether their mills remained in operation or were demolished – the continuation of essential services traditionally offered to the *bateyes* (Valenzuela 2002). The *batey* is perhaps the most popular name of Cuba's sugar culture. The word originally described the central plaza around which *taíno* settlements were built, and where religious and other ceremonies were held. With the passage of time, as the sugar industry developed, the area around the sugar mill was also called a *batey*, and these *bateyes* grew in size and importance. Commercial structures, family housing, warehouses, public offices and religious centers were built around the *bateyes*, making them the hub of community life. The tradition has remained alive to these days. While travelling in Cuba to study the sugar industry restructuring process, a foreign specialist wrote:

> The mills and *bateyes* have been modernized over time, but many are centuries old… Asked when a mill in Artemisa was built…, its director responded, "Around 1700." His reference to the original settlement rather than the mill now standing reveals the deep ties between the industry, its people, and Cuba's distant past. The *bateyes*… are the places that are bearing the brunt of the sugar industry's restructuring (Peters 2003, 8).

Perhaps fearing what has just been described, and despite promises and programs, sugar workers and communities have become very concerned about their future (see, for example, Scarpaci and Portela 2005). While the impact on workers dislocated from the sugar agro-industry is likely to be mitigated by retraining and readjustment programs, workers indirectly affected and communities are likely to feel the repercussions of this process for a long time. With very few exceptions, all activities in the dismantled mills have ceased and their *bateyes* have become ghost towns.

4.0 Some Restructuring Results

> *We are skeptical that the current restructuring plan can be the mechanism for stabilizing and revitalizing the Cuban sugar agro-industry and creating the basis for its long-term growth.*
> Alvarez and Pérez-López (2005, 163)

Although printed in 2005, we wrote the previous statement one year after the restructuring program was launched. The four years that have transpired since the plan has been in place are enough to assess the effects of the very ambitious restructuring process. Available statistics and other drastic actions taken by the Cuban government justify our early skepticism and suggest that the restructuring plan has been a failure.

4.1 Sugar Production

The 2002-03 *zafra*, the first sugar harvest under restructuring, turned out to be a veritable disaster. Expectations for 2002-03 were modest, and output was anticipated to be somewhat below the 3.6 million tons produced in 2001-02. Nevertheless, the reported production of 2.205 million tons, the lowest level since 1933, stunned even the most pessimistic observers. Minister of Economics and Planning Rodríguez characterized the performance of the industry as "not satisfactory," stating that the failure to meet production targets also meant that export revenue targets were not met, despite some improvement in world market prices (Rodríguez 2003). Similarly, Minister Rosales del Toro, reporting to the National Assembly on the performance of his Ministry in 2003, stated that the 2002-03 harvest "did not meet expectations" although the overall restructuring process was proceeding "satisfactorily" (Ministro tilda 2003).

A MINAZ official attributed the dismal results of the 2002-03 harvest to man and nature, while banking on the rebound of the industry during the 2003-04 sugar harvest, dubbed *la zafra de la restructuración* (Martori 2003). The 2003-04 *zafra*, however, again failed to meet expectations. Vice-President Lage announced its total production was slightly over 2.5 million tons short of the target by 74,000 tons, or 2.9 percent (Varela Pérez 2004b).

A further decline in sugar output at the end of the 2004-05 season leveled a demolishing blow to the expectations of sugar officials. The 1.3 million tons produced --the lowest since the turn of the 20th Century-- represented a decline of 49% with respect to the previous crop, and about 82% less than the average production of 7.41 million tons in the 1980s. Anticipating, perhaps, the fourth straight failure after restructuring the industry, Fidel Castro had declared in March 2005, even before the end of the harvest, that Cuba "will never return to living off sugar, [which] belongs to the era of slavery." He also added that, because its high fuel consumption, what was before Cuba's first industry "today is its ruin" (EFE 2005). In July 2005, MINAZ announced that 40 of the remaining 85 sugar mills, along with 33% of plantations, would be taken out of production, in the second major downsizing of the industry since 2002; at least 75,000 additional sugar workers would lose their jobs (Reuters 2005c). Further evidence that the restructuring plan was not working came with the results of the 2005-06 season. The industry's production level reached only 1.2 million tons, a production level associated with Colonial times. Outputs slightly higher than one million tons had been reached in 1894 and 1895 (Thomas 1971, 1562). Almost exactly one year

after announcing the sugar industry's requiescat, Castro convened Cuba's sugar experts and ordered them to develop strategies to increase production to take advantage of rising world sugar prices. Miracles, however, are hard to materialize in Cuba's socialist economy and the current efforts, like their predecessors, are doomed to failure.

4.2 Agricultural Diversification

There is very little information on the performance of the agricultural diversification program. Out of the 1.3 million hectares of land projected to be shifted away from sugarcane production, about half was expected to be devoted to forestry, a small portion to aquaculture, and the rest to other crops. Interestingly, the released land remains under MINAZ's control: a MINAZ official reportedly told a foreign researcher, referring to the agricultural diversification program, that "we are a second Ministry of Agriculture" (Peters 2003, 10). The official rationale for MINAZ's involvement in non-sugarcane agricultural activities is that it wants to take care of the needs of dislocated sugar agro-industry workers, as they adjust to new occupations, and does not want to turn them over to another organization (Peters 2003, 10). More than likely, MINAZ is also concerned bureaucratically about maintaining control over the land.

Economics and Planning Minister Rodríguez (2003) has indicated that agricultural output from land released by sugar industry restructuring is expected to increase by 15% in 2004. A progress report (Varela Pérez 2004) by Minister Rosales del Toro at the beginning of 2004 indicated that of the 800,000 hectares subject to the diversification plans, almost 600,000 hectares were already under production and half of them would be devoted to food production; 74,263 hectares were planted during the winter of 2003 to mixed crops (vegetables and viandas) and an additional 115,000 hectares would be planted in 2004, including 15,000 hectares to viandas, 7,300 hectares to vegetables, and 20,000 hectares to corn, beans, and rice; 16,000 hectares would be devoted to fruit trees and 763,000 hectares would be devoted to forestry.

When summarizing the results of the restructuring process after one year, Balance Martínez (2003, 3) stated that, "agricultural production is still minimal, but it shows a growth potential of between 20% and 30% in the second year." Minister Rodríguez's expectations of about a 15% increase in agricultural production from lands previously devoted to sugarcane in 2004, and Balance Martínez's estimate of a growth potential between 20% and 30% did not materialize. One startling indication was the announcement that Cuba had increased its food imports in 2005 to around $1.7 billion this year to compensate for frequent setbacks in national food production (International Press Service, August 15, 2005). There are additional indications:

- On March 7, 2005, Cuba's coffee harvest was estimated to be down more than 10% due to the severe drought affecting the eastern provinces, and about the same in central Cuba. The previous (2003-2004) harvest was considered one of the lowest in 50 years (Reuters 2005a). When the harvest began, the same estimates were repeated by international specialists. However, government agencies maintained absolute silence (Reuters 2005d). Bean production was similarly affected by the drought.
- Livestock production did not fare better. At the end of April 2005, it was announced that Cuba had reopened its borders to a wide range of beef and beef

products imports and that Canada had been approved as a source of live cattle (Wuta International, 2005). At the end of 2005, Cuba's National Assembly reported that production of secondary meat products (from sheep, goat and rabbit) were down due to inefficient management (Granma 2005).

- Cuba's largest citrus orchard, located in Jagüey Grande, Matanzas province, reported final tonnage at 425,000 tons of grapefruit and oranges, 75,000 tons or 18% below the target (Reuters 2005b).

4.3. Labour and Community Adjustment

According to MINAZ surveys, out of the 213,000 workers whose mills or farms were idled by restructuring, 58% remain with MINAZ enterprises, 20% are full-time students, 10% have shifted into non-sugar agricultural activities, 8% have retired or gone into some other type of business, and 4% are working full-time dismantling sugar mills (Peters 2003, 9). The number of workers enrolled in education and training programs seems to have grown with the passage of time. According to Castro (2002), in October 2002, 80,000 workers were enrolled in education/training programs. Over 122,000 dislocated sugar agro-industry workers were enrolled in education and retraining programs in December 2003, a higher number than was originally anticipated. Out of these workers, 54% were pursuing full time study, and 14,000 were enrolled in university courses (Ministro tilda 2003). Workers attend one of 362 centers that have been established to serve their needs; six college majors are offered, including four types of engineering (industrial, electrical, mechanical, and agricultural), accounting, and social studies (Aruca 2003). The state budget for 2003, approved by the National Assembly in December 2002, allocated 308 million pesos for assistance to dislocated sugar industry workers (Lafita Navarro 2002).

As part of the restructuring plan, MINAZ guaranteed sugar communities – whether associated with mills that remained active or were deactivated – the continuation of essential services it traditionally offered in *bateyes* to "sugar families," among them transportation, education, medical services (Valenzuela 2002), as well as such amenities as cultural activities and even local baseball leagues (Pollitt 2003). Whether or not these promises were fulfilled, Peters' above description of the current status of the *bateyes* points to the disappearance of these communities as such.

In the late 1980s, MINAZ and the Cuban Communist Party drew up a Social Communication Program to help prepare communities that might be adversely affected by sugar agro-industry restructuring (Díaz Muñoz *et al*. 2002). A pilot project was conducted at the Héctor Molina agroindustrial complex in the province of La Habana. It aimed to enhance the self-image of sugar workers and communities and their perceptions of the positive contribution sugar workers and communities made to the nation's economy. Based on the pilot project, a national communication plan to address the challenges and difficulties brought about by restructuring was designed, but there is no evidence that the plan has been implemented. Economics and Planning Minister Rodríguez (2003) reported in December 2003 that the program of support to the sugar mill *bateyes* was progressing well, with special emphasis on mills that had been deactivated, but very little information has been offered on the specific actions taken on behalf of sugar communities. However, none of the ten results discussed in Balance Martínez's (2003) first-year evaluation mentions any progress related to support to

sugar communities, and no results have been reported after that. Therefore, it appears that the Social Communication Program designed to facilitate community adjustment appears to have been forgotten.

5.0 Concluding Thoughts

Cuba's restructuring of its sugar agro-industry, ongoing since 2002, has resulted in the shutdown of more than half of the industry's sugar-making capacity, the shifting of nearly two-thirds of sugarcane lands to other purposes, and the idling of over 100,000 workers. Communities that depended heavily on sugar production have been severely affected. The restructuring plan was intended to reallocate resources to the agroindustrial complexes with the most productive sugarcane lands and the highest industrial yields. The production objective was to achieve low-cost, stable production volumes that met domestic demand needs and export commitments plus an exportable surplus intended to generate hard currency when world market prices justified it. To date, the restructuring plan has failed to stabilize sugar production, with output levels not seen since over a century ago. It remains to be seen whether the recent push to increase sugar production to take advantage of rising sugar world market prices will have the desired effect.

Castro's sugar industry requiescat of March 2005 should be taken seriously. The Cuban President put an end to decades of national debate concerning the role of sugar in the Cuban economy. In the 1990s, sugar lost its preeminent position within the Cuban economy to tourism and more recently both tourism and sugar have been overtaken by exports of services, particularly medical and educational services. It can be posited that sugar, no longer be the engine of the Cuban economy and also that the current leadership is prepared to let it wither away to extinction.

We believe, however, that under a different economic system Cuba has the potential to remain an important world sugar producer and to develop significant economic activities based on the integral use of sugarcane. For over forty years, state ownership, centralized management, and lack of incentives have hindered higher levels of productivity and economic efficiency essential to the success of the industry. Redressing the negative effects of those factors should be the order of the day for Cuba's sugar agro-industry. Implementing a holistic approach to reinvention, like the one outlined by a group of international experts in Pérez-López and Alvarez (2005), in addition to resulting in a cleaner environment from the practices recommended to both fields and factories, will help Cuba to regain its former position as a significant source of employment and income for Cuban society.

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