GUATEMALA: FROM ZERO TO MAJOR EXPORTER
1960–2004

By
JAMES F. McSWEENEY

La Unión Sugar Group, Guatemala

seamus1@intelnet.net.gt

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Abstract
In 1960, Guatemala received its first U.S. quota. At the time, there were 10 factories and only 68 000 tonnes, raw value, of production. Major changes were made in all phases of the industry during the next 45 years. Additionally, diversification was important in the last 15 years of growth, which was the period of the most dynamic increase in production. In spite of 30 years of civil strife and sometimes very difficult political circumstances, the industry was able to continue its development to become a major exporter today. The future for the Guatemalan industry continues to look good, although expansion is expected to be more moderate than in the past 15 years. Environmental concerns, particularly water and cane burning, are concerns for the future.

Introduction
The year 1960 is considered the watershed for Guatemala changing from being strictly self-sufficient in its production of sugar to starting on the road to becoming a major world exporter. In that year, Guatemala received its first U.S. quota and, although a relatively small one, it was the catalyst that was needed. At that time, the total sugar production of Guatemala was 68 000 tonnes, raw value. Forty-five years later, Guatemala produced 2 072 000 tonnes, raw value and exported almost 1 290 000 tonnes, raw value.

During those 45 years, there were major changes in eight basic areas:
- The method of selling export sugar.
- The operations in the field.
- The reception of the cane at the factory.
- The operation of the factory.
- The physical export of sugar.
- The conditions and treatment of the workers.
- The social responsibility aspect.
- Diversification.

A brief explanation of each of the major changes follows.

Major change # 1: The method of selling export sugar
Until 1974, the Guatemalan sugar industry sold its sugar as a single desk, i.e., representatives of all the exporting mills would meet at the Guatemalan Sugar Association and jointly decide to whom they would sell. During 1974, a major sugar mill decided to break away from this custom and to sell its export sugar individually. Within a very short time, all the operating mills were doing the same.

With each mill selling its sugar on its own, coupled with a much greater degree of market information, the sugar industry of Guatemala evolved into one of the more sophisticated players in the export market. It is now common for some mills to use options and buy-backs, while all mills make a sales contract well in advance of delivery and fix the price on the sugar exchanges during the remaining life of the contract.
Major change # 2: the operations in the field

Field operations had the largest single effect on modernising the Guatemalan sugar industry, as individual farms, that previously delivered its cane over the 150-day life of the crop, became managed by sugar company professionals. This, coupled with the use of the ‘Australian’ machete, raised the output of the cane cutter from 1.0 or 1.5 short tons per workday to 6 or 7 short tons per day. At the same time, transport of cane changed radically. Previously, cane was bundled into packets of 1.5 short tons and trucked to the factory on 20 ton vehicles. With the new changes, cane was loaded in bulk onto large 40 to 50 ton carriers. In the late 1970s, an experiment was tried using accelerator or ripener. This became a common practice for most mills in the late 1980s and remains so to date.

Major change # 3: reception of the cane at the factory

The practice of receiving cane from individual farms over the length of the crop created an operational nightmare for the mills. Usually, the 100 or more cane growers would deliver their cane daily, each hustling in line to be the next to be unloaded at the cane reception centre. It also created an administrative problem as each cane grower would be paid on a 15 day basis.

With the change to managed farms and cane receipts in bulk, the sugar mill operators had much better control over the varieties used as well as the cutting of the cane. The substantial increase in factory yields over the past 20 years reflects this change.

Major change # 4: operation of the factory

Parallel to the changes in field operations, the factories underwent major expansions. Overall efficiency increased as there was a major reduction in lost time for the industry as a whole. Additionally, the factories increased the size and number of mills and, in some cases, added a second tandem. This led to additional extraction.

There also was a major effort to become self-sufficient in steam and electricity. Additionally, automation was added in almost all factories, contributing to their overall efficiency. Finally, there was a diversification of the products made, for both local consumption and for export. Overall, there was a concerted effort to increase the quality of the products, as mill laboratories took on more importance.

Major change # 5: the physical export of sugar

In the late 1970s, the Government started construction of Puerto Quetzal on the Pacific coast and about 15 years later, the sugar industry started construction of a new bulk export terminal in that port. Previously, all sugar exports were from the Caribbean ports of Puerto Barrios and Santo Tomás de Castilla. To achieve this, the sugar had to be trucked or railed from the South Coast, over the mile high mountains in the centre of Guatemala, and then down to the Caribbean coast.

Expogranal started exporting in 1994 and gradually built up its storage capacity to 200 000 tonnes and load rate to 2000 tonnes per hour. This means that a 35 000 or 40 000 tonne vessel can arrive, load and leave all within one day. It also means savings for the industry, as substantial ‘despatch’ is earned on each loading. Also, it is easier to obtain ships for export as owners are anxious to turn their vessels around as fast as possible. Additionally, it eliminates port congestion at Puerto Quetzal as well as helping the country to maintain a good maritime image.

Major change # 6: the conditions and treatment of the workers

Starting in the mid-1980s, the sugar industry of Guatemala made a major effort to improve the lifestyle and working conditions of its employees, both temporary and permanent. In the case of the former, housing complexes including kitchen facilities were built throughout the cane producing areas. Nutritionists were hired and the workers started to obtain a balanced diet in their three meals. Medical services, consisting of pharmacies, nurses and doctors, were incorporated.

In addition, temporary workers were given re-hydrating serums in the field at a morning break. Their midday meal was normally served hot directly in the field, as well. Also, surveys of employee satisfaction were started to determine the degree of worker contentment. This is now done industry-wide.

Major change # 7: social responsibility

In the late 1980s, the industry realised that it had to do more than just improve the conditions of its workers. Accordingly, it started the non-profit FUNDAZUCAR that is responsible for community relations in the area of influence of the sugar industry. It also operates a network of regional schools, dispensaries and hospitals in the sugarcane growing areas.
Major change # 8: diversification

During the early 1990s, when Guatemala was undergoing frequent power outages throughout the entire country, the Government decided to foment the use of co-generation. Today, six sugar mills generate about 150 MW during the crop, which accounts for roughly 15% of the total national usage during that period.

In 1985, the Government promulgated a law establishing the mixture of ethanol with gasoline for automobile use. Because of defects in the law and its regulations, only one mill built a distillery.

However, recently the initiative has been reactivated and it is likely that a new ethanol law will be passed within the next months. If so, it is expected a minimum of six mills will produce ethanol.

There is a regional movement to have similar laws in all of Central America, so that employment can be created, environmental aspects be addressed, and foreign exchange requirements reduced.

Guatemala’s journey to major exporter

Preamble

Guatemala’s journey to a world class exporter was one that started in 1960 with the receipt of a U.S. quota. Prior to that, the country had exported very minor amounts and only on a sporadic basis.

Once the country started exporting on a regular basis, expansion of the factories and the cane fields commenced. But meanwhile, there were ups and downs as the process evolved over almost 30 years until it became established as a major exporter.

In the decade of the 1960s, efforts were oriented towards the local market and maintaining the U.S. quota. As production grew and production costs were reduced, the world market became viable.

During this period, the unity of the sugar industry helped it overcome the hurdles that were encountered.

The sugar mills have always been focused on a main principle: not only produce sugar but also profits. This, in conjunction with the overriding principle of creating more value for the stockholders, has been a pillar of the industry.

In the past half century, Guatemala as a country has been oriented towards a free market economy. There is little Government intervention, except on a regulatory basis, although in the past decade or so, there have been more incursions by the authorities into areas that were exclusively territory of the private sector in previous years.

To this day, one is free to cultivate the crops that he or she desires (except those obviously prohibited, such as narcotics). The principal cane growing area of Guatemala is the South Coast on the Pacific Ocean side.

There are no price controls, but the Government does exercise ‘checks’ over certain products. Unfortunately, sugar is one of those. Also unfortunately, the price of sugar in Guatemala is the lowest, by far, of its neighbours in Central America, Mexico and Belize.

Responsibility for changes

Guatemala did not have a master or a formal plan for the re-engineering of its sugar industry. It was something that evolved as the circumstances warranted. There was no one person responsible, but rather it was a collective effort of all the members of the industry in a responsible position.

As in all typical organisations, some people were more vociferous than others, while some of the more ‘deep thinkers’ maintained a low profile, allowing others to project their ideas.

Periods of growth

There were three distinct periods of growth for the Guatemalan sugar industry:

1) from 1960 through to 1974;
2) 1975 through to the late 1980s; and
3) from 1988–1989 to date.

Figures 1 and 2 show sugar production and the production trend lines in those periods.
Period 1: 1960 to 1974

This period was characterised by expansion of the 10 mills at the start of the period and the addition of another 3 during that time. Factory expansion was mainly from discontinued sugar mills in Louisiana, Puerto Rico and other areas. There were only two types of sugar produced in the period: sulfated or plantation white and raw sugar for export.

In this period, there were three elected governments, including a military regime. There was also a coup in 1963 and a subsequent three year rule by a military regime. It was also a time that civil unrest via
guerrilla activity commenced. Consequently, there were both guerrilla movements and criminal activity in the areas of sugar production. On the bright side, the Central American Common Market started.

At the time, cane was managed in a simple, unrefined manner. Cane growers were given daily quotas over the life of the crushing period of the factory. When financial woes affected the independent cane supplier, it was not uncommon to see fires set deliberately to the cane fields to oblige the factories to receive that cane ahead of all others. As time went on, this became a common practice and one that worked to the detriment of the entire industry.

At the time, standard practice was for the sugar factory to suspend work on Sundays to clean the boilers and the evaporators. In this same period, the first molasses export terminal commenced operations in 1966. During this period, sugar exports were carried out from the Caribbean ports of Puerto Barrios and Santo Tomás de Castilla. Those included exports to the preferential U.S. market as well as the first shipment to the world market in the late 1960s.

Without a doubt, the receipt of the first U.S. quota in 1960 was the principal step in Guatemala’s journey to becoming a major sugar exporter.

**Period 2: 1975 to 1988**

During the second period of growth as an exporter, Guatemala’s sugar industry grew to 17 mills with a net increase of four new factories. Existing sugar mills prior to this period continued their expansion as well.

World market exports increased as Guatemala was considered a ‘medium’ size exporter under the 1977 International Sugar Agreement. Towards the latter part of this period, exports switched from the Caribbean ports to the new port on the Pacific Ocean of Puerto Quetzal. This port is less than 100 kilometres from most major sugar mills, or under three hours by truck.

Politically, in this period, Guatemala was very unstable. The government of General Romeo Lucas García was very oppressive and ended in a military coup. The resulting triumvirate was itself replaced by General Efrain Rios Mont, who was later accused of genocide. He in turn was overthrown by another military man, who in 1986 turned the country over to a democratically elected President. During these military regimes, guerrilla activity expanded to all parts of the country, including Guatemala City.

All this turmoil had a toll on the economy, as the local currency, the Quetzal, underwent a constant devaluation as the economy floundered. There was a major earthquake in February, 1976 that had a positive effect on the economy as international aid and reconstruction flowed into the country. However, this help was temporary as, in a few years, the oppressive governments took office and pushed the economy into a tailspin.

In the sugar industry, the Vitamin A fortification program successfully got underway. The industry continued to produce only two qualities of sugar, while an attempt at selling refined sugar never took hold with the public. In 1985, the first ethanol distillery was built.

In this period, the change from individual cane farms to managed farms took place as did the reception of cane in bulk rather than bundled cane. The factories added larger mills and one installed a double tandem. Boilers and boiling house capacity were increased in a number of sugar factories.

This second period of growth established the basis for the tremendous development in the following period, due in a large measure to the availability of fertile land in the cane growing area of the South Coast.

**Period 3: 1989 to date**

During this most dynamic period, there was a consolidation of the sugar industry as one antiquated factory shut its doors and its production was absorbed by the remaining sugar mills. There now was a demand for new qualities of product, both for local consumption and for export. Very High Pol (VHP) and Very, Very High Pol (VVHP) export quality was required and produced. At the same time, all exports were now made from the modern terminal of Expogranel in Puerto Quetzal.

Recently, that terminal increased its loading capacity to two thousand tonnes per hour, to rate it among the finest in the world.

In the political arena, it has been a period of relative calm with four elected governments. Except for a short-lived ‘auto-coup’, in which the instigator was quickly deposed and replaced by an interim government, the period has been a positive one in Guatemalan politics. In 1996, after 30 plus years of
internal strife, all parties in the conflict signed an historic Peace Agreement. A pro-business government came into power in January 2004, and expectations are high that stability will continue and economic growth will escalate.

In the sugar arena, the investigation centre, Cengicaña, started operations. At the same time, FUNDAZUCAR started its Social Responsibility program with a heavy emphasis on bettering worker relations and conditions.

‘Sophisticated’ agriculture has started in a number of sugar companies and many are now above 10 tonnes of sugar production per hectare per year, with one sugar group approaching the 12 tonnes figure. Factory yield has also increased at the same time to an average of 11.75% in the 2003–04 crop.

Diversification into co-generation took place in this period and some mills are totally electrifying their factory so as to liberate steam for the co-generation process. There are now three ethanol distilleries and, if the projected Ethanol Law for mixing with gasoline is passed, as is expected, at least three additional distilleries should be constructed.

Finally, in this period, benchmarking took hold. Although at the factory level it has been around for 25 years or so, it has been expanded to include factories in the neighbouring countries of El Salvador, Honduras and Nicaragua. Mills are rated by efficiency in 16 areas of operation and then ranked. This has created a wholesome competition to be proclaimed the winner. There is also a similar effort, albeit with a smaller participation, in the fields. At Central American level, under the guidance of PricewaterhouseCoopers, there is benchmarking to determine the comparative cost of production. Benchmarking has brought the very welcome result of an emphasis on reducing costs.

Surveys of worker satisfaction are now done by many mills yearly, or more frequently, if necessary. These surveys include not only the permanent workers but also the temporary field workers.

The future for the Guatemalan sugar industry

As for the future of the industry, it should continue to grow, although at a more moderate rate than in the past 15 years. It is expected diversification will continue. Because of the changing patterns of rural expansion, it is expected that some mills will be forced to relocate, particularly those along the corridor to the Puerto Quetzal facilities. Movement could be east towards the El Salvador border or west towards the centre of the South Coast area.

It is feasible that there will be mergers, buy-out or strategic alliances with Central American sugar groups.

It is expected that diversity of qualities, both for local consumption and for export will continue to grow.

The environment, particularly regarding water and the burning of cane, will be a major concern. Water issues, both its origin and its usage, will become a major topic over the next five years. It is quite possible that the industry or individual sugar mills or both will have to consider establishing a system of reservoirs to capture the runoff off the mountains during the ‘rainy’ season. Currently, it ends up in the Pacific Ocean. In the same vein, irrigation will become absolutely necessary for the vast majority of cane fields as water becomes scarcer.

Mechanisation will continue to grow in importance and there will be a wider divergence of cane varieties. Emphasis will be given to reduce the gap between the time of burning the cane prior to cutting and when it is delivered to the factory for crushing. This famous ‘Sucrose Trail’ could account for up to 2.5% of possible additional factory yield currently in Guatemala.

In the social responsibility area, additional emphasis will be given to this very important aspect. Education, of which the sugar industry is one of the leaders in the private sector, will continue to be expanded. Additionally, there will greater emphasis on employee training and up-scaling of current employees as automation and information technology expand into the factories and the fields.
LE GUATEMALA: PARTI DE ZERO, AUJOURD'HUI GROS EXPORTATEUR
1960–2004
JAMES F. McSWEENEY
La Unión Sugar Group, Guatemala
seamus1@intelnet.net.gt

MOTS-CLÉS: Diversification, Cogénération, Expansion, Exploitations Agricoles, Système de Références.

Résumé
En 1960, le Guatemala recevait son premier quota des États-Unis. Le pays comptait alors 10 usines et produisait seulement 68 000 tonnes, valeur roux. Au cours des quarante-cinq années qui ont suivi, des changements majeurs ont été apportés à toutes les phases de l'industrie. D'autre part, la diversification a été importante durant les quinze dernières années, soit la période de production la plus dynamique. En dépit de trente ans de conflits civils et de circonstances politiques parfois très difficiles, l'industrie est parvenue à maintenir son développement pour devenir aujourd'hui un exportateur important. L'avenir de l'industrie du Guatemala semble toujours prometteur, malgré l'anticipation d'une réduction de son expansion par rapport à celle des quinze dernières années. Les considérations d'ordre environnemental, en particulier les contraintes par rapport à l'eau et au brûlis de la canne, sont des causes d'inquiétude pour l'avenir.

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1960–2004
JAMES F. McSWEENEY
La Unión Sugar Group, Guatemala
seamus1@intelnet.net.gt

PALABRAS CLAVE: Diversificación, Cogeneración, Expansión, Fincas Administradas, Ínter Comparación.

Resumen
En 1960, Guatemala recibió su primera cuota de exportación a USA. En ese entonces, habían 10 ingenios y solamente 68 000 toneladas crudas de producción. Grandes cambios se hicieron en todas las fases de la industria en los siguientes 45 años. Adicionalmente, la diversificación fue importante en los últimos quince años de crecimiento, el cual fue el período más dinámico de aumento en la producción. A pesar de treinta años de luchas civiles y algunas veces con circunstancias políticas muy difíciles, la industria pudo continuar con su desarrollo para convertirse en la gran exportadora que es hoy. El futuro para la industria Guatemalteca sigue pareciendo bueno, a pesar de que la expansión parece ser más moderada de lo que lo fue en los últimos quince años. Problemas ambientales, particularmente el agua y las quemas de caña son las preocupaciones para el futuro.