CHAPTER 6

Conclusions and Suggestions.

SYNOPSIS

1. Organizational Management of the National Sugar Institute.
2. System for producing sugar-cane.
3. Transport system.
4. Export system.
5. System for finding capital.
6. Loan for producing sugar cane.
7. Loan for producing sugar.
8. Loan for export purposes.
CHAPTER 6
Conclusions and Suggestions.

This thesis has the objective of introducing the general conditions of the sugar industry in Thailand, including the history of sugar-cane and the sugar industry, the structure of production conditions, cost price, the marketing situation, the domestic and international buying and selling system and income structure and expenses of sugar producers. By showing actual income and expenses between 1994-1998 and analyzing the budgets of sugar producers, we can learn of the various problems sugar producers are experiencing. This helps those making a decision to invest or who are interested in studying the sugar industry, to learn about the operative situation and financial status of sugar producers. How much risk and what is the efficiency of this category of business? How much capital is required? What are the problems and constraints?

The method for this research was to make inquiries of various people, such as, sugar producers and exporters, including commercial banks. The result from the analysis was examined and the financial status analyzed by studying various ratios relevant to short-term liquidity. These are the Current Ratio, Acid Test Ratio, Cash Turnover, Inventory Turnover and other relevant ratios.

From the research, it seems that the sugar industry has very little registered capital. Most business is implemented using debt. Of this, the greatest expense is interest. The total asset of each mill is approximately 200-500 million baht, but the highest registered capital of each mill does not exceed 108 million baht. It appears that the business administration of the sugar industry has gone bankrupt and has had to keep changing administrators. This is due to the fact that sugar mills use too much circulation capital from debt. From the average Debt Ratio to Total Assets, a sugar producer uses about 60-70% of debt, the majority of which is short-term. The current Ratio does not reach ‘1’, which indicates that this industry is high risk.
The Acid Test Ratio is reduced greatly from the Current Ratio, so there is 0.2-0.3 left. This shows that the majority of Assets Turnover is goods in stock, which enables capital to sink in goods in stock. In general, sugar producers have Future Sales or wait for export. Since the Current Ratio does not reach `1', if the price of sugar on the market is good, the business will be able to pay short-term debt. If the price falls, there will be a problem paying short-term debt, as the debtor is unable to circulate money in time. The business has to repeatedly mortgage the same sugar, so the commercial bank, which releases the loan, cannot follow-up thoroughly.

Although the objective of this research is to consider the problem of the mills or the sugar producers, as the system of the sugar industry is linked, to remedy the problem of the mill, one has to consider other relevant points.

The problem of circulation capital of a sugar producer has a relationship with the total system of the problem. There should be a reorganization of the whole system of the sugar industry. A remedy is to improve and structure a new system, which would be an aggregate of the production, transport and export systems and the system for finding capital. This new organization will act as a central axis, which keeps liaising implementation of the whole system, so it is linked. The organization would comprise sugar-cane planters, the mills, the exporter, commercial banks and the relevant governmental departments. The latter are the Bank of Thailand and the Ministries of Commerce, Agriculture and Industry. The Chart for arranging the Organization will be:
This Organization will specify a precise policy, such as the production of sugar-cane, the price of sugar, which mill will produce how much fine grain sugar and raw sugar, a tax policy by the Ministry of Finance, a financial policy by the Bank of Thailand and a production policy by the Ministry of Industry. These policies are to create internal security and should not be constantly changed. The most important aspect is the Bank of Thailand controlling commercial banks. This total system should prepare a complete and corrected plan, as follows:

**System for producing sugar-cane.**

The system begins with selecting the area for planting and the species of sugar cane, including arrangements of quota for production, and to have a specific station for researching sugar cane.
From experience, the present system for producing sugar-cane and control of the volume in producing sugar-cane and fine grain sugar by the Government has not been successful. When there was a fall in the price of sugar, the remedial method used by the Government was to give a subsidy. This is a remedy at the end of the problem. Alternatively, the Government helps with tax. If there is a shortage of sugar, the Government controls the high price level under the Act for over-pricing or over-charging, which, in practice, has difficulty reaching its aim.

A remedy to the problem might be further regulation. As sugar is an important consumer good and necessary for daily living, the Government should initiate long-term planning on the production of sugar-cane and sugar to have sufficient volume for export and for domestic consumption;

**Transport system.**

The present transport system of sugar cane is not as efficient as it should be. The problem which should be immediately remedied is the wait at the mill, which is an expensive waste of time. Problems of investment in trucks by the sugar-cane agriculturists should be reduced, if there is a plan to more rapidly transport sugar-cane. The cost of trucks left idle outside the production season should also be considered.

A remedial method could allow the agriculturists and the factory to jointly plan to cut the sugar cane and transport it, so both correspond with one another to maintain the benefit of the private sector and society. Another practical method is to divide the zone for buying sugar-cane for feeding the mill, so the truck can transport the shortest distance. Other suggestions include improving roads to being all seasons roads and be rid of expenses, which will reduce the cost price of transport. The Government is the best party to remedy the above problem;
Export system.

It appears that the production of sugar-cane and sugar does not correspond with the volume required for export and domestic consumption.

There should be a central institution, which controls production of sugar cane and sugar and specifies the volume for export; and

System for finding capital.

In finding capital, it is necessary to correspond the plans for production, transport and export. The central institution, which would be an independent working unit of the Organization, should be planned to make the whole sugar industry more secure. The organization or person giving financial assistance will feel that there is less risk and it will be easier to find capital from various sources than it is to-day.

The system for finding capital for the sugar industry involves the sugar-cane agriculturists depending on money for maintaining the plantation from a sugar mill or obtaining a direct loan from a commercial bank. The sugar mill itself can find capital from shareholders, an overdraft from commercial banks, as well as from a sugar exporter, etc. The sugar exporter may find capital from the Bank of Thailand by passing through a commercial bank. When the system for finding capital relates, the remedial problem of circulating capital in the sugar industry should simultaneously remedy the whole system by locating the right source of capital (which helps in each step of production) and where it should come from, or which source ought to be used in an efficient manner.

To implement the circulating capital in an efficient way, we ought to use such a loan in separate steps, as follows:
a) loan for producing sugar-cane;
b) loan for producing sugar; and
c) loan for export purposes.

These sources of capital are available under the old system. They are loans from a financial institution, having assets as a guarantee. If the assets are too little or under mortgage, the industry will run short of capital. Sources of the capital fund to be provided for producing sugar cane, sugar and for export should come from:

a) Loan for producing sugar-cane.

A fund, which would help produce sugar cane, from the planting season in May one year to May of the following year should be established. Presently, the system for finding capital for producing sugar cane comes from money for maintaining the plantation received from the mill and other financial institutions. While this system is necessary for sugar-cane planters, it is not finding capital from a good source, as the sugar-cane agriculturists do not group together. Presently there is a grouping, but it is not generally accepted. An organization of agriculturists would be beneficial. If a loan is to be released, the bank could release it at one spot and, from that spot, the agriculturists would control one another to find sugar cane for feeding the mill. There would be a guaranteed price of sugar-cane and standardized arrangements for growing sugar cane, maintaining the plantation and cutting the sugar-cane for feeding into the mills. These processes ought to be arranged and controlled. Finding capital has to correspond with this system, so that it becomes secure. In the present system, when agriculturists look for capital, they normally ask the mill for money to maintain plantation, equivalent to the same volume of sugar cane. Sometimes they ask from 3 mills, causing problems at a later date, because there is insufficient sugar-cane to feed into the mills. At this latter stage, the mill will normally give a loan to the agriculturists, considering the past supply of sugar cane each agriculturist used to feed into the mill. The loan is given according to that volume.
When sugar-cane agriculturists become short of capital, they ask the mill for funds and the mill applies for a loan from a commercial bank. This is not a good system, because if one player has a problem, the total system will stagger or stop. A good system should have security, both when the economy booms and when it is depressed. The plans for planting sugar cane and finding funds ought to correspond. Giving a loan for the production of sugar cane should be separated from assisting sugar-cane planters, by the following measures:

(a)(1) the Bank of Thailand should instruct commercial banks to release a long-term loan to Co-operatives to promote agriculture. Such a Co-operative will compile Purchase Orders from the mills buying sugar-cane from Co-operative members to use as a guarantee for the loan. Price and volume of sugar-cane will also be specified in the Purchase Orders. After the bank has agreed to loan to a Co-operative, the Co-operative will be able to distribute loans to the sugar-cane agriculturists according to the volume specified, the amount of which will be greater than the fund for maintaining the sugar-cane plantation which the agriculturists presently receive;

(a)(2) in finding capital for producing sugar-cane, the Quota Head has a great role because he has money and power. If we change from a Quota Head to a Co-operative, the Bank of Thailand should assist or conditions might revert. If so, the sugar-cane planters will continue to be indebted. If, in any year, the price of sugar is good it can compensate the old debt not repay the current debt. If, in a certain year, the price of sugar falls, the agriculturists will be more indebted: a circular situation;

(b) the present system of loans for producing sugar can still be used. White sugar, which is sold in-country, will continue to use funds from overdrafts from commercial banks by mortgaging sugar (or Packing Stock) with a bank or a financial institution. What causes problems is the amount of loan given and insufficiently strict regulations, which cannot be properly followed up. It causes repetitive mortgaging, because the same amount of sugar may have to be repaid to 2-3 sources of loan. The system can exist with debt most of the time, but this results in the sugar industry being dangerously risky, which could finally bring damage to economic system of the country as a whole.
Sugar mills source most of their capital from a bank overdraft. In implementing work, sugar mills rarely use cash. The majority use cheques. If a bank is willing to give a loan to sugar mills, there will be no problem of a shortage of circulating capital. As it is today, when the price of sugar is up, the bank is not so strict with the mill. When the price of sugar falls, the bank becomes stricter and will squeeze the mills, causing a shortage of circulating capital. If sugar mills have the above-mentioned central institution, the bank will trust and not use a strict policy to force the sugar mills. If the central institution is able to release loans directly to the mills, it will help be rid of the shortage of circulating capital. Sugar producers also should find sources of capital to suit the use of capital. A short-term source of capital is used for current assets and a long-term source of capital is used for permanent assets. From the Balance Sheet, it can be seen that there are a lot of permanent assets, but little long-term debt. It can be assumed that there is a wrong use of a category of capital, which could result in a problem of shortage of circulating capital. A sugar producer should be very careful in finding funds and not be egotistic or do only what is convenient, which may cause later damage; and

c) Loan for Export purposes.

The current system is that after the exporter has received a Letter of Credit, he has to allocate this amount to the mills. The mill promises to send sugar to the exporter after production. This is repeated between a loan for producing sugar and export because, during the period for producing sugar, the mill uses loans from both commercial banks and the exporter. During sugar production, the sugar producer should not use a loan from the exporter because it involves a different step. The damage is that sugar which has been mortgaged in advance may not be sufficient to cover the loan.

A method for remedying this is to separate the exporter and producer. If the producer needs funds, he should secure these only from a commercial bank. The exporter should not provide any funds for the mill during any stage of sugar production. The central financial institution should be the party to prepare a plan and specify these policies.
Suggestions.

To make recommendations to improve the economic viability of Thai sugar mills is a daunting task. Apart from the habitual lack of precise information on mills, millers and cane growers concerning the state of their finances, the sector suffers constant strife from conflict between the myopic vested interests of cane growers, middlemen and millers. This leaves the sugar industry in a permanent state of fragmentation and inefficiency, despite repeated efforts by the Cane and Sugar Board Office, Ministry of Industry and concerned operators to achieve industrial peace and to modernize both farming and milling.

This state of affairs benefits only overseas competitors. They see Thailand as the potential world leading producer, once growers and millers organize themselves, cooperate with each other and coordinate their operations throughout the annual sugar production cycle from cane fields to the finished products of white and raw sugar, molasses, bagasse, energy and other major by-products.

The saddest aspect is that the Thai sugar industry only survives thanks to its very extensive cane fields, which somehow compensate for growers’ low yield cane strains, very poor farming and harvesting management and chaotic cane deliveries to mills. Millers add to low yields and high costs through the use of antiquated plants, which have high energy costs and poor environmental processing conditions. Mill owners also maintain an old-fashioned, very subjective management style, in terms of decision making and planning, and a polarization of production towards sugar without considering the economic and market potential of the by-products of milling. Newly constructed mills, such as those of the Wang Kanai Group in the North East, show a definite technological improvement. Most mills’ planning and innovations are too often ad hoc and piece-meal.
The major key technical problems affecting productivity and profitability of the entire sector are:

a) Growers
- persistent use of low yield sugar cane strains;
- inadequate fertilization and irrigation of cane fields;
- chaotic, irrational and wasteful post-harvest delivery systems;
- disinterest and poor education and understanding of cane physiology and crops;
- the adoption of counterproductive selling methods, which affect both their earnings and downstream processing costs; and
- a permanent state of indebtedness imprisons them in a vicious downward cycle.

b) Millers
- antiquated views on business management and new technology;
- poor plant and process management;
- non-utilization of the most viable by-products and lack of innovation;
- antiquated plants;
- low efficiency boilers and power generation;
- poor thermal management with consequent excessive processing and energy costs;
- processing in an unsterile environment, so there is low yield sugar extraction from low yield cane; and
- poor storage facilities, causing sugar quality degradation and, consequent low profitability and liquidity at the beginning of the new crushing season.

c) Middlemen
Quota men, wholesalers and other large scale buyers, sellers and distributors have no clear official role in the sector, but dictate terms to both growers and millers (see below) and operate activities such as:
- money lending to growers at usurious interests ($\geq 48\%$ p.a.);
- controlling growers’ negotiations with millers and government;
- exacting fees on cane delivered, without guarantee of cane freshness; and
- maintaining a generally hostile attitude to innovation, upgrading of crops and process practices.

d) Domestic Financial and Banking Institutions

These institutions’ lending policies and overdrafts, set at too high interest rates, are formulated without particular regard for the nature and the requirements of the sugar sector. At the beginning of the each crushing season, estimates of crop size and extrapolations of sugar yields are already available from government surveys. These can be compared with previous years’ harvests and production data to form a basis and provide criteria for assessing lending risks and using projected yields and other assets as collateral.

Such high interest rates significantly lower millers’ and growers’ profits and contribute to cash flow shortages throughout the period of annual operations from before to after the crushing season.

After the Asian crisis, in which such institutions played a non-indifferent role because of the too-well known difficulties in obtaining credit, the plight of all organizations in the sector has worsened. A drop in international prices has exacerbated the situation.

Recommendations

Recommendations or suggestions concerning future circulation of capital in the Thai sugar industry must first address the known fundamental problems. External artificial factors must be eliminated to ascertain the true viability and profitability of this sector vis-à-vis global price and market fluctuations.

The following recommendations should be immediately implemented.

1. Growers

1.1. growers should participate in regular training courses, both on the physiology of sugar cane and modern farming and harvesting methods, under the sponsorship and the tutelage of competent institutions;
1.2. under the government’s promotional and subsidized schemes, growers should switch to high yield sugar cane strains, which have been found suitable for local conditions. Sugar cane varieties show different degrees of adaptation to different soils and climates and different yields from their original conditions;
1.3. growers should adopt intensive rather than extensive cultivation methods to achieve optimal sugar cane yields (Mton cane/rai);
1.4. growers should introduce modern fertilization and irrigation methods to minimize fertilizer, pesticide and water consumption and costs and maximize benefits to crops;
1.5. growers should organize themselves into service districts, drawn on the basis of traveling time to the crushers (4 hours max.) to supply the nearest specified mill to ensure an equitable and regular flow of cane to it. Cane surplus above the dedicated quota should be sold after separate negotiations (spot sales);
1.6. growers should integrate cane harvest, handling and transport operations to deliver cane as soon as possible (within 4 hours max.) to the mills. This should be according to a schedule based on the ‘just in time’ principle to prevent staleness in the cut cane and to fetch premium prices for maximum sugar content; and
1.7. growers should investigate the economic viability of the full exploitation of field trash and cane toppings in coordination with the dedicated mill, with a view to developing such waste as a second cash crop. This would have similar applications as bagasse.

2. Millers

2.1 millers should modernize and upgrade their plants to international standards, to achieve optimal efficiency of processing and thermal management (350 kg steam/Mton cane). They should aim for self-sufficiency in energy and maintain a surplus to sell to the PEA. The entire sector has a power cogeneration capacity of between 2,000MW and 4,000MW, depending on the use of bagasse “as it is” or nobilitated clean fuel from it – After EC-Asean Cogen Programme figures;
2.2 All milling plants and storage facilities should conform to ISO 9000 and 14000 to achieve uniform high production standards and overall efficiency;

2.3 Millers should adopt and implement a diversification policy on value-added products from the use and downstream processing of sugar, molasses, bagasse and other by-products from harvest. They should process in coordination and cooperation with growers and other relevant operators;

2.4 Mill management should conform with modern plant operation, finance and accounting techniques throughout the entire sector; and

2.5 Millers should endeavour to establish a constructive climate of cooperation with growers under Government sponsorship and arbitration to minimize wasteful practices.

3. Government and competent institutions

3.1 The Government should establish education and training courses under the sponsorship and tutelage of competent institutions for all levels of technical skills;

3.2 The Government should encourage the introduction of new high yield sugar cane strains by means of suitable promotional schemes through service or financial measures;

3.3 The Government should contribute to and encourage the establishment of technical service centres to assist growers in their cane cultivation operations;

3.4 The Government should optimize the use of the Research and Development Levy from sugar, molasses and cane sales for R&D programs and minimize the funds spent in administrative costs. These are presently 50% of the total levy;

3.5 The Government should revive the idea of the National Sugar Institute by providing the necessary funds and support, which have been limited by the Asian Crisis;

3.6 The Government should train and select skilled personnel to monitor and evaluate cane crops and to measure CCS and pol content in stored sugar and molasses destined for domestic and export markets;
3.7 the Government should introduce foolproof, sealed, automatic instrumentation to measure CCS and other required parameters, to offer reliable objective analytical data to simplify the valuation of delivered cane loads;

3.8 the Government should give authority and administrative powers to the officers employed in such assessments and evaluation to guarantee their independence and objectivity of opinions. This should be reinforced with punitive measures against anyone attempting to influence or interfere with said officers' duties;

3.9 the Government should review and amend the Cane and Sugar Act 1984:

3.1.1 to include all third parties (e.g.: the middlemen), clarify their roles, punish them for any infringement of and interference with the Act, with any direct transaction between the Government, millers and growers and for any other misdemeanors;

3.1.2 the Act should be amended in respect of the present profit-sharing ratio (70:30) by identifying and including the revenue from all products and by-products (Art. 4) and revise the latter's rights of ownership to more equitable proportions. The present ratio is very high in relation to other countries' and prevents millers from developing their plants and diversifying production lines;

3.1.3 the Act should be amended to clarify the functions and the duties of the three parties – millers (e.g.: processing and refining), growers (cane farming) and Government (e.g.: arbitration, regulation, monitoring, control and support);

3.10 the Government should implement the TDRI's final report on the sugar industry reorganization as soon as possible;

3.11 the Government should regulate the lending policies of financial and banking institutions to prevent excessive burdens on the sector though excessive interests rates and requirements. It could offer, for instance, a government's guarantee or other forms of security and insurance;

3.12 the Government should undertake the necessary steps to ensure that the Cane & Sugar Fund uses its money efficiently and for the purposes intended;
3.13 the Government should establish an Economic Intelligence Unit to monitor market and price trends, the global annual production of sugar and other sensitive data. It could then advise institutions, millers and growers in advance of any relevant financial and trade matters, develop new export policies, individuate new markets and to develop uniform guidelines on domestic and export prices and practices; and

3.14 the Government should establish an experimental centre to test and design new technologies, new service products and new cane strains and assist training of growers, millers and government personnel in all required fields. Such a centre could develop new products from sugar and associated by-products.