

# The State's Incentive Structure In Burma's Sugar Sector and Inflated Official Data: A Case Study of the Industry in Pegu Division

By

**Alison Vicary**

[avicary@efs.mq.edu.au](mailto:avicary@efs.mq.edu.au)

*Giving assistance in the cultivation of sugarcane  
Procurement of sugarcane  
Sugar production and distribution  
Research and training activities<sup>1</sup>*

According to official data released by the Government Statistical Office, Burma has experienced significant per-capita growth rates in the last 10 years. These high growth rates are rather unusual for an economy with an agricultural base, suggesting a need for further examination of the agricultural sector.<sup>2</sup> According to official statistics, sugarcane is one of the crops that has contributed to large increases in agricultural output. The following case study of the regulations and incentives governing sugarcane production in Pegu Division indicates that the situation in the agricultural economy is quite different from the boom revealed in the official data (and underlining the argument made by Wylie Bradford in this edition of BEW). In fact, the regulations, practices and incentive structures are antithetical to growth and are more likely to lead to declines in output, rather than dramatic increases. The large increases in production suggested by the official data are simply the outcome of incentives that direct many in the military and bureaucratic chains of command to officially and systematically inflate the number of acres sown. The incentive structure created by the state's command over the economy and all other institutions has led to the absurd situation where stories of rapid growth can be maintained. The incentives are such that it is not in the interests of those in the chain of command to say "The emperor has no clothes." It is in their interest, rather, to continue with the charade that the emperor is both well dressed, and prosperous.

Sugarcane, according to the Burmese state, is a national priority crop. This accorded importance has meant that sugarcane production has been subject to extensive regulation, including forced procurement at below market prices. In Pegu Division nearly all sugarcane has been procured by the state, at least in the last few years. The state has not only controlled the buying of sugarcane from farmers, but also the processing of the raw product into sugar and other associated products, and then its sale into both domestic and international markets. In March 2004 the state announced that it would cease to procure sugarcane, rubber and cotton.<sup>3</sup> The announced policy states that producers will be able to sell these crops onto the local market at next harvest in November 2004. The announced changes do not remove state control over the *export* of sugarcane, however. The announcement of the change in policy came after the sugarcane planting period for 2004, so the benefits, if the policy is actually implemented, will not show up in the next harvest. No doubt sugarcane producers are anxiously waiting to see if the announced policy will be properly implemented. The precedents are not encouraging - it already appears that

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<sup>1</sup> 'Goals of the Myanmar Sugarcane Enterprise' – Ministry of Agriculture and Irrigation, [www.myanmar.com/Ministry/agriculture/default.html](http://www.myanmar.com/Ministry/agriculture/default.html)

<sup>2</sup> See Wylie Bradford in this edition of BEW.

<sup>3</sup> 'Myanmar Allows Free Trade of Industrial Crop', *Xinhua*, 29 March.

there is some divergence between the policy announced in May 2003 that limited the state's extensive role in paddy production, and actual practice.<sup>4</sup>

### **Export/Import Licenses**

Investment in sugarcane production, along with other national priority crops – cotton, paddy and rubber - is one avenue that provides private individuals with access to a license allowing them to engage in the export and import of goods. This license only allows the business to import if it can export the same value of goods. Also, the license does not allow the private business the right to export their agricultural output.<sup>5</sup> The license only grants the private business the right to export certain goods, with the state maintaining its monopoly control over the export of other goods. The state prior to the announced policy change in March 2004 controlled the export of all national planning crops.<sup>6</sup> The earlier announced changes allowing producers to export paddy appear to have been forestalled by the state. A license to export and hence subsequently import can also be obtained by investing in animal husbandry and aquaculture, as they are also designated national priority areas. There are some reports that small businesses engaged in animal husbandry are moderately successful – however, the official data does not show these industries as the cause of Burma's large increase in agricultural output.

Farming land in Burma is assigned by the state to the production of certain crops in an attempt to promote agricultural output. The land 'leased' to private business interested in obtaining an export/import license must be planted with crops in accordance with regulations on the use of the land.<sup>7</sup> Private businesses investing in national planning crops do not have to pay the official lease fees on uncultivated land. In Pegu Division much of the land 'leased' to private business has been severely deforested. Deforestation in Pegu Division is apparently on the rise due to increased charcoal production, often undertaken by local farmers and the landless as it is one of the few income generating activities available. It is also one of the business ventures undertaken by army battalions in Pegu Division and possibly other areas.

### **Advance Payments, Procurement and National Planning Crops**

*You are always relying on us, but you are always so ungrateful<sup>8</sup>*

'Officially' farmers and private businesses producing a national planning crop are partially compensated for the sale of their output to the government via the provision of an advance payment during the production process. This payment is supposedly for the purchase of fertilizers and other inputs and is meant to represent partial payment for the output, which the military procures upon harvest. When any farmer or private business accepts an advance

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<sup>4</sup> 'Burmese Farmers in Trouble Again', *Democratic Voice of Burma*, 15 Dec 2003, www.dvb.no

<sup>5</sup> A license only allows the holder the right to import, if they can export goods. A private business can not access foreign exchange to buy foreign goods, but must rather sell goods in order to obtain the foreign currency necessary to pay for imports. This is one of the mechanisms used by the state to maintain control over foreign exchange.

<sup>6</sup> 'Myanmar Allows Free Trade of Industrial Crops', 29 March 2004, *Xinhua*.

<sup>7</sup> 'Exemption from payment of land revenue shall be granted for a period of 2 to 8 years from the granting of the lease depending upon the type of the agricultural crops', Nyein Zin Soe (2000) *The Role of Agriculture in the Development of Myanmar Economy*, Thesis School of Public Policy and Management, Korea Development Institute, p.60. Official annual rent per hectare for sugarcane crops is between US\$3.25-6.00.

<sup>8</sup> Military officer in Pegu Division castigating farmers when they complained about so called government 'subsidies' and forced procurement.

payment, they must sign a contract to sell all output at a set price per ton to the state (minus any advance payment). However, there is a catch – even if the farmer or private business does *not* accept the advance payment, output must still be sold to the state at the set price. These advance payments are not available to farmers or private businesses not engaged in the production of national planning crops, that is, for produce that can be sold onto the market. Moreover, very few farmers or private businesses would consider any subsidy or advance payment as this would entail dealing with officials and the procurement of their output by the military.

Prior to 2000, farmers who were engaged in the production of national planning crops received some advance payments, along with limited access to seed and seedlings. These subsidies and advance payments were never enough to cover the loss from selling their output to the state. In Pegu Division this unsatisfactory situation deteriorated further in 2000, when advance payments and the procurement price did not even cover production costs.<sup>9</sup> In 2000 the state advanced only 2,000 Kyat per ton and this was given directly to the sugar mills, rather than to agricultural co-operatives as in the past. The payment to the sugar-cane mills was then passed onto producers in lieu of any future purchase by the sugar mills. Also by 2000, advance payments were not disbursed to producers until mid-September, a mere couple of weeks before the harvest. In 2002 producers only received 1,000 Kyat per ton as an advance payment and then only an additional 2,500 Kyat per ton from the state. The state, upon procuring the sugarcane, sends it to state owned sugar-mills. The state then exports the sugar or sells sugar to domestic wholesalers. Since the sugarcane was procured at prices below production costs the state is able to extract a profit greater than the market could deliver. Hence, sugarcane producers have not only been forced to give any profit to the state, they are also contributing a proportion of any income obtained from other activities and/or a portion of their wealth. Not surprisingly, the state began to face increasing difficulty procuring sufficient sugarcane, so in 2003 the procurement price per ton was raised to 6,000 Kyat.<sup>10</sup> Of this 2,700 Kyat per ton was paid in advance to the sugar mills.<sup>11</sup>

By 2000, private business representatives and farmers in Pegu Division were angry enough to make complaints to local military officials regarding the low procurement price. Senior representatives of private business have some capacity to voice their dissatisfaction, unlike small farmers who are powerless in the face of military officials. Private business must also be careful with their words, however, as they can be charged with sabotaging the economic plans of the state. Local military officials are also subject to a distorted system of incentives, and most are too fearful to inform superiors of production shortfalls in the area under their charge. Local military commanders select small farmers, and not private business representatives, to meet any visiting high ranking officials, ensuring that potential troublemakers are given no opportunity to air their grievances.

### **Incentives to Inflate the Area under Cultivation**

The official data measuring the production of national planning crops is grossly inflated, as the incentive structure operates to induce everyone in the chain of command to exaggerate the amount of land under cultivation. The goal of farmers and private business is to generate a profit from their activities, whereas the goal of the military government (among other objectives) is to reach national planning targets.<sup>12</sup> Those in the military chain of command have other interests

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<sup>9</sup> The following information on the situation in Pegu Division has been gleaned from private information supplied to the author.

<sup>10</sup> Of course, given Burma's High and persistent inflation, this increase was very much smaller in *real* terms.

<sup>11</sup> In the same year the price received by Thai sugarcane producers at the market exchange rate was 10,000 Kyat per ton.

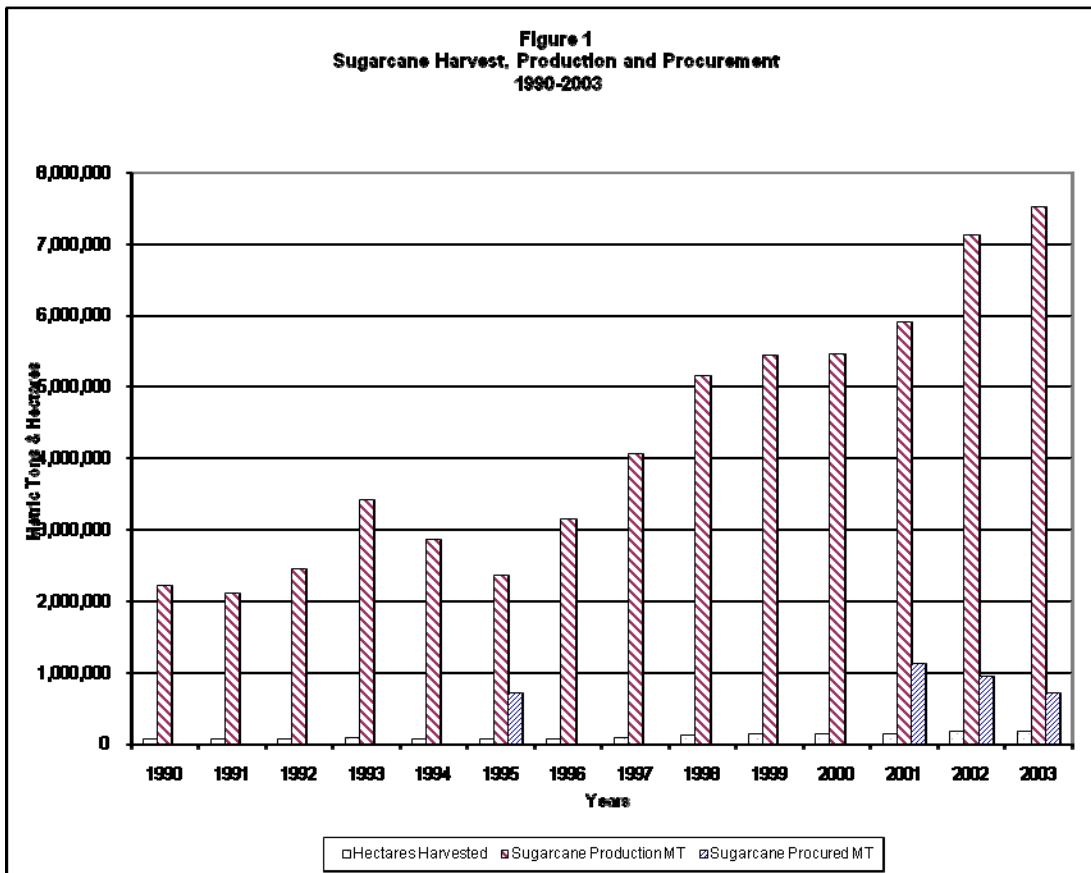
<sup>12</sup> Note that the regime has titled itself the "State Peace and Development Council."

such as promotion, maybe enrichment, personal security and job maintenance. The incentive structure created by military rule has established a system where the goals of these groups are in such serious conflict that the quantity and quality of agricultural output are severely curtailed. These conflicting goals cause a massive waste of resources (including people), but they operate to create the illusion that national production has dramatically increased. There are very little incentives in the system for anyone in the military and bureaucratic structure to call attention to the massive problems in agriculture. The costs of shouting that the emperor is naked or the fields are bare are all too high.<sup>13</sup>

The promotion of military officials is linked to the obtainment of production targets in the area under their command, increasing the likelihood that officials will report ever larger increases in the acreage under cultivation. The flip side of promotion and production targets is fear, providing another incentive to exaggerate cultivation. In addition, promotion and survival entails the passing on of graft to those in the next link in the chain of command. Military officials not able to generate sufficient revenue face the threat of postings to remote border areas and this operates from the bottom to higher echelons of the military. Each lower ranking military official has to engage in enormous amounts of bowing and scraping to higher ranking officers and this includes the payment of money and resources.

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<sup>13</sup> Arguably the 1988 uprising and the 1990 election were two times when many people in Burma were brave enough to openly protest their dissatisfaction with the structures and outcomes of military rule.



Agricultural statisticians and technicians especially those in the employ of the government are also integral to this incentive structure, threatened with job loss in an environment with limited alternative employment opportunities, if acquiescence is not obtained. Some private businesses (including farmers) have tried to improve yields by experimenting with different varieties of sugarcane. An entrepreneur in Pegu Division, investing in sugarcane to obtain a export/import license but with no expertise in agriculture, hired the local government agricultural specialists to make decisions regarding planting. The local military, fearful of not meeting national planning goals, threatened the agricultural specialists and ordered them to begin planting within 30 days. At the end of the rainy season the owner of the business came to inspect his investment only to find very little growing except for the weeds.

Another incentive in the system that leads to inflated figures is the *combination* of the low wages of bureaucrats and the low procurement prices. The wages of the bureaucrats are not high enough to cover the basic needs of a family and the combination of advance payments and procurement prices received by farmers are often not large enough to cover production costs. These factors cause bureaucrats, private business and farmers to combine to inflate production. The advance payments, for example, are paid on the basis of the area under cultivation, so the larger the reported cultivation area the more revenue obtained. The revenue received by the agricultural cooperatives is then shared between local bureaucrats and producers. For example, a private business in Pegu Division planted 1,000 acres (405 hectares) of sugarcane, but was told by local authorities to officially record the planting as 3,000 acres (1,214 hectares). This meant that the local agricultural enterprises were able to access three times more revenue from the central authorities, which was then shared to fray the costs of government regulations and low wages.

Officially only a proportion of total output in the sugarcane sector is designated for procurement by the government, but the inflated production numbers for this sector in the national accounts has meant that all nearly all output is forcibly procured in Pegu Division. The official data in the national accounts regarding output is so inflated that the government's decision to procure only a certain percentage of total production has meant in practice that lower level officials are forced to procure total production to meet their procurement targets. Hence the inflated production figures have exacerbated the problems for producers, providing further incentive to inflate production to access the very limited available benefits.

### **Inflated Production Figures and the Sugar Mills**

*To increase per capita consumption of sugar  
 To fulfill the raw sugar requirement of inland sugar-based industries  
 To promote the export of surplus sugar<sup>14</sup>*

In the late 1990s the inflated production figures for sugarcane led to the state building an additional 8 sugar mills. Seven of the 8 sugar mills were built by four companies from China and the other by a Thai company.<sup>15</sup>

**Number of State Sugar Mills in Burma**

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
7	8	8	8	8	8	8	8	9	10	17

There are reports that the mills built by the Chinese companies are being paid for in-kind, with refined sugar.<sup>16</sup> The reason for China's acceptance of refined sugar is not apparent, given that for the last 25 years Burma has imported refined sugar from China. The sugar from China has been generally preferred in Burma as it is cheaper, but also dissolves quickly unlike the local product, which is full of impurities. The sugar mill constructed by the Thai company was financed by the Thailand Export/Import Bank, with a 7 year repayment period. There are now 17 sugar mills, owned by the Myanmar Sugarcane Enterprise, itself a department in the Ministry of Agriculture and Irrigation. There are also a number of private sugar mills – including one in Samaw, Kachin State, owned by the New Democratic Army (Kachin) – but the exact number and their situation is unknown to the author.<sup>17</sup> The construction of 8 more sugar mills has created excess capacity, which has led the state authorities to impose more burdens on already over-regulated sugarcane producers:

*The government has not been able to buy enough sugarcane for its 17 sugar mills (of which two have been leased to private entrepreneurs) and the figures available from Myanma Sugarcane Enterprise (MSE) showed that most of the mills are operating at half of their 200,000 tone production capacity. One stumbling block in the government's inability to procure sufficient raw cane for its mills has been the wide gap between the government's buying price and the market rate.<sup>18</sup>*

The state appears to have been unable to procure sufficient sugarcane to meet the in-kind repayments and/or earn foreign currency from the sale of sugar in the international market.

<sup>14</sup> The three main objectives laid down by the Ministry of Agriculture in Sugar Production - [www.myanmar.com/Ministry/agriculture/Organi/mse.htm](http://www.myanmar.com/Ministry/agriculture/Organi/mse.htm)

<sup>15</sup> Senior General Than Shwe apparently ordered the building of these sugar mills during the ministerial oversight of the Ministry of Agriculture and Irrigation by Lt-General Myint Aung.

<sup>16</sup> Myanmar Times, Sugar Growers Need More Land to Hit Targets, 2000, 26

<sup>17</sup> The New Democratic Army (Kachin) are ex-communists that signed a cease-fire with SLORC in December 1989

<sup>18</sup> 'Abundant Land Resources yet to be Utilized', Myanmar Times, June 2-8, 2003.

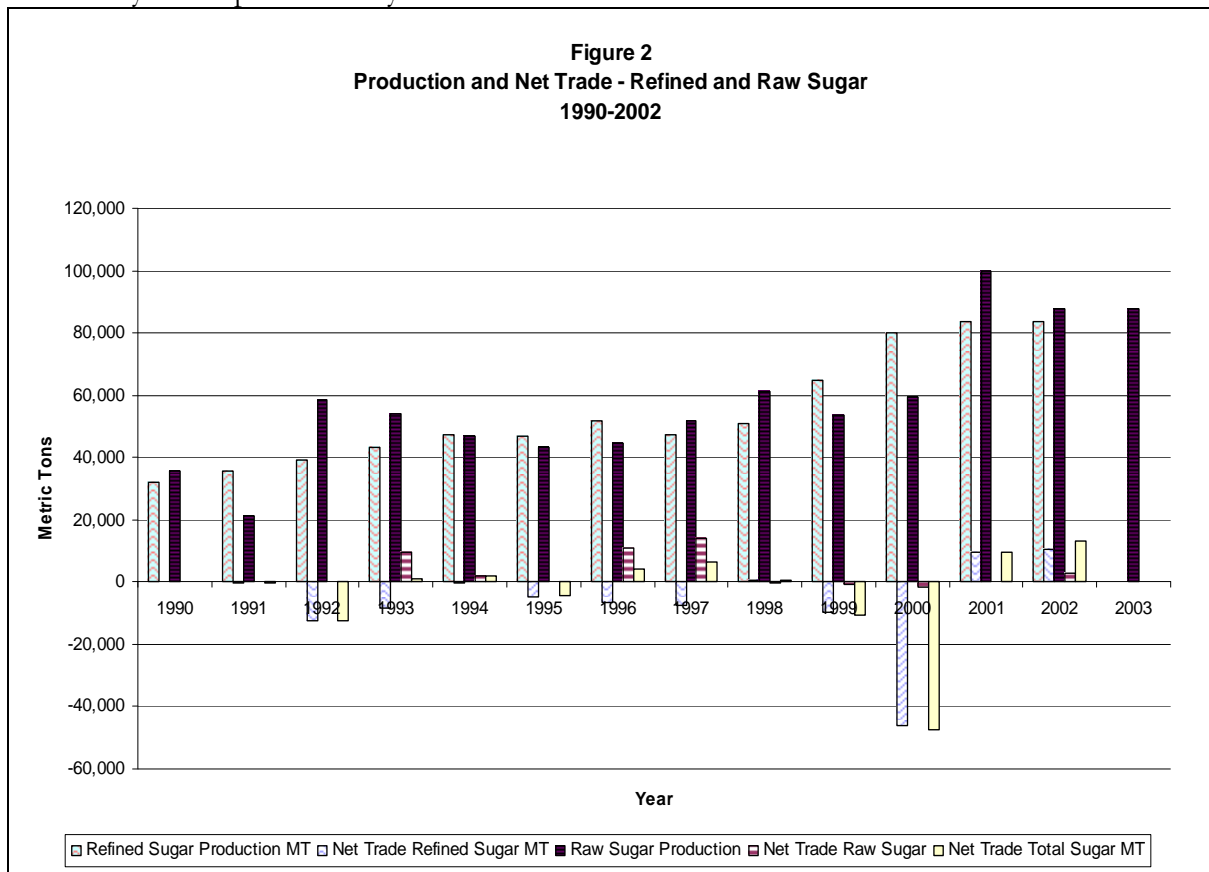
One of the responses by the state authorities to the shortfall in sugarcane production was to force privately owned sugar mills to supply 60% of their output to the state at cost-of-production. The sugar was then sold by the state, allowing them to pocket any profit. In 2002, a privately owned sugar mill in Pegu Division wanted to increase its buying price for sugarcane to attract more input, but the sugar mill was not allowed to increase its buying price above the procurement price, as any increase in procurement price increases the production costs for the firm, increasing the price the state pays to the owners of the mill and hence lowering the profit it extracts.

**Table 1: Sugar Mills**

	<b>Location</b>	<b>Year</b>	<b>Ownership/ Construction</b>
1	Dahutkone	1999	MSE
2	Pyinmana Township; Mandalay Division	1957	MSE
3	Pyinmana Township; Mandalay Division	1984	MSE
4	Taungzinaye Village; Lewe Township, Yamethin District, Mandalay Division	2000	MSE - Guang Dong New Tech Import & Export Corp Zhuhai - 16m USD - repaid in sugar at the prevailing international price(?)
5	Myohla; Yedashe Township; Pegu Division	2000	MSE - repaid in sugar at prevailing international price (?)
6	Yedashe Township (10 miles from No.6); Pegu Division	1991	MSE - Japanese ODA
7	Oktwin Township; Toungoo District; Pegu Division	2000	MSE – repaid in sugar at prevailing international price (?)
8	Zeyawady Township; Pegu Division	1987	MSE
9	Yoneseik; Aunglan Township Magwe Division	2000	MSE – repaid in sugar at prevailing international price (?)
10	Duyingabo; Aunglan Township; Magwe Division	2000	MSE – repaid in sugar at prevailing international price (?)
11	Inngakhwa Village; Paukkaung Township; Pyay (Prome) District; Pegu Division	2000	MSE - China National Complete Import & Export (Yunnan) Corp – repaid in sugar at prevailing international price (?)
12	Nawaday Mill; Pyay (Prome) Township; Pegu Division	1998	MSE - Sutech Engineering (Thailand) – US\$21m loan Export-Import Bank of Thailand - 7 year repayment schedule
13	Okkan Mill; Gonnyindan Village Taikkyi Township; Rangoon Division	2000	MSE - China National Agriculture & Construction Machinery Import & Export Co - repaid in sugar at prevailing international price (?)
14	Bilin Township; Mon State	1966	MSE
15	Shwe Nyaung; Shan State	1983	Given to KIO in 1995
16	Kyauk Taw; Arakan State	1984	MSE
17	Nammati; Kachin State	1957	Leased to local private company in 1999

The difficulty of increased problems procuring sugarcane and the problems associated with meeting in-kind payments to China are not reflected in the official figures for sugar production. The figures for sugar production indicate large increases in output at the time the sugar mills

began operating, as would be expected. However, in contrast, the trade figures show a massive *deterioration* in the net trade balance for sugar. A negative relationship between output and net trade is rather unusual, requiring some explanation. This is especially the case given that, in the year before the sugar mills came onto line, there was a small surplus in net trade. In the nine years prior to the construction of the sugar mills, the official figures show regular deficits in the trade balance.<sup>19</sup> However in 1998, according to official figures, Burma imported 500 tons of refined sugar, rising to 12,000 tons in 1999 when the sugar mills started production. In 2000, imports increased four-fold to more than 51,000 tons – a figure that was also four times larger than in any of the previous 10 years.



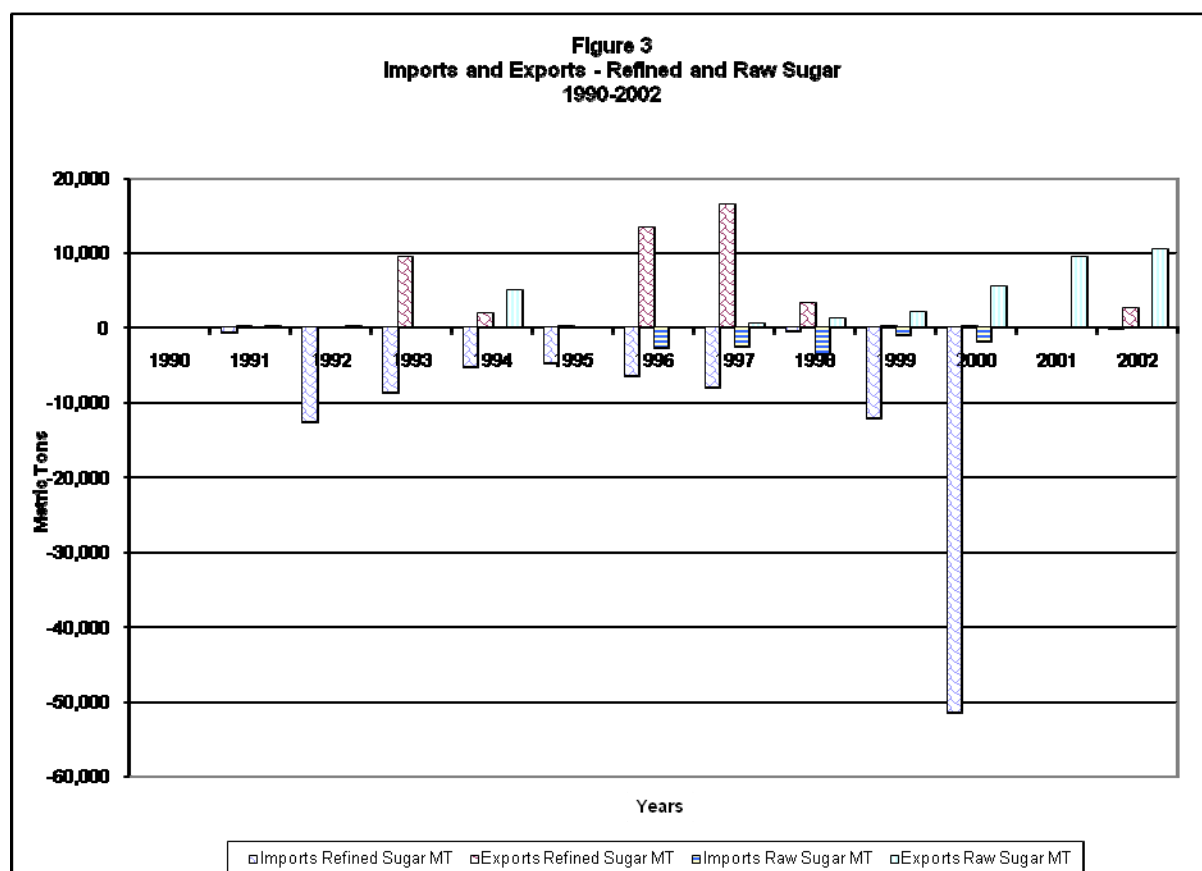
The explanation for this dramatic increase in the imports of refined sugar is not immediately obvious. Four possible explanations come to mind. Firstly, the harvest and production figures of sugarcane and sugar are grossly inflated in line with the above argument. Secondly, the *trade* data bears no resemblance to reality. Thirdly, the state imported massive amounts of refined sugar to meet its in-kind payments to China. The *Myanmar Times* reported in-kind payments of sugar to China to explain the decline in exports, suggesting too that sugarcane production was less than had been anticipated:

*[T]he past 12 months has seen a slowing of sugar exports, down from 20,000 ton the previous year, after the government used sugar to make in-kind payments for the construction of the new mills. The nine new plants collectively cost the government US\$180m excluding local currency spending. The MSE officials told Myanmar Times it was hoped the money could be recouped from sugar industry earnings.*

<sup>19</sup> Prior to 1990 the state had imposed bans on the export or import of nearly all goods.



However, it offered no explanation for the dramatic increase in the imports of refined sugar. Fourthly, the goal of the Myanmar Sugar Enterprise to increase the consumption of sugar in Burma was suddenly, incredibly, successful!



### Incentive Structure and Lower Production

The incentive structure governing the sugarcane sector has meant that very few farmers in Pegu Division have been interested in growing sugarcane and have tried to substitute into other crops. However, the local authorities began to instruct farmers to return to sugarcane production under the threat of land confiscation. The combination of the threat of land confiscation, the regulations governing the issuing of export/import licenses, and forced procurement, has meant that sugarcane producers engage in a range of strategies to limit the costs they incur.

One tactic sometimes used by private businesses has been to process sugarcane into jaggery in an attempt to prevent their output being procured by the state. One company in Pegu Division took this path in 1998/99, and in response the local military sent armed soldiers to confiscate the company's machinery. This was intended as a warning to the company, with the episode recorded on video and on still images. In the following year the same business again turned part of their output into jaggery, resulting in the arrest and a one year suspended sentence for the manager. The *Myanmar Times*, in its euphemistic manner, captures the problem for the regime when producers process sugarcane into jaggery and sells it into the market:

*“They prefer to sell their product in processed form as brown sugar slabs, mostly used in Myanmar deserts, rather than as raw sugarcane. That can earn them K500 to K2000 more per ton, exclusive of*

*processing cost....But it is a loss for the country. If we can refine sugarcane yield from those areas in sugar, it can increase the income for the state.”<sup>20</sup>*

In the 2002/2003 the same company harvested earlier than usual, enabling it to sell the sugarcane before the arrival of the military. Again the authorities confiscated all the agricultural equipment and forced the company to pay for the return of their property. In the same year farmers in Pegu Division attacked the police station and refused to harvest their sugarcane, because the procurement price was not enough to cover production costs. The sugarcane in the area was harvested by trainee police. The above company did not bother to plant in 2004.

Another tactic engaged in by producers is to reduce production costs without consideration to yields and output. Many farmers simply chop up sugarcane and then roughly cover the cane with soil. The farmers then plant other crops, such as peanuts, groundnuts, sesame, legumes and beans that can be sold in the free market. Yet another strategic response has been to delay planting well into the hot season, sometimes up to two months later than optimal. The planting of sugarcane in the hot season, and late harvesting, dramatically decreases sugarcane yields and ultimately sugar production.

### **Procurement, Debt and Increased Landlessness**

The forced procurement policies in the sugar sector and the inability of farmers to access credit, either from government or private banks, has led to the creation of a debt cycle that might create problems of landlessness. Farmers are no longer able to access any credit from the government banks and the private banks will not lend for agriculture. Hence the only obtainable credit is from the local money lender, but the risk associated with this form of credit means that interest rates are very high. Since the procurement price does not cover production costs or as in the case of paddy, farmers are forced to enter the market to cover their designated supply to the government, they are forced to borrow again to purchase inputs for the next season's planting. This has meant that farmers are now selling off small parcels of their land to repay debt or to buy inputs. Some farmers have already sold their entire land holdings to become daily labourers in the local area, or have moved to the towns or Thailand in search of other employment.

Labourers in the agricultural sector are also facing their own version of the debt cycle. In the non-harvest or non-planting season there is very little work available and when it is the daily wage is only about 200 Kyat. During planting and harvest time the daily wage increases to between 300-400 Kyat. The limited available work outside of planting and harvest time means that many people during this period borrow on their future wages at a large discount. When the wage is paid about 2-4 months in advance the labourer receives about 70 Kyat for each day's wage advanced. So during the planting season farm labourers might receive no wages, and have to again obtain an advance to be earned during the harvest period. This cycle of debt existed prior to the 1990s, but its severity and spread appears to have increased in the last 10 years at least in Pegu Division, and probably in other areas as well.

### **Conclusion**

We can only hope that producers and those dependent on the sugar sector will find some relief, if and when the policy-changes announced in March 2004 are properly implemented. The problems in the sugar sector are long running and are the outcome of burdensome regulation and interference. This regulation and interference has not only been ongoing, but it has been

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<sup>20</sup> Myanmar Times (2000) "Sugar growers need more land to hit targets" 2(26)

constantly altered as the military state engages in its relentless search for the magical policy, the goals of which are elusive to this author. It is not yet time to shout that all is well based on a simple minded acceptance of official data and information – simply because it is peddled before us and easily downloaded from the internet.

TABLES – OFFICIAL CENTRAL STATISTICAL ORGANISATION DATA<sup>21</sup>

Table 1

Year	Kyat/MT Sugarcane	Hectares Sown/ Harvested	Sugarcane Production MT	Sugarcane Purchased MT
1990	270	48,200	2,198,100	<i>n.a.</i>
1991	696	48,600	2,105,200	<i>n.a.</i>
1992	1,643	55,000	2,430,800	<i>n.a.</i>
1993	646	75,526	3,410,000	<i>n.a.</i>
1994	1,200	63,930	2,848,970	<i>n.a.</i>
1995	1,400	50,000	2,356,665	706,342 <sup>22</sup>
1996	1,500	64,154	3,131,753	<i>n.a.</i>
1997	1,850	81,300	4,042,401	<i>n.a.</i>
1998	2,500	105,545	5,136,744	<i>n.a.</i>
1999	2,500	122,795	5,429,418	<i>n.a.</i>
2000	2,500	125,360	5,449,305	<i>n.a.</i>
2001	2,500	132,793	5,893,657	1,106,613 <sup>23</sup>
2002	3,500 <sup>24</sup>	157,993	7,115,869	930,000 <sup>25</sup>
2003	6,000	165,000	7,500,000	700,000 <sup>26</sup>

Table 2

Year	No. Sugar Mills	Refined Sugar Produced MT	Raw Sugar Produced MT	Total Sugar Produced MT
1990	7	32,200	35,548	67,748
1991	8	35,563	21,153	56,716
1992	8	39,055	58,474	97,529
1993	8	43,391	53,910	97,301
1994	8	47,136	46,805	93,941
1995	8	47,046	43,180	90,226
1996	8	51,736	44,626	96,362
1997	8	47,499	51,780	99,279
1998	9	50,727	61,124	111,851
1999	10	64,828	53,460	118,288
2000	17	79,836	59,535	139,371
2001	17	83,618	99,850	183,468
2002	17	83,485	87,672	171,157
2003	17	-	87,672	-

Table 3

<sup>21</sup> The data is from FAO statistical website - <<http://apps.fao.org/faostat>> - but is supplied by the Central Statistical Organisation in Burma. All the data is from this source, except where otherwise noted.

<sup>22</sup> [www.myanmar.com/Ministry/agriculture/Organi/mse.htm](http://www.myanmar.com/Ministry/agriculture/Organi/mse.htm)

<sup>23</sup> [www.myanmar.com/Ministry/agriculture/Organi/mse.htm](http://www.myanmar.com/Ministry/agriculture/Organi/mse.htm)

<sup>24</sup> Procurement price per metric ton of sugarcane for 2002-2003 private source

<sup>25</sup> 'Sugar Mills in Myanmar Face Raw Material Shortage', *Xinhua*, 3 September 2003

<sup>26</sup> 'Myanmar Allows Free Trade of Industrial Crops', *Xinhua*, 29 March 2004.

Year	No. Sugar Mills	Imports Refined Sugar MT	Exports Refined Sugar MT	Net Trade Refined Sugar MT	Imports Raw Sugar MT	Exports Raw Sugar MT	Net Trade Raw Sugar MT	Net Trade Raw & Refined Sugar MT
1990	7	0	0	0	0	0	0	0
1991	8	-574	155	- 419	0	12	12	-407
1992	8	-12,500	180	-12,320	0	0	0	-12,320
1993	8	-8,600	0	- 8,600	0	9,500	9,500	900
1994	8	-5,200	5,100	-100	0	2,000	2,000	1,900
1995	8	-4,700	0	-4,700	0	210	210	-4,490
1996	8	-6,400	0	- 6,400	-2,600	13,400	10,800	4,400
1997	8	-8,001	620	- 7,381	-2,500	16,500	14,000	6,620
1998	9	-500	1,200	700	-3,500	3,300	- 200	500
1999	10	-12,000	2,200	- 9,800	-900	300	- 600	-10,400
2000	17	-51,450	5,500	- 45,950	-1,750	135	- 1,615	-47,565
2001	17	0	9,500	9,500	0	0	0	9,500
2002	17	-85	10,466	10,311	0	2,645	2,645	12,956
2003	17	-	-	-	-	-	-	-

