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Burmese Rice Price Policies - An Economic Analysis of Developments since Independence

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Burmese Rice Price Policies - An Economic Analysis of Developments since Independence

Burma's economic survival still depends largely on the cultivation sector in general and on rice cultivation in particular. This paper deals with developments in rice price policies and their impact on production, procurement, export, and domestic use of rice in Burma during the period 1948 to 1987. General performance of the cultivation sector and growth trends in rice production, export, and consumption are examined. Official rice price policies prior to 1961-62 had only minor effects on production and exports and domestic retail prices remained low. As a consequence, government policy objectives were generally realised. Policies adopted after 1962-63 have had serious consequences. The export of rice declined dramatically during the 1960s and 70s and a large black market developed. It is apparent that a system of 'official prices', operated in an environment where some free market activity was condoned and where international movements of goods could not be controlled, was unsustainable in the long term.

Burma is predominantly an agricultural economy dominated by a single crop, rice¹. Rice is a staple food as well as a major export item for Burma. Paddy production occupies about half of the total cultivated area and employs about 70 per cent of the Burmese workforce. Rice exports contributed between 40 and 50 per cent of total export earnings of Burma from the 1870s up until 1965. Rice is also an important item, although the amount is unquantified, in internal illegal distribution and in the smuggling trade to Burma's neighbours, especially Bangladesh, India, China and Thailand.

Burmese agriculture has experienced many changes during the last century. The most dramatic of these changes was Burma's move from being a leading exporter of rice up until the early 1960s to being just self-sufficient since 1965-66.

In this paper an attempt is made to analyse the policies which have been at the centre of the change in Burma's agricultural prosperity. Attention is focussed on the period 1948 to 1987. To provide some background the trends in rice production, procurement, export and domestic use are examined. Then, the formulation and implementation of rice price policies and their impact on the above activities are analysed and discussed. In concluding the paper, suggestions for further improvement in Burmese rice policy are made.

A Brief History of Burmese Agriculture

Until the mid-nineteenth century, Burma was a self-sufficient society based on a subsistence (feudal) agriculture. Agriculture was commercialised during British colonial rule. The British

¹ The term rice is used throughout the paper to refer to husked or milled rice. The available official statistics on production and procurement are all in terms of paddy which are converted into rice by using the conversion ratio of 65 per cent. The term paddy is used to refer to unhusked or unmilled rice.

annexed Burma in three phases following the three Anglo-Burmese Wars in 1824, 1852 and in 1885. The Second Anglo-Burmese War was significant in relation to agricultural transformation because, after that war, the British annexed the whole of Lower Burma where the main arable land areas, including the fertile Delta Province and the Pegu and Magwe Divisions are located. In 1852, the population of Lower Burma was about 1.5 million and the area under rice cultivation was barely about 0.4 million ha out of a total cropped area of about 0.6 million ha.

Transformation into an export oriented, commercialised agriculture by the British Administration in Burma started immediately after 1852. By 1890 the area of paddy sown had increased to 1.83 million ha with a population of 4.4 million in Lower Burma alone. The total area under rice in 1890 for the whole of Burma was 2.4 million ha and the population was about 7.7 million. Rice production in 1890-91 was 2.4 mt. About 0.98 Mt of this was exported. Despite the many side-effects of this rapid expansion, Burma had earned a reputation as 'No. 1 Rice Exporter' and as the 'Rice Bowl of Asia' as early as 1890. By 1936-40, the average area of rice sown was 5.2 million ha with production of 4.9 Mt of which 2.9 Mt were exported.

Much of Burma's agricultural infrastructure was destroyed during the Second World War and the Japanese occupation (1941-45), resulting in a substantial decline in agricultural production. It is estimated that more than one-third of the agricultural infrastructure and working animals were destroyed during the period (Aye Hlaing 1964). As a result of the disruption during and immediately after the war when Burma gained her independence from Britain in 1948, per person gross domestic product was less than two-thirds of that of the late 1930s (Hill and Jayasuriya 1986, p.8).

Agricultural production in Burma was disrupted for two years after independence in 1948 due to civil war. Total agricultural output increased by 40.4 per cent from 1951 to 1960 (the period of the Eight Year Plan, popularly known in Burma as the KTA Plan or *Pyidawtha Plan*). At the end of this period production had just reached the pre-war level, although rice production was still only about 93 per cent of pre-war figures. Rice yields per hectare reached pre-war levels during the 1958-59 fiscal year but the targets for growth and production set by the Eight Year Plan were not met. In spite of the importance of agriculture to the economy, it received only a modest proportion of the government's capital expenditure during the civilian governments (1948-57) and the military caretaker period (1958-60). Agriculture was neglected in favour of industrialisation for more than a decade after independence. After 1962, the Revolutionary Government prepared to give priority to agricultural growth. However, this changed again after 1964-65 to an emphasis on industrial development (Steinberg 1981, p.111).

For the decade after 1962 the value of agricultural production as a percentage of gross domestic product remained almost constant; the figures being 26 per cent in 1961-62 and 25.7 per cent in 1972-73. The earnings from agricultural exports (crops alone) had fallen from K1,071 million to K346 million during the same period.² Although total sown area increased by 10 per

² K represents the official Burmese currency the Kyat. The official exchange rate is about 7.5K = US\$1.

cent during the ten year period following 1961-62, there were extensive crop failures in 1966-68 due to drought and the area harvested in 1972-73 was only 1.6 per cent higher than that in 1961-62. This lack of growth again led to a shift in development priorities at the First Congress of the Burma Socialist Programme Party (BSPP) in 1971; where the priority was shifted from concentration on industry to the development of the primary sector. However, these changed priorities were implemented only slowly due mainly to lack of finance. The percentage of public expenditure on capital works directed towards agriculture during the period after 1972 was little changed from the level in the previous decade.

During the Second Four Year Plan period (1974-77), agricultural production increased by 3.6 per cent per annum. A number of years of favourable weather conditions were an important contribution to this outcome. Toward the end of 1977-78, the increased use of high yielding varieties (HYVs) had had a positive influence on yields. During the Third Four Year Plan (1978-81), a target of 5.8 per cent increase per year in agriculture was set. Paddy was to expand by 4.2 per cent per annum. Over this period a rate of growth of 6.7 per cent in the agricultural sector and 9.5 per cent in rice production was achieved. However, the progress was short-lived. The targeted growth rate of the agricultural sector set for 1986-87, the first year of the Fifth Four Year Plan (1986-87 to 1989-90), was 2.5 per cent while the actual performance was 2.4 per cent. Overall, during the period since 1940, real agricultural output has increased by about 1 per cent (Steinsberg 1981, p.112; Hill and Jayasuriya 1986, pp.40-5)

Trends in Area, Production, Procurement, Domestic Use and Exports of Rice

Production, procurement, distribution for domestic use³ and export of rice have been under government control since 1962. Rice production is controlled by the government both through the land tenure system and land tilling right, and through supply of agricultural inputs such as chemical fertiliser and provisions of credit and extension services. Procurement, distribution for domestic use and export of rice are directly controlled by the government as a sole selling agent. Data on sown area, production, procurement, export and domestic use of rice are reported in Table 1 and graphed in Figure 1.

Sown Area and Production

The pre-war (1936-37 to 1940-41) average area sown to rice was 5.2 million ha out of a total cropped area of 7.8 million ha. This declined to 4.15 million ha immediately after independence (1948-50), but increased gradually during the fifties and reached the pre-war levels again in 1964-65. Since 1964-65 the area sown to rice has shown little change.

Despite the decline in sown area in the last 30 years, total production of rice has increased. For a brief period following independence, rice production fell to 2.9 Mt largely due to limitations of agricultural infrastructure and instability caused by civil war immediately after independence in

³ Domestic use includes domestic consumption for human and stockfeed use, seeds and wastage. Separate data for human consumption are not available.

1948. Rice production increased gradually after 1950-51 and reached the pre-war level for the first time in 1962-63. Production then remained stable for more than a decade. The large increases in production which occurred in the early eighties were mainly due to good weather conditions and the strict supervision and emphasis given by the government to the cultivation of HYVs.

Yields, which had remained fairly stable at around 1511 kg/ha until the early 1970s, began to increase after 1975-76 because of the large scale introduction of HYVs under the 'Whole Township, High Yields Special Programme'. Per hectare yields increased from 1830 kg in 1975-76, to 2116 kg in 1978-79, and further to 2850 kg in 1985-86. The rate of growth in yields slowed after 1981-82. Although yields doubled during the 1975-85 decade compared with that of a long period between 1890 and 1960, yields are still below the levels achieved in neighbouring countries such as Thailand, Indonesia, and Malaysia. The area sown to HYVs contributed about 52 per cent of the total area sown to all varieties of rice in 1985-86. After 1981-82, the expansion in area sown to HYVs slowed as a result of the lack of supply of modern inputs, insufficient water control and a lack of extension personnel (Steinberg 1981, p.112).

Procurement and Domestic Use

Up until 1961-62, the official procurement of rice by the government was for the purpose of export and for maintaining a stock for emergency use⁴. Distribution for domestic consumption was operated by free market agents. All of these activities were brought under government control in 1962-63. Even private rice milling and inter- and intra-State transportation of rice were strictly controlled by the government. The official procurement data indicate that the volume of rice procured by the government increased consistently during the period 1948-49 until 1964-65 but declined dramatically after that time. For example, government procured rice had accounted for over 40 per cent of production throughout the period 1948-49 to 1964-65. The level declined to an all time low of 16.7 per cent in 1972-73. It recovered and increased gradually from 1973-74 but has not again reached the previous level of 40 per cent of production. The amount of rice available for domestic use increased from 2.4 Mt in 1950-51 to 4.7 Mt in 1985-86. Reflecting the consistent increase in the amount available for domestic use, per person use of rice also increased consistently with the exception of a period in the early 1970s. However, the rate of growth in per person consumption was lower than that of total domestic availability. This was not only because population growth outpaced the growth in procurement but also because some rice was diverted for illegal export to neighbouring countries. Data on this illegal export are not available. However, the amounts are unlikely to be insignificant because rice is one of the major items used for payment for the barter trade for illegal imports which are apparently considerable in both volume and value terms.

⁴ The official procurement function was initially undertaken by the State Agricultural and Marketing Board established in 1946. The Board was reorganised and renamed the Trade Corporation (1) after 1964. Recently this Corporation became the Agricultural and Farm Produce Trade Corporation.

Exports

The amount of rice legally exported is dependent on the amount of domestic procurement, the level of domestic use and on external factors such as the world price. Burma's rice exports increased consistently during the period between 1948-49 and 1961-62. However, the increase in domestic use due to population increases, together with the unfavourable external terms of trade, caused exports to decline drastically after the mid 1960s. Exports reached an all time low of 0.1 Mt in 1973-74. Despite a concerted official effort to increase exports the volume reached only 0.9 Mt by 1985-86.

An Overview of Burmese Agricultural Policies

Before analysing rice price policy a brief description of the structure of Burmese markets and the institution important in the control of agriculture is provided as background. A central feature of Burma's economic policy since independence has been the government's control of domestic procurement and exports. Government procurement of rice until 1962 was mainly for export purposes. Domestic free trade prevailed at both the wholesale and retail levels until 1962. Up until 1962 farmers were completely free in their choice of crops and the markets in which they sold. Farmers' private land holding rights were also recognised and guaranteed by the government. Following the change of government in 1962, government control was extended to all activities. Beginning in 1963-64, crops cultivated throughout the nation were classified into two broad categories: 'planned' or 'controlled' crops and 'non-planned' or 'non-controlled' crops.⁵ Cultivated areas were accordingly classified as 'planned' and 'non-planned' areas. In the first instance, 67 crop types were brought under control. After 1965, the number of 'controlled' crops was reduced to 19 because of management problems. Rice is perceived as the most important of the 'controlled' crops because of its importance as a staple food and as an export crop. Areas of 'planned' crops can only be grown under supervision of the government agencies concerned. Priority for the provision of inputs, extension services and agricultural credits given to farmers growing these crops. Farmers growing planned crops especially rice must supply a fixed amount of the product to the government at a fixed price. The quota of rice to be delivered to the government is determined by formula (see Table 3). The area sown and yield are the major determinants of the compulsory delivery quota. Any residual after compulsory delivery can be sold to the state procurement agency (Trade Corporation (1)) which offers a price 33 per cent higher than the initial (procurement) quota price. Alternatively, farmers could sell the residual to the free market at prevailing market prices.

For 'non-planned' crops farmers are given a free choice of what, how, and when to produce and sell. However, production of these crops cannot be carried out in the areas set aside for

⁵ 'Non-planned' or 'non-controlled' crops refer to those crops that were never controlled by the government whereas 'de-controlled' crops refer to those crops that were controlled at one time but where control was later released.

planned crops during the season when planned crops are grown. In addition, the supply of inputs is not guaranteed by the government.

The distribution of both controlled and uncontrolled crops in the free market has led to a blurring of the distinction between the legal free market and the black market. The black market, in which controlled products are traded, now constitutes a dominant part of the economy.

Rice Price Policies

Objectives of Price Policy

Burma has a long history of price fixation by government. Under the socialist economic planning system operating since 1962, the main aims of the official price system has been to: (a) maintain fair prices for both producers and the consumers; (b) efficiently allocate the available resources; and (c) control the rate of inflation. Since rice has a dominant position in the economy, rice price policies are generally consistent with general economic policy. The main objectives of domestic rice price policies are to: (a) guarantee minimum prices to growers while keeping retail prices low in order to maintain low costs of living; (b) ensure a given pattern of income distribution and to provide a certain level of public revenue; (c) act as a principal means of taxing the farm sector; and (d) to derive substantial revenue from the export of surpluses by keeping the domestic price low relative to export price.

Price Fixation

As a general rule, for the purposes of price fixation, commodities are classified into four categories: (a) essential; (b) necessity; (c) semi-luxury; and (d) luxury. Profit margins are fixed depending on the category of the commodity at a maximum of 5 per cent for essential items, 7 to 10 per cent for necessity items, 15 to 20 per cent for semi-luxury items, and flexible rates (usually 200 to 300 per cent) for luxury items. The official procurement price of rice is fixed after taking account of the estimated cost of production.

To justify the compulsory delivery system, the state supplies agricultural inputs at subsidised prices and agricultural credit at low interest rates. Furthermore, the shortage of peak season labour is partly met by organising voluntary mass labour sponsored by party and council functionaries at various levels.

The Co-operative Sector

The co-operatives are allowed to fix the prices of both their own produce and that of the commodities in which they can legally trade. However, there is some regulation of the retail price of certain commodities such as rice. Profit margins are allowed to vary across regions depending on local conditions and overhead costs.

The Private Sector

In the private sector prices are set by the market mechanism. Prices prevailing in neighbouring countries have a major influence on prices within Burma because of the extent of smuggling. It is difficult to evaluate the magnitude of this private illegal foreign trade. Some observers here estimated that this trade was equivalent to about half the official export trade, that is, around \$US60-70 m and possibly much more (IBRD: *Report* 1975, p. 21) during the decade ending in 1975. The trade has probably expanded in recent years given that official foreign trade has declined while the domestic market has expanded. It is estimated that about 70 per cent of the gross output enter into private and co-operative trade (MNPF: *Report* 1986, p.4). Since the share of co-operatives either in production or trade is not more than 5 per cent, it is the private sector that is dominant in the Burmese economy. The sector is not officially encouraged but tolerated (and occasionally suppressed) by the government.

Official Procurement Prices

The official procurement prices are low when compared either with free market prices or with export prices (See Table 2). The government procurement price of paddy (Ordinary Ngasein Variety) was fixed at K137 per ton in 1948. The price remained constant until 1958. During the 1958-60 period, the then caretaker government introduced (in 1959) a range of K137-149 per ton for various qualities of rice and delivery dates. Since that date there have been modest increases for ordinary grades and more generous ones for superior qualities. Beginning from 1980-81, the price was raised to K478 per ton and remained unchanged until 1986-87 (Table 2).

Regulations and Restrictions on Milling and Transportation

Milling and transportation of rice either by private traders and merchants or by farmers could be done freely until 1962. However, after 1962 private milling and transportation of rice was strictly regulated. Government agencies and corporations are primarily responsible for the milling and transportation of rice. No rice mill is allowed to mill private rice without permission. Priority must be given by private rice mills to government rice. Private traders have no legal rights to obtain permission for milling because they have no legal rights of procurement of paddy or marketing. Farmers wishing to mill their own rice for home consumption must also obtain permission. However, officially obtaining such permission is not easy and even if it is obtained it is often necessary to wait until the milling of government rice is finished. Most rice mills are old and inefficient and milling out-turns are generally low. Due to the shortage of spare parts and increasing costs of repairs, the milling of private rice attracts very high charges.

The private transportation of rice either domestically or for export is legally prohibited. In reality, however, since the official supply of rice fulfils only about one-third of domestic consumption, the remaining two-thirds is milled and transported by private traders.

The Level of Research

Following the introduction of the HYVs in the late 1960s, some research was encouraged by the government. However, this encouragement was confined to work on the technical and biological aspects of rice cultivation. During the period since 1962, only about 60 research papers related to socio-economic and agricultural development problems were completed (Mya Than 1983). Only three of those papers could be classified as dealing with the effectiveness of agricultural policies. Even these studies are rather more general than specific. As a consequence, many policy decisions have been made on the basis of incomplete information.

The Impact of Pricing Policies

Retail prices of rice for domestic consumers are fixed at a low level by the government in order to achieve the objectives mentioned above. The Government's policy of maintaining retail prices of rice at levels well below international prices has meant that part of the margin between producer and international prices flowed to domestic purchasers of rice as well as to the state's revenue through exports.

In the early 1950s sales of rice for domestic use (excluding farmers' re-purchases of milled rice) was estimated to absorb about 10% of total rice production. The share taken by the domestic market has been gradually rising and exceeded that of exports in 1966-68. Domestic consumption was stimulated after 1964 when retail prices of rice were equalised throughout the Union, regardless of the overhead costs, at levels prevailing in the delta. This policy was said to have cost the state some K70m in subsidies in 1964-65 alone (*The Guardian*, June 23, 1965). Since 1967, the government has given priority to supply for the home market. To the extent that it succeeds in holding down retail prices by subsidy or by diverting export supplies for local sale, it transfers income to urban consumers and reduces both farmers' and state resources for investment and the country's foreign exchange earnings. The alternative of permitting a free market in grains to develop in the hope that it might stimulate production is officially considered to be unlikely to succeed and to be unacceptable politically.

Farmers pay an implicit tax representing the difference between export prices and procurement prices, plus processing, handling and transporting costs. During 1964-69 and after 1972, this implicit export tax generated substantial government revenues in the case of rice. Low pricing of agricultural commodities also allowed distribution of cheap food to industrial workers who also received low wages. This amounted to further subsidisation of industry, and more generally, of the urban sector by agriculture. The uniform pricing system also benefited food deficient areas. To offset the effects of low rice prices to some extent, farmers received relatively cheap consumer goods through the co-operatives and security of tenure. In addition, they paid no

rent for the land they cultivated and a low level of land tax.⁶ However, the public and co-operative sectors failed to fulfil the demand for consumer goods by farmers at the prices set in recent years. This situation has encouraged the use of the black market.

For the period 1945-50 to 1986-87, the available data indicate that free market producer price (that is, private procurement prices) increased over 16 times compared with only 3.4 times in the case of the official procurement price. During the same period official retail prices for domestic consumption increased a little over 4 times as against nearly 8 times in the case of the free market price. The divergence between the free market and the official prices provided farmers with a strong incentive to sell products outside the official system.

Pressures on Administered Prices

The official rice price policy operated fairly effectively during the 1948-61 period despite the low official procurement prices which remained unchanged for most of the period. During that time there was a consistent increase in rice production, procurement, domestic use and export. This enabled the government to maintain stability in the domestic retail prices of consumer goods.

During this period the volume of rice and the procurement price were not determined by a fixed formula as was the case after 1962-63. The volume procured was determined by considering the amount needed to fulfil the commitment made by the government under any bilateral or multilateral contracts for the sale of rice and the level of exports needed to earn the targeted level of foreign exchange. The main criteria considered in fixing the procurement price were the domestic cost of cultivation and the world price. In effect, the government encouraged growers by offering what amounted to a 'minimum guaranteed price', by providing access to credit and by supplying certain inputs at subsidised prices. In addition, the government was able to keep wages low. These factors taken together meant that rice production was a profitable farm enterprise despite the low procurement prices. This, together with the freedom to sell residual production on the open market, and the encouragement provided by the provision of land holding rights, motivated farmers to expand their production of rice and other crops.

However, pressure on the government's administered prices commenced with the change of policy after 1962-63. At first the change seemed conducive to the farm sector in general and to rice cultivation in particular.⁷ Prior to 1966-67 farmers, particularly in the delta, had had little opportunity to obtain prices better than the official price because the domestic supply of rice had been in constant surplus. The first rice shortage in post-independence Burma occurred in the 1966-68 period due both to bad weather and problems in procurement and the distribution system.

⁶ Private land rent was abolished by the 'Tenancy Amendment Act 1965'. Since 1965 farmers need not pay any rent to private landlords. Instead, a fixed land tax is paid to the government in cash. The levels of this tax are low compared with previous levels of rent charged by private landlords.

⁷ In the two years following the policy changes large amounts of agricultural credit were made available. Supplies of inputs were also boosted. However, after 1964 both credit and input supplies became tight.

This rice shortage enabled paddy farmers for the first time to sell substantial quantities on the black market. The diversion of supplies away from authorised buying centres was exacerbated by rebel concentration in the main rice districts and the harassment of farmers prepared to sell to the state. Official deliveries at that time could thus frequently be made only in armed convoys. For a brief time the government permitted farmers to barter rice for other goods but reverted to the system of monopoly rice marketing again in May, 1968. However, the level of official procurement never recovered. This resulted in a decline in the level of official exports despite increasing world market prices.

The Impact of Official Prices on Production

As already mentioned the 'cost of production' has been one of the main criteria used for the determination of official procurement prices for rice and other 'planned' crops. In the official calculation, the factors of production are generally priced using official prices with the assumption that there are adequate supplies available from the relevant government agencies. In reality, however, it is likely that government supply fall far short of farmers' needs. It has been estimated that farmers had to depend on the black market for about a third of their needs for both production and consumption during the ten years up to 1975 (IBRD: *Report* 1975, p. 20). In view of the fact that the official export of rice and imports of other commodities declined drastically after that date, together with a fall in domestic industrial production, farmers' dependence on the black market probably increased in later years. Available evidence reveal that farmers have had to depend on the free market for about half and, in some cases more than half, of their needs depending on the locality and the type of crops grown (IER: *Surveys* 1980, 1982).

Dependence on the black market by growers for their household consumption needs was much heavier than for their production needs. In this respect, the official CPI has many defects. No national price index is available. Those available for Rangoon are taken to represent the price trends for the country as a whole. The consumption weights utilised in the CPI for Rangoon are based on Trade Ministry reports which provide information on the quantity of items distributed in Rangoon through co-operatives. This does not take into account the leakage to the black markets of an important portion of the goods supposed to be sold to consumers at official prices (IBRD: *Report* 1981, p.15). As a consequence it is not possible to establish the true extent of price increases. Price developments in other towns are not known as accurately as those for Rangoon, but it can be reasonably assumed that Rangoon is better supplied than most other towns. In December 1973, for instance, the price of rice, the staple food, was 50 per cent higher in Mandalay (the second largest city located in Central Burma) and 60 to 70 per cent higher in Moulmein (the third largest city located in southern Burma and famous for a flourishing black market trade) than in the Rangoon free market (MNPF: *Report* 1975). In 1986-87, the difference widened to about 2.5 to 3.5 times. Within Rangoon too, the retail price of an inferior quality of rice, Ordinary Ngasein variety, in the black market in November, 1986 was 2.5 times higher than the official price of the co-operative shops (MNPF: *Report* 1988).

For essential inputs such as gasoline and diesel oil the price difference between Rangoon and other areas ranges between two to four times. Supply of these items are limited and priority is given to government departments and agencies and the population of Rangoon. It has been reported that other towns and rural areas in practice receive little more than five per cent of their needs from official sources (IER: Survey 1982). It follows that both the officially calculated 'cost of production' and the CPI do not reflect the actual cost of production and cost of living of the rural people. This, together with the additional input costs associated with the production of HYVs, has acted as a major disincentive to the farm population.

Shortcomings in the Compulsory Delivery System

The compulsory delivery formula was initially established with the intention of encouraging farmers to raise yields and expand production. However, under the system established an increase in yield per hectare (or an increase in farm size) is accompanied by a progressive rate of increase in the amount of the compulsory delivery quota after a threshold is reached. The effects of this system are illustrated in Table 3. In practice, the compulsory delivery formula acts as a definite disincentive to increase yields above a certain level and the system also discourages large land holders.

The second shortcoming of this formula is that policy makers failed to envisage the possible effect on land fragmentation and its impact on production. The deterioration in farm sizes was slow until 1962 but after that date it was severe. For instance, the average size of paddy farms in the Irrawaddy Delta in 1953-54 was 4.2 ha. This declined to 2.6 ha in 1962-63 and further to 2.2 ha in 1973-74 (Kan Zaw 1984, p.57). For Burma as a whole the proportion of farms under 2 ha comprised only 6.2 per cent of total sown area in 1953-54. This proportion increased to 25.1 per cent in 1986-87 (CSO: *Yearbook* 1965 and MNPF: *Report* 1988).

Concluding Remarks

The official rice price policy in Burma could be deemed to have failed after 1962-63. It was observed that farmers suffered most as producers by receiving less for their produce at fixed official procurement prices and as consumers by paying much more in the free market for their needs. At their expense, urban consumers in general and consumers from rice-deficient regions in particular, benefited as a result of the price subsidies in the early years. When official procurement and export drastically declined and, as a consequence, official imports were curtailed, the privileges enjoyed by farmers in the period before 1962 were reduced dramatically. They also became the victims of the illegal black market in terms of paying higher prices for their consumption needs while their real incomes declined. At least up until 1972 the government apparently gained as farmers responded positively to the official procurement prices. The implicit tax (revenue) for the government was large because of the difference between the official procurement and export prices. However, government revenue fell as increasing numbers of farmers refused to sell their produce through the official channels.

Perhaps those who have benefited most from the official rice price policy since 1962 have been those operating in the black market. Operators in this market have taken advantage of the large differences between the official procurement price and the world price to attract supplies. A proportion of the rice obtained in this way was bartered for consumer goods smuggled from neighbouring countries while the rest was sold on the domestic market.

The policy objective of increasing total production by raising yields was moderately successful as a consequence of the introduction of HYVs rather than as a consequence of price policy. The official procurement price and compulsory delivery systems discouraged farmers in raising yields. Moreover, land fragmentation had a negative effect on yields.

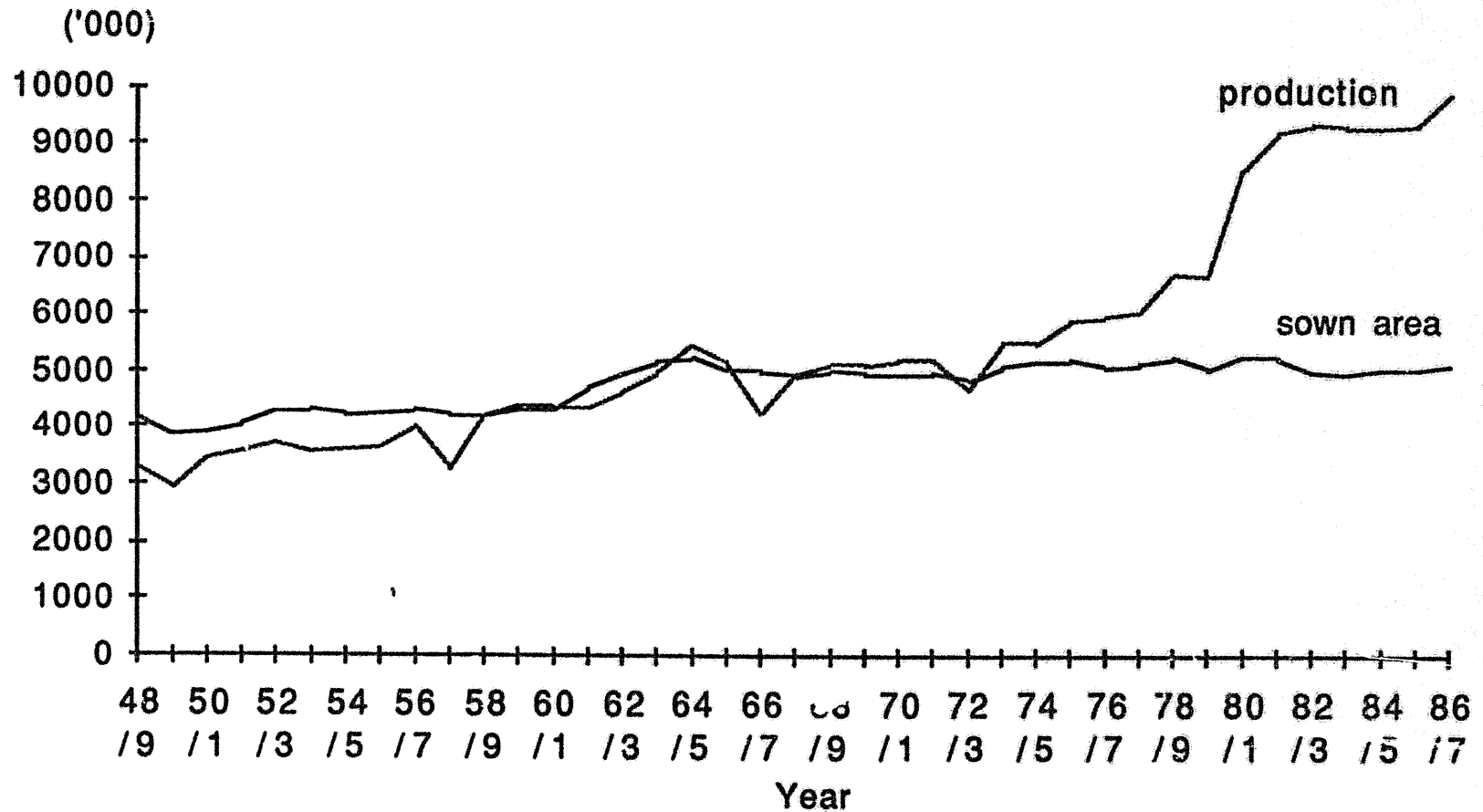
It does not seem that partial measures, such as the changing of a few prices, have been sufficient to achieve the government's objectives. It was suggested by both private and official analysts almost 15 years ago that comprehensive changes were required. The IBRD in its report of 1975, for instance, recommended, among other things, that 'a complete overhaul of the official price system, if not a sufficient condition, is a necessary one to do away with the present dual price system'. It was further suggested that in an economy largely privately operated, 'it is difficult to try to impose official prices differing radically from prices prevailing in the free market; particularly because in Burma free market prices are heavily influenced by price development in neighbouring countries. Serious consideration should therefore be made to the feasibility of unifying the price system, by raising official prices closer to the free market levels' (IBRD: *Report* 1975, p.22). It is clear that the potential of Burma's rice industry, as well as the rest of the economy, will not be achieved without wholesale reform of official pricing policies.

Table 1
Sown Area, Production, Procurement, Export and Domestic Use of Rice in Burma

Year	Sown area	Production	Procurement	Export	Domestic Use
	'000 ha	'000t	'000t	'000t	'000t
1890-91	2385	2352	n.a.	982	1871
1911-15	4220	3118	n.a.	2011	1710
1936-40	5193	4904	1810	2894	1653
1945-46	2691	1737	n.a.	n.a.	1737
1946-47	3404	2454	1446	848	1333
1947-48	3966	3474	2001	1250	1883
1948-49	4187	3297	2023	1049	1830
1949-50	3863	2924	1672	1066	1561
1950-51	3919	3449	1949	1284	1832
1951-52	4046	3576	2256	1070	2157
1952-53	4287	3729	2422	1038	2239
1953-54	4315	3562	2166	1155	2062
1954-55	4216	3608	1893	1505	1753
1955-56	4259	3647	1733	1721	1573
1956-57	4310	4010	1937	1858	1781
1957-58	4216	3257	1776	1283	1643
1958-59	4191	4204	2472	1458	2365
1959-60	4306	4401	2313	1832	2167
1960-61	4323	4363	2636	1435	2529
1961-62	4713	4372	2426	1676	2255
1962-63	4960	4644	2811	1521	3159
1963-64	5176	4979	3180	1445	3047
1964-65	5240	5442	3840	1176	3630
1965-66	5014	5153	2105	1179	3553
1966-67	4989	4245	1381	705	3165
1967-68	4935	4971	1456	398	4156
1968-69	5019	5132	1908	399	4271
1969-70	4955	5108	1933	798	4066
1970-71	4975	5221	1442	847	4060
1971-72	4978	5230	1312	776	4104
1972-73	4862	4707	786	309	4014
1973-74	5089	5503	965	104	4632
1974-75	5177	5491	1684	227	4643
1975-76	5203	5890	1783	487	4617
1976-77	5078	5962	1878	646	4737
1977-78	5136	6053	1460	210	4791
1978-79	5243	6735	2469	700	6280
1979-80	5026	6684	2291	600	6294
1980-81	5256	8526	2738	690	7395
1981-82	5232	9195	2799	687	7674
1982-83	5006	9342	2639	691	8574
1983-84	4954	9287	2656	769	8433
1984-85	5042	9266	2385	587	8679
1985-86	5027	9306	3041	556	8750
1986-87	5111	9892	2344	521	9092

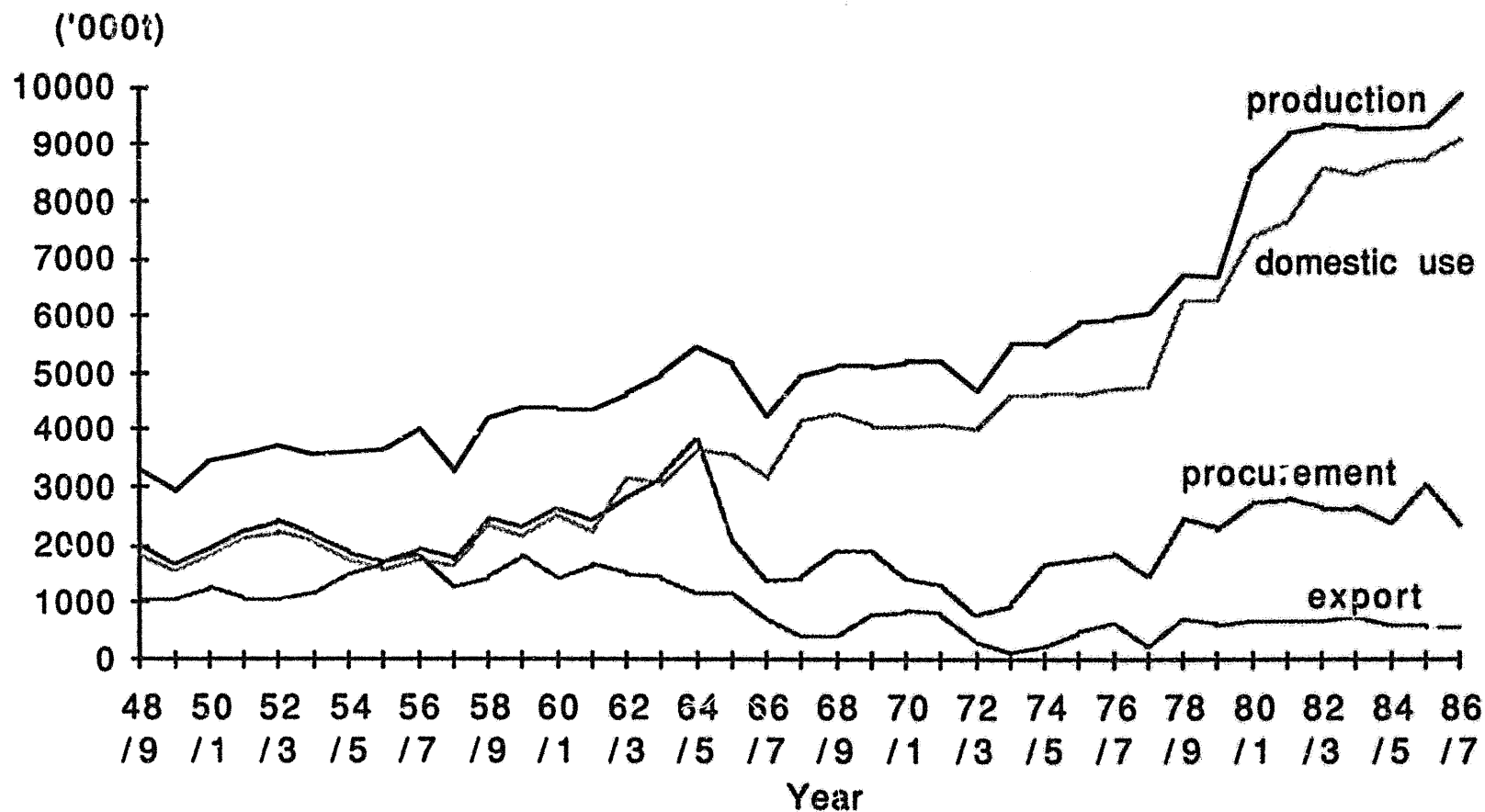
Sources: CSO: Statistical Yearbook 1965 and 1975 issues; Ministry of National Planning and Finance: Report to the Pyithu Hluttaw (Peoples' Assembly), various issues. Note: n.a.=not available.

Fig.1(a): Sown Area and Production of Rice, Burma; 1948-86



Source: Table 1

Fig.1(b): Production,Procurement, Export and Domestic Use of Rice, Burma; 1948-86



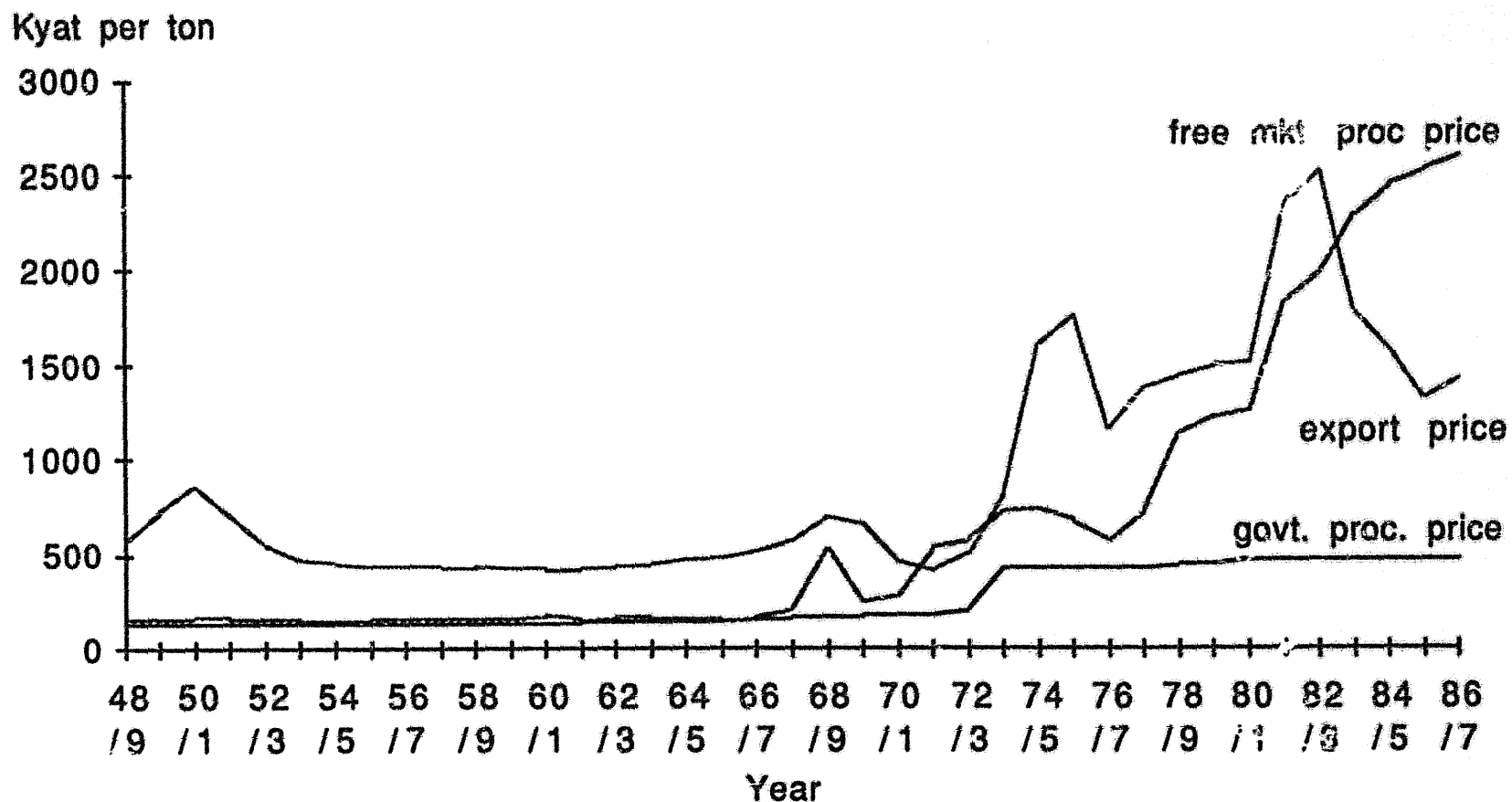
Source: Table 1

Table 2
Rice Prices (Ngasein Variety), Burma: 1948-86

Year	Procurement Prices		Export Prices	Retail Price	
	Govt.	Free Market		Govt.	Free Market
Kyat per tonne					
1948-49	137	156	575	211	191
1949-50	137	159	731	211	289
1950-51	137	165	860	211	322
1951-52	137	158	706	211	296
1952-53	137	153	551	211	284
1953-54	137	151	469	211	286
1954-55	137	152	452	211	279
1955-56	137	156	435	211	290
1956-57	137	156	436	211	283
1957-58	137	156	429	211	275
1958-59	137	156	440	211	284
1959-60	137	162	428	211	298
1960-61	137	183	422	211	321
1961-62	144	151	432	222	358
1962-63	144	166	443	222	378
1963-64	144	159	447	222	395
1964-65	144	155	472	229	357
1965-66	149	147	484	229	499
1966-67	163	165	521	251	1400
1967-68	172	209	578	265	1300
1968-69	172	528	703	265	900
1969-70	177	244	667	311	568
1970-71	177	281	465	311	628
1971-72	183	538	419	311	1038
1972-73	210	582	512	427	1109
1973-74	431	729	826	640	1344
1974-75	431	744	1609	710	1368
1975-76	431	679	1756	804	1283
1976-77	431	579	1157	870	1123
1977-78	431	732	1373	894	1368
1978-79	446	1132	1439	935	1674
1979-80	446	1211	1494	935	1176
1980-81	472	1253	1506	935	1647
1981-82	472	1833	2350	894	1289
1982-83	472	1986	2510	894	1500
1983-84	472	2291	1770	894	1834
1984-85	472	2444	1577	894	2022
1985-86	472	2521	1317	894	2126
1986-87	472	2597	1421	894	2225

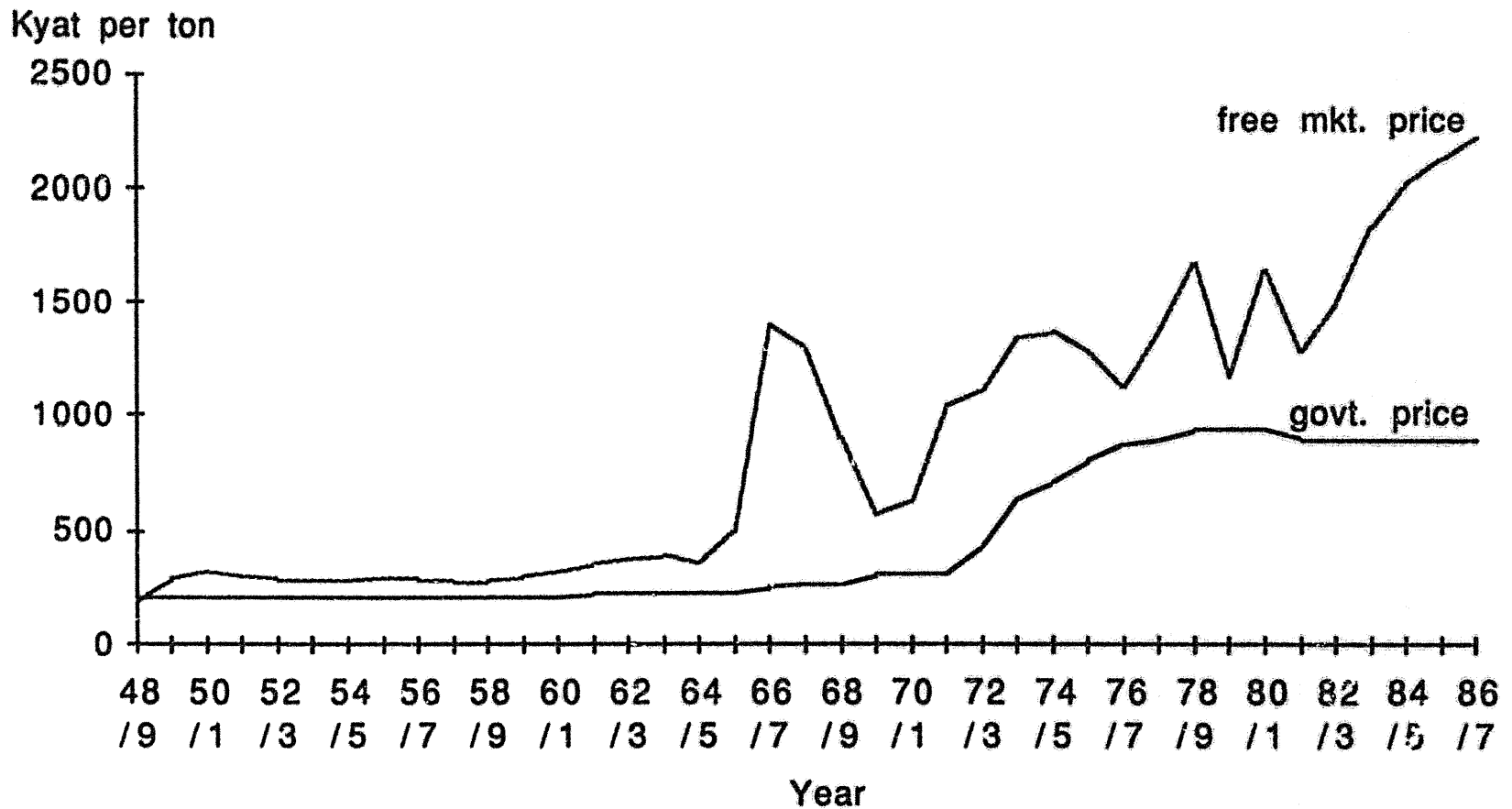
Sources: Agricultural and Farm Produce Trade Corporation, Rangoon, Burma; A.D.B: Bank Staff Estimates (Burma): Report No.2347-BA,1975; MNPF: Report to the Pyithu Hluttaw (People's Assembly) various issues; CSED: Statistical Yearbook 1955 & 1965; UN Statistical Yearbook 1960 & Monthly Bulletins (various issues)

Fig.2(a): Procurement Prices and Export Prices of Rice, Burma; 1948-86



Source: Table 2

Fig.2(b): Retail Prices of Rice (Ngasein Variety), Burma; 1948-86



Source: Table 2

Table 3
Formula Table for Compulsory Delivery Quota of Paddy^a

Sown acres	Yield per acre	Production	Compulsory delivery quota	Quota as % production
2	20	40	4	10
5	20	100	8	8
10	20	200	33	17
15	20	300	80	27
20	20	400	126	32
40	20	800	306	38
50	20	1000	396	40
2	30	60	4	7
5	30	150	30	20
10	30	300	117	38
15	30	450	215	47
20	30	600	307	51
40	30	1200	666	55
50	30	1500	846	56
2	40	80	6	8
5	40	200	114	57
10	40	400	199	50
15	40	600	347	58
20	40	800	486	60
40	40	1600	1026	65
2	50	100	64	64
5	50	250	101	40
10	50	500	282	56
15	50	750	481	64
20	50	1000	666	67
40	50	2000	1386	69
50	50	2500	1940	78

Source: Agricultural Corporation, Rangoon

^a Units are shown here in acres and baskets as given in the original Table. One basket of paddy equals 40 lbs or 20.9 kg. Delivery has to be made after deducting amounts for home consumption, seeds, payment for hired inputs and some allowance for wastage.

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