

**Building up of An Efficient Marketing System to Obviate the
Need for a Large Scale State Intervention in Maharashtra
(Executive Summary)**

Sangeeta Shroff

Agro-Economic Research Centre

**Gokhale Institute of Politics and Economics,
(Deemed To Be A University)**

Pune - 411004

P00231

December 2003

**Building up of An Efficient Marketing System to Obviate the
Need for a Large Scale State Intervention in Maharashtra.
(Executive Summary)**

Sangeeta Shroff

**Agro-Economic Research Centre
Gokhale Institute of Politics and Economics,
(Deemed to be a University)
Pune-411004**

December 2003

Executive Summary

1.1 Backdrop:

Agricultural marketing deals with a number of activities involved in moving agricultural commodities from the point of production to the point of consumption i.e. from the farm to the ultimate consumer. It includes all the activities involved in the creation of time, place, form and possession utility. Marketing of agricultural products assumes added importance with commercialisation and diversification of agriculture. Thus marketing is complementary to production and is an essential element in agricultural development. However, in developing countries like India where there are a large number of farmers who have small quantities of produce to sell, agricultural markets are characterised by imperfections and distortions leading to marketing inefficiencies and producers being exploited by middlemen. This necessitates the need for a marketing policy in order to correct imperfections and provide necessary infrastructure both physical and institutional, for improvements in marketing.

The problems associated with agricultural marketing were traced as early as 1928, when the report of the Royal Commission on Agriculture was published and which highlighted the defects and malpractices associated with marketing. The most common method of sale was to a village trader to whom the cultivator had financial obligation. The cultivators did not have information about rates prevailing in primary and terminal markets and sold at rates lower than warranted by primary or terminal market conditions. Scales and weights were manipulated against the cultivator and large quantities of the seller's produce was taken as sample, for which he was not paid, even when no sale was effected.

Further, the farmers had low stocking capacity and hence were forced to sell their produce immediately after harvest creating a glut in the market and fall in prices. Other factors responsible for cultivators being exploited by middlemen were their low level of literacy and lack of proper transport facilities between the point of production and local markets.

In view of the existing market imperfections and prevent exploitation of producers by middlemen, from time to time a number of market reforms have been

introduced. In fact soon after independence, the Planning Commission laid stress on market regulation and accordingly, all states began enacting market legislation.

An important feature of regulated markets was that the system of sale was designed to be open and through auction method. Thus competitive bidding for every lot sold, could enable the producer to obtain the best possible price. Also with market regulation, various market charges were fixed, correct weighing of the produce was assured and arrangement was made for the settlement of disputes. Grading of agricultural produce and efforts to improve transport and storage facilities were also undertaken. All market functionaries like traders, commission agents, weighing, etc., had to hold licenses of the Agricultural Produce Market Committee, to carry out business.

While the system of market regulation was designed to do away with malpractices in agricultural marketing, a number of inquiries on market regulation showed that the intended regulation of markets had its limitations and at times proved ineffective. The market functionaries, accustomed to unrestricted freedom, could not reconcile to the spirit of the market regulation act and tried to counteract its repercussions on the strength of their collective action, power and action. There was collusion amongst traders and the market committees were for all practical purposes dominated by traders' interests. There was lack of proper arbitrage operations among markets, perhaps due to improper and inadequate information about terminal market conditions. Also the proportion of village sales was so large that it made the operation of the Regulated Markets Act ineffective in providing fair price to the grower.

Regulation of markets with its special features such as competitive bidding for every lot sold, use of standard weights and measures, grading of produce, market news service, abolition of unwarranted market charges and licensing of market functionaries, still had its limitations. The understanding and close personal relations among the traders had given them a monopoly power over the market. In this situation, the classic solution of competition by means of auction sales could not be made to work.

Thus along with market regulation, other reform measures such as partial or complete state intervention in marketing was introduced. Cooperative marketing of agricultural produce was also encouraged so that private trade could face competition.

These institutions aimed at improving the economic conditions of the cultivators and played a major role in agricultural marketing.

1.2 Objectives of the Study:

Despite market legislation, market imperfections continued to persist and hence state intervention with respect to several crops, was introduced in various forms and degrees. An attempt is therefore made in this report to study the role of state in agricultural marketing, the extent to which it has been successful and beneficial to producers and at what cost. The study relates to the state of Maharashtra, and three crops, viz., cotton, sugarcane and onion have been selected as the state intervenes in the marketing of these crops.

The broad objectives of our study are:

- 1] To study the prevailing marketing system of cotton, sugarcane and onion;
- 2] To study the role of state agencies and critically evaluate their performance in the marketing of selected agricultural commodities;
- 3] To study marketing problems faced by farmers in case of sales to government agencies or in regulated markets.
- 4] To examine the performance of futures markets in the selected agricultural commodities and the farmers' awareness about the same.
- 5] To suggest measures to improve marketing efficiency.

1.3 Methodology :

The study is based on secondary and primary data. Secondary data was collected from the office of the Maharashtra State Cooperative Cotton Grower's Marketing Federation, (MSCCGMF) Mumbai, to study marketing of cotton and from the office of Commissioner of Sugar to study marketing of sugarcane. The annual reports of some sugar factories were also analysed. In case of onion, visits to the regulated markets in Lasalgaon (Nasik district) and Pune (Pune district) were made, auctions were observed and marketing costs and margins were noted. Published sources of data such as Season and Crop Reports(Government of Maharashtra, Maharashtra State, various issues) were also used.

Further, in order to study marketing problems of farmers, a field survey was made and one district (having highest area under the concerned crop) was selected. Further, two talukas from each district and three villages from each taluka were selected. Finally, 10 farmers from each village in relation to probability proportional to their operational area area were selected by stratifying the farmers into five size groups- less than 1 hectare, 1.0 hectare to 2.0 hectares, 2.0 to 4.0 hectares, 4.0 to 6.0 hectares and above 6.0 hectares. Thus 30 farmers from each taluka and 60 farmers from each district were selected. The districts selected were Yeotmal for cotton, Kolhapur for sugarcane and Nasik for onion.

1.4 Structure of Marketing of Agricultural Commodities in Maharashtra:

Regulated Markets :

Trade in most agricultural commodities is carried out through regulated markets in Maharashtra, as in other states. The government has enacted legislation for the establishment of agricultural markets entitled “ The Maharashtra Produce Marketing (Regulation) Act,” 1963, with amendments from time to time.

Under this act, the government has set up regulated markets in different areas of the state to manage wholesale trade of agricultural produce. Trade is conducted through the auction method and day-to-day functions of the market are entrusted to the Agricultural Produce Market Committee (APMC) constituted under the supervision of a state level Agricultural Marketing Board i.e. Maharashtra State Agricultural Marketing Board (MSAMB). The APMC act requires that all notified agricultural produce, bought or sold within the market area must pass through the market yard or sub-yard managed by the APMC. All functionaries like traders, commission agents, weighmen and loading workers must hold licenses of the APMC to carry on their business.

However, despite trade in agricultural commodities mostly taking place in regulated markets, there are selected crops, viz., cotton and sugarcane where the state plays a major role in marketing. The marketing structure of these crops therefore differs from that of other crops.

As is well known, in case of major agricultural commodities, the GOI operates a Minimum Support Price Scheme. These support prices serve as a long term guarantee to the producers that any glut in the market which may be caused by excess production will

not be able to depress their incomes to unduly low levels. Once the minimum support price is announced for a crop, it is implied that the government is committed to purchase, at the announced support price, unlimited quantities of the crop concerned, irrespective of the size of the harvest and the level of market price. Thus state intervention in case of most agricultural commodities takes place normally, only when prices crash below support level and government agencies intervene and mop up the produce offered for sale at support prices. The situation in Maharashtra for cotton and sugarcane is however different and in case of cotton there is total state intervention with respect to marketing while in case of sugarcane sales are made mostly to sugar cooperatives which are largely under the control of the government.

State Intervention in Cotton:

From the 1972-73 cotton season, a decision was made by the Maharashtra state government to enter the cotton market in the state through its agency, the Maharashtra State Cooperative Cotton Growers' Marketing Federation (MSCCGMF) as a monopolist, banning all private traders and fixing the price of cotton to be paid to the producers. The scheme of monopoly marketing was introduced in Maharashtra and the main purpose of this scheme was to assure the grower a fair and remunerative return by way of (i) a guaranteed price at the time of sale (ii) sharing with the farmer a part of any excess price received from sale of cotton by the federation after deducting the marketing costs.

The purpose behind conceiving this scheme was that if all marketing functions such as assembling, grading, pooling, processing, storage, finance, insurance, sale, transportation, standardisation and export are performed by the federation on behalf of the growers, it would result in a better price received by growers and also prevent them from exploitation by private trade.

Cooperative Sugar Factories in Maharashtra:

Maharashtra has been a pioneering state with respect to setting up of cooperative sugar factories (CSFs) and the first such factory (Pravara Cooperative sugar factory) was set up in 1948. This was the first cooperative sugar factory, not only in Maharashtra, but in whole of India. The successful establishment and operation of this factory, initiated a trend in cooperative development with rapid multiplication of cooperative sugar factories in the state. There are 160 installed sugar factories in Maharashtra. Out of these 160

installed sugar factories in Maharashtra, 147 factories are in the cooperative sector and 13 in the private sector. The number of private sugar factories in the state have withered away and it is a Government of Maharashtra (GOM) policy that all mills should be cooperatively owned. Besides, these factories which are in operation, there are 57 factories which are under erection.

The CSFs are involved in scheduling of planting, harvesting, transport and financing of the sugar crop. They purchase cane supplied by farmers and process it into sugar.

The establishment of these factories has been largely funded directly and indirectly by the GOM. Usually, the farmer members only have to provide about 10 percent of the investment costs. About 30 percent is provided by GOM as equity contribution, while the remainder is financed as loans (eg. NCDC, IFCI, IDBI) and is guaranteed by state government. All the mills that have been installed are small by international standards partly to an earlier GOI policy to give preference to granting licenses to mills with processing capacity below 2,500 tonnes per day. The GOI licensing policy was abolished in 1998.

The government has appointed a committee headed by the chief minister which takes decision each year on the cane price. The state does not have a system of State Advised Price (SAP) as in other states, but the Minister's committee decides the first advance to be paid towards the cane price which is more or less equal to Statutory Minimum Price(SMP) adjusted to average recovery of 11 percent for Maharashtra and transport and harvest charges paid by the factory. Depending upon the surplus generated, cooperative sugar factories have to pay one or more advances till final prices are paid.

Sugar is a commodity which is covered under Essential Commodities Act (1955). The marketing of sugar is dualistic in nature. Sugar is split into levy and free market sugar and a great control is exercised on both markets. Currently 10 percent of total production of each sugar factory is procured as levy sugar at notified prices for distribution through Public Distribution system(PDS).

The government in the near future is likely to completely decontrol the sugar industry, subject to futures trading becoming fully operational. After futures trading

comes into force, there will be no need for the government to prescribe quotas for free release and trade in sugar as also for the levy as PDS supplies are to be sustained through negotiated purchases from the government.

Marketing of Onions:

Unlike cotton and sugarcane, where marketing is controlled by the government, the marketing of onions is through regulated markets. The intervention by the government takes place only when prices fall to very low levels and farmers are forced to make distress sales. In such cases, the government intervenes through its Market Intervention Scheme which applies to horticultural crops. This scheme is launched only in the year when the price of a horticultural crop crashes to unduly low levels. Thus it is different from the minimum support scheme of the GOI, when support prices for major agricultural commodities are announced every season and the farmers always have the option of selling to the government agency at support price.

Thus in the case of internal trade in onions, while marketing is done in regulated markets under the supervision of the APMCs, external trade has some restrictions imposed by the government. Exports of onions are not under Open General License (OGL), but can be exported only against quotas released by the government. Out of the total quota released for export, NAFED and MSAMB have a share of 35 percent each, and 30 percent is given to the export corporations of other states.

Thus state intervention in onion marketing is mainly in external markets as exports are not free, but on the basis of quotas announced by the government.

1.5 Major Findings of the Study:

As mentioned earlier, our study deals with secondary and primary data. The following are the main findings:

1.5.1 State Intervention in Cotton Marketing:

The Monopoly Procurement Scheme of cotton in Maharashtra is in operation since the last three decades. Its performance during the first two decades i.e. from the period 1972-73 to 1993-94 showed that it made losses in 8 out of 22 years. The major losses were in 198-85 and 1985-86, when the scheme made losses of Rs 77/- crores and

Rs 308 crores/- respectively. There was a bumper crop and the prices in all primary markets began to crash. The Monopoly scheme was under strain as it had paid unduly high guaranteed prices to the farmers, but incurred high marketing costs and realized low sale prices. To make good these losses a sum of Rs 331/- crores had to be transferred from the state exchequer to the federation for its survival. The Price Fluctuation Fund which was devised essentially to ensure payment of guaranteed prices in years of losses was completely wiped out and the state had to come to the rescue of the growers. The financial difficulties of the scheme were aggravated because there was inflow of cotton in 1985-86 of about 10 lakh bales from border states which is against the spirit of the act. As guaranteed prices in Maharashtra were far higher than ruling prices in border states which had touched support level, there was illegal inflow of cotton into the state and the scheme, besides subsidising Maharashtra farmers also subsidised those in adjoining states.

Due to heavy losses incurred by the scheme in 1984-85 and 1985-86, the policy of fixing guaranteed prices at support level from the 1986-87 to 1993-94 season was implemented. As prices remained above support level, the scheme made profits during this period. However, from the 1993-94 season, besides paying guaranteed prices at support level, also paid an advance additional price to growers as ruling prices were higher than support level. The scheme however was making continuous losses since 1993-94 and marketing costs as a percentage of gross total receipts of the Federation which was 12.6 percent in 1993-94 increased to 21.6 percent in 1999-2000. Interest cost formed a major component of marketing costs as the federation was always holding large stocks of cotton and the interest burden which was Rs 17.94/- crores in 1993-94 increased over the years and amounted to Rs 324/-crores in 1999-2000.

The marketing of cotton by the federation also suffered from severe malpractices. There was improper grading and inferior quality cotton was gradeed as superior quality cotton. Thus the federation while making payment had to pay for high quality cotton but at time of sales to mills, the price realized was that for inferior quality. This practise added to the losses of the federation.

Currently, the federation is making losses to the tune of Rs 3982.28/- crores. Also there is no evidence that the federation was supplying scientifically graded quality cotton to the mills.

The overall marketing operations of the Federation showed that it was paying unsustainable guaranteed prices to the growers, incurring huge marketing costs, holding large stocks due to slow sales and grading was not up to the mark. The area under cotton however increased from 26.5 lakh hectares in TE ending 1990-91 to almost 30 lakh hectares in TE ending 1996-97. However, inefficient marketing and government subventions is hardly a way to induce farmers to increase area under the crop.

The field survey however showed that farmers in the sample preferred to sell to state agencies because they received better prices, had an assured market and there was honest weighing. However, the farmers had to face certain marketing problems in case of sales to the Federation. In case the sale was not made on the same day, farmers did not get staying arrangement. Sometimes, farmers had to wait for 6 days to tender their produce. Improper and arbitrary grading was also a prominent feature of the Monopoly Procurement scheme and farmer's produce was often upgraded. There were also problems relating to payment of price to the farmers. Payment was made in installments and while guaranteed price was paid at the time of tender, the balance installments were delayed as the Federation was facing financial crisis.

Futures trading in cotton was resumed in 1998 after 32 years. The trading in cotton futures is conducted in the designated hall of Cotton Green, Sewri, Mumbai, and is through open outcry system. However, futures trading has so far remained on a low key due to certain impediments and hurdles. Our field survey showed that there is lack of awareness among farmers on futures trading and they are not conversant with either the utility of futures markets, nor the trading techniques. The Monopoly Procurement scheme is itself an impediment to the success of futures. This is because futures trading requires large players in the market. However, in Maharashtra, farmers are compelled to sell their cotton to the Federation and cannot participate in futures markets. Also, they are assured of guaranteed price so they do not feel the need for futures as they do not face price uncertainty. Again, a number of mills buy directly from the federation and therefore do

not enter futures markets. The Maharashtra Federation has its own bureaucratic setup regarding sales and does not function in futures markets. Thus complete monopoly marketing also hinders the popularity of futures marketing.

1.5.2 Marketing of sugarcane by cooperative sugar factories:

The establishment of sugar mills has been largely funded directly and indirectly by GOM. The financial involvement of the state government in the project cost of the cooperative sugar factories in the state has been by way of (i) contribution to their equity (share capital), (ii) loans extended to them from the state exchequer, (iii) default guarantee for all loans raised by them from banks and financial institutions, and (iv) deferral of purchase tax.

The Godbole Committee Report on Cooperative Sugar factories in Maharashtra (1999), noted that the financial institutions were of the view that for the last 45 years, the state government played a very important role as promoter of cooperatives in the state. In addition, the state government has also been regulating the sugar factories on all vital matters which have a close bearing on development, regulation and viability of the sugar factories in the state.

Maharashtra has 160 sugar cooperatives out of which 147 are in the cooperative sector. However, all factories may not be operating every year, due to various reasons such as shortage in availability of cane. The marketing operations of three cooperative sugar factories in Kolhapur district for two seasons, viz., 1999-2000 and 2000-01 indicated that these factories were incurring losses due to their high marketing costs. In case of all the mills, the expenses on sugarcane purchases were 50 percent of the total expenses while the balance was on marketing costs. The data on the financial performance of 138 sugar cooperatives in the year 1998-99 also showed a dismal picture. Out of 138 factories, only 31 mills were making profits, while 107 were making losses. Further, while accumulated losses of 107 factories amounted to Rs 1031 crores, the accumulated profits of the 31 mills was only Rs 19.78 crores. In Kolhapur district, out of the 15 sugar factories, 10 were in losses amounting to Rs 42 crores while the profits of the 5 mills was only Rs 1.08 crores. The situation was similar in Sangli district where the accumulated losses of sugar mills was Rs 52 crores. Thus three-fourth of sugar mills in

the state were incurring huge losses and accumulating heavy debts, adding to the already mounting fiscal burden in the state.

Several factors were responsible for these losses. The normative costs adopted by financial institutions for sanction of loans was often outdated as actual costs turned out to be much higher. Since term loans were not available to meet this increased cost, sugar factories often resorted to high cost short term funds. The cooperative sugar factories were also distributing all surpluses as cane price to avoid paying income tax and therefore had not built up any reserves. Thus even one bad season could result in a sugar factory becoming sick as no buffer had been built. A number of factories were paying much higher prices than that warranted by their financial status. Further, a number of factories gave huge advances to transport operators who did not honour their commitments and which were not recovered.

All these factors contributed to losses incurred by sugar factories which are now facing severe financial crisis. The sugar factories are also facing the burden of short margin (the difference between the production cost and market price of sugar) to the tune of Rs 1578 crores. The RBI and NABARD have shown willingness to convert this short margin to medium-term loans provided the government gives guarantee. The government of course rescued the cooperative mills by giving guarantee for Rs 1000 crores.

The field level survey in Kolhapur district to study the marketing problems, if any, faced by farmers indicated that farmers preferred to sell to cooperative societies as they had an assured market due to the prevalence of a number of sugar mills in the vicinity. Quick and timely disposal of their produce was thus facilitated. Sugar Cooperatives themselves arranged to harvest and transport cane to the mills. Payment to farmers was sometimes delayed and some of the sugar factories are facing severe financial crisis and are not even in a position to pay SMP to the farmers. They may have to face legal action in case payment of SMP is delayed.

Farmers allocated more area towards sugarcane in case of favourable prices. They were also shifting to varieties which are less susceptible to diseases.

Farmers lacked awareness about futures trading and although the need for futures trading has been felt and government is on the verge of decontrolling the sugar sector,

futures trading has to yet take off. In the absence of futures markets, farmers are still unaware about the usefulness of such markets.

1.5.3 Marketing of Onions:

Marketing of onions which was studied in two major onion markets viz., Lasalgaon and Pune revealed that the most common marketing channel was:

Farmer → Commission agent → wholesaler → retailer → ultimate consumer

The study on marketing costs and margins indicated that in Lasalgaon market, the farmer received 45.33 per cent of the retailer's sale price while for Pune market, the corresponding figure was 41.88 percent. The marketing costs borne by farmers were higher in Pune than Lasalgaon. This is because in Pune, the farmers brought the produce from long distances in gunny bags which cost Rs 20/- per quintal, while in Lasalgaon market the produce was brought loose from nearby areas. Also the commission charged by commission agents in Pune was higher @ 6 percent of the sale price whereas in Lasalgaon the rate was 4 percent of sale price.

The produce from Pune was transported to distant markets in south India such as Kerala while that from Nasik it was transported to Haryana. The produce was also transported to metropolitan cities such as Mumbai.

The marketing costs and margins as a percentage of retail price was 40.67 percent and 14 percent respectively in Lasalgaon while the corresponding figures for Pune were 42.42 percent and 15.7 percent. The overall conclusions reveal that the share of the farmer in the retail price was less than half the retail price, the balance being accounted by marketing costs and margins.

The field survey to observe marketing problems of farmers indicated that farmers did not face major problems in marketing their produce. Soon after the auction was over, they received payment for produce. The main problem which the farmers faced was the fluctuations in prices and low prices when there was glut in the market. There were even instances, when farmers destroyed the crop due to very low prices. This happened in the year 1999-2000, when production peaked at 13.85 lakh tons.

The presence of sharp seasonality in onion prices was also observed. The lowest prices prevailed in April-May when arrivals are at a peak, while highest prices prevailed

in November when arrivals were lowest. Thus storage of onions assumes great importance. Onion is very perishable, especially the kharif crop, and farmers often incur huge storage losses.

Since onion is a sensitive commodity, exports are still controlled and are made on the basis of quotas fixed by the government. The farmers are therefore not able to take advantage of the country's competitive prices in the international markets.

Thus while state intervention in onion marketing is minimal in internal trade, external trade is characterised by restrictive policies.

1.6 Policy Implications:

The major findings of our study on marketing of cotton, sugarcane and onion lead us to make the following recommendations for policy:

1] **Cotton** is an important commercial crop in Maharashtra and the state has highest area under cotton in the country. However, the performance of the state with respect to yield is very poor. This is mainly because the crop is rainfed and only 3 percent of the area under cotton is irrigated. Besides, the crop is highly susceptible to pests which further reduces the yield. Attempts have been made to improve yield since the early seventies when programmes such as Intensive Cotton Development Programmes (ICDP) were launched. Recently, a fresh thrust to cotton research and development has been given, by the GOI, which launched a Technology Mission on Cotton (TMC) in 2000. The purpose of this mission is to bring the entire gamut of research, technology transfer, marketing and processing of cotton under one roof. The mission aims at increasing yield, improving the quality of cotton particularly in respect of trash contamination and reducing the cost of cultivation. Since increasing yield and supplying the mills with high quality cotton are will strengthen the cotton producers as well as the textile industry, it is necessary that the state of Maharashtra should take full advantage of the Technology Mission on Cotton, so that farmers receive adequate extension services, ginning and pressing factories are upgraded and mills receive quality cotton without trash contamination.(Attn. Technology Mission on Cotton)

2] The Monopoly marketing scheme of the GOM, indicated that the scheme made losses to the tune of Rs 4000/- crores and incurred heavy marketing costs. These losses are

futures trading has to yet take off. In the absence of futures markets, farmers are still unaware about the usefulness of such markets.

1.5.3 Marketing of Onions:

Marketing of onions which was studied in two major onion markets viz., Lasalgaon and Pune revealed that the most common marketing channel was:

Farmer → Commission agent → wholesaler → retailer → ultimate consumer

The study on marketing costs and margins indicated that in Lasalgaon market, the farmer received 45.33 per cent of the retailer's sale price while for Pune market, the corresponding figure was 41.88 percent. The marketing costs borne by farmers were higher in Pune than Lasalgaon. This is because in Pune, the farmers brought the produce from long distances in gunny bags which cost Rs 20/- per quintal, while in Lasalgaon market the produce was brought loose from nearby areas. Also the commission charged by commission agents in Pune was higher @ 6 percent of the sale price whereas in Lasalgaon the rate was 4 percent of sale price.

The produce from Pune was transported to distant markets in south India such as Kerala while that from Nasik it was transported to Haryana. The produce was also transported to metropolitan cities such as Mumbai.

The marketing costs and margins as a percentage of retail price was 40.67 percent and 14 percent respectively in Lasalgaon while the corresponding figures for Pune were 42.42 percent and 15.7 percent. The overall conclusions reveal that the share of the farmer in the retail price was less than half the retail price, the balance being accounted by marketing costs and margins.

The field survey to observe marketing problems of farmers indicated that farmers did not face major problems in marketing their produce. Soon after the auction was over, they received payment for produce. The main problem which the farmers faced was the fluctuations in prices and low prices when there was glut in the market. There were even instances, when farmers destroyed the crop due to very low prices. This happened in the year 1999-2000, when production peaked at 13.85 lakh tons.

The presence of sharp seasonality in onion prices was also observed. The lowest prices prevailed in April-May when arrivals are at a peak, while highest prices prevailed

in November when arrivals were lowest. Thus storage of onions assumes great importance. Onion is very perishable, especially the kharif crop, and farmers often incur huge storage losses.

Since onion is a sensitive commodity, exports are still controlled and are made on the basis of quotas fixed by the government. The farmers are therefore not able to take advantage of the country's competitive prices in the international markets.

Thus while state intervention in onion marketing is minimal in internal trade, external trade is characterised by restrictive policies.

1.6 Policy Implications:

The major findings of our study on marketing of cotton, sugarcane and onion lead us to make the following recommendations for policy:

1] **Cotton is an important commercial crop in Maharashtra and the state has highest area under cotton in the country. However, the performance of the state with respect to yield is very poor. This is mainly because the crop is rainfed and only 3 percent of the area under cotton is irrigated. Besides, the crop is highly susceptible to pests which further reduces the yield. Attempts have been made to improve yield since the early seventies when programmes such as Intensive Cotton Development Programmes (ICDP) were launched. Recently, a fresh thrust to cotton research and development has been given, by the GOI, which launched a Technology Mission on Cotton (TMC) in 2000. The purpose of this mission is to bring the entire gamut of research, technology transfer, marketing and processing of cotton under one roof. The mission aims at increasing yield, improving the quality of cotton particularly in respect of trash contamination and reducing the cost of cultivation. Since increasing yield and supplying the mills with high quality cotton are will strengthen the cotton producers as well as the textile industry, it is necessary that the state of Maharashtra should take full advantage of the Technology Mission on Cotton, so that farmers receive adequate extension services, ginning and pressing factories are upgraded and mills receive quality cotton without trash contamination.(Attn. Technology Mission on Cotton)**

2] **The Monopoly marketing scheme of the GOM, indicated that the scheme made losses to the tune of Rs 4000/- crores and incurred heavy marketing costs. These losses are**

made good by the state government. The performance of the scheme is not justified on rational economic grounds and it needs to be abrogated. The concept of monopoly runs counter to a market economy and with the opening up of the Indian market in an era of liberalisation, a monopoly marketing scheme is certainly out of place.

Abandoning the scheme would in no way disprotect the cotton growers. This is because the Cotton Corporation of India (CCI) plays the role of performing price support operations in the event of prices going below support levels. At present, the CCI operates in all markets in the country (except Maharashtra) when the need for support is felt. Thus the government has already set up a support mechanism to protect the farmers from distress sales.

While doing away with the scheme would aggravate the financial burden on the government exchequer, this may be a cheaper one-time option, considering that running the scheme in its present form would mean large annual recurring deficits which again would strain the government.

Again, in case of closure of this scheme, the problem may arise regarding the employees of the federation. In any case, the economy is going through structural adjustments with a large number of industrial units closing down. Also a large number of public and private sector units are undergoing large scale retrenchments and offering voluntary retirement schemes. The Federation can follow suit. The Maharashtra Federation has at present 7000 employees to operate the Monopoly scheme, out of which 2000 employees are regular while 5000 employees are seasonal. The total salary bill is Rs 75 crores/- per annum or roughly Rs 6 crores/- per month. Out of the total monthly salary bill, one-third is paid to regular employees while two-third is paid to seasonal employees. In view of the high administrative costs, besides marketing costs, the closed monopoly has proved to be very costly and the "monopoly" character of the scheme must be given up. Instead, the federation must compete with private traders as this may help to discipline the market and ensure better prices to producers.(Attn. GOM and MSCCGMF)

3] Cotton is a crop characterised by frequent and sudden volatility in prices. State intervention while providing support to farmers suffered from severe limitations. Price volatility can therefore be managed by futures trading in cotton. Futures trading in cotton

which was suspended in 1966 and revived in 1998 has been universally recognized as an effective modern tool for risk management and price discovery. However, futures trading is still in an infant stage and the new generation of persons functioning in physical markets are not conversant with either the utility of futures markets, nor the trading techniques. The traders find that the rules and regulations laid down by the Forward Markets Commission regarding margins, netting, deposits, day-to-day clearing, sales tax, excise duty, octroi and other measures are stringent and need to be rationalised. Even the operation of the Monopoly Procurement scheme of cotton is an impediment to successful futures as futures trading requires large players. Maharashtra farmers are compelled to sell to the Federation and mills also buy directly from the Federation and hence participation of these potential players in futures markets is withdrawn.

Thus due to a number of hurdles, trading in cotton futures has been virtually negligible since inception. Members must therefore gain experience on the modus operandi of trading in these contracts and some of the procedures need to be rationalised. It is therefore necessary to create an environment conducive to futures trading and Indian futures markets which are operating under highly restrictive policies must be encouraged to eliminate price volatility. (Attn. Forward Markets Commission and East India Cotton Association)

4] As in the case of cotton, the yield of sugarcane in Maharashtra, which is showing a negative growth rate in the last decade, is a cause for concern. The increase in sugarcane production is mainly due to increase in area. The crop gets infested by White Woolly Sugarcane Aphid which is a common pest and farmers are unable to combat this pest which lowers their yield. While research is being undertaken to determine the right pesticide to spray, further efforts as well as extension services are needed to fight this pest. (Attn. Vasantdada Sugar Institute and State Agricultural Universities)

5] Sugarcane is a water intensive crop and increasing acreage under this crop will lead to further mining of water resources and even threaten the sustainable use of ground water in the state. Barely 15 percent of gross cropped area in Maharashtra is irrigated, while entire area under sugarcane is irrigated and yield growth rates are declining. Policy must therefore encourage the need to enhance irrigated area under other crops also by restricting and controlling the irrigation water use under sugarcane. (Attn. GOM)

6] The functioning of sugar cooperatives in Maharashtra indicates that they are facing severe financial crisis. The GOM has helped to promote rural development in the state by promoting the sugar sector through large financial assistance for establishing sugar mills. Many sugar mills assisted transformation of rural economies and diversified their activities into food processing, co-generation of power, paper and alcohol manufacturing, and even educational institutions. However, despite their noteworthy contribution, today a large number of sugar factories are sick and are unable to repay their loans to financial institutions for which the government has given guarantee. This is therefore becoming a major threat to the government's fiscal health and the situation is likely to worsen, especially if the sugar mills have to compete with cheaper imports. The GOM must therefore discontinue support to sugar mills, in view of the fiscal burden that it is facing and discourage the establishment of new sugar factories. Attempts must be made to increase yield and develop varieties with more sucrose content. At the same time, agricultural extension services must be strengthened so as to encourage more farmers to use water saving technologies such as drip irrigation.(Attn. GOM)

7] Sugarcane can also be diverted to produce jaggery. India accounts for 70 percent of world production of jaggery and Kolhapur Gur market is the most important market for jaggery. The gur from this district is also in great demand. However, jaggery is produced under severe unhygienic conditions and lack of quality standards have become setbacks for promoting jaggery exports. Thus in order to promote export earnings from jaggery it is necessary to upgrade technology and introduce modern methods of processing. The product should be standardised and quality specifications should be maintained. The government and private sector should therefore be encouraged to make investments in this direction. (Attn. Maharashtra State Agricultural Marketing Board.)

8] The sugar sector is highly restricted with controls and although the government is making serious attempts to decontrol, it has to yet take off. Forward trading is likely to be introduced, but will not gain momentum with the monthly release mechanism of the government. In forward trading, mills can plan production, sales, inventory and cashflow, the institutional buyers can plan purchases, stocks and cashflow and traders will carry inventory. With forward sales the price risk that is undertaken by buyers and sellers can

be hedged and this will therefore reduce the need for state intervention.(Attn. Forward Markets Commission)

9.] Onion, is an important horticultural crop in Maharashtra but the major problem facing onion growers are poor storage capacity, leading to qualitative and quantitative losses and also causing price fluctuations. Storage losses comprise of moisture loss, shrinkage, decay and sprouting. In case of glut in the market and improper storage facilities, prices crash and in certain seasons, farmers are even forced to destroy the crop. Therefore, increasing the shelf life of onions assumes great importance and government investment in this direction must be channelized. Normally, onion should be stored in scientifically constructed onion storage chawls. However, a large number of farmers do not have access to such storage arrangements and are therefore forced to dispose off their stocks during peak period. Onion growers in Maharashtra do not have scientific knowledge on pre and post harvest management practises for onion storage and often keep it in the open. This results in sun scalding, the outer skin becomes brittle and breaks and inner scales get damaged. Therefore, very often it is the traders who benefit from the off seasonal rise in prices as they have proper storage facilities. Farmers, should also be encouraged to cultivate varieties which have good keeping quality for 4 to 6 months.(Attn. Directorate of Agricultural Marketing, GOM and NAFED)

10] Radiation processing of food is one of the latest technologies developed for preservation and increase of shelf life. This procedure involves the exposure of food to short wave energy to achieve specific purposes, such as extension of shelf life, insect disinfection, elimination of pathogens etc. This process therefore helps to reduce storage losses, eliminates food-borne diseases and also helps to maintain international standards. A study conducted by Bhaba Atomic Research Centre observed the benefits obtained through irradiation processing and noted that 20 percent of onion loss is averted through sprout inhibition (by radiation) and for every tonne of onion stored there is a net gain of Rs 502/-. Farmers must be therefore given practical demonstration on food irradiation processing and government must also encourage the setting up of such plants. Use of technology will benefit farmers and traders and avoid distress sales. Quality retention of irradiated onions will also result in improved consumer confidence and satisfaction. It

may also attract a higher price in the export market. (Attn. Directorate of Agricultural Marketing, GOM and MSAMB)

11] Although onion processing is not yet initiated in a big way, dehydration of onion is another method of converting perishable onion in the form of non perishable dehydrated flakes or powder. In western countries, onion is commonly used in the form of powder or flakes and thus processing onions may fetch good returns in international markets. In the domestic markets also, they are in demand by the defense services and also used in instant foods. Thus processing of onions must also be encouraged especially since dehydrated onion flakes are light and easy to transport and also have a long storage life. (Attn. Directorate of Agricultural Marketing, GOM)

12] Our study on marketing of onions observed that farmers received less than half the retail price, the balance being accounted by marketing costs and margins. Therefore, attempts must be made to increase the share of the farmer in the terminal price and also reduce the length of the marketing channel. Cooperative marketing must be encouraged so that farmers can benefit from scale economies and direct marketing must be strengthened. Marketing the produce directly to buyers or processors will increase the share of farmers in the ultimate consumer's rupee as the role of the commission agent would cease to exist. This may require an amendment in the APMC act and the state of Karnataka has already taken the lead by amending its act to allow the National Dairy Development Board to set up wholesale fruit and vegetable markets.(Attn. Directorate of Marketing, GOM)

13] Our field survey showed that pledge financing was not popular with farmers. Pledge financing enables the usage of inventories of graded produce as collateral for accessing credit from the organized credit market, thus enabling farmers to take advantage of favourable prices and also hold inventory of graded produce. Hence warehousing corporations must play a leading role to encourage pledge financing which will greatly benefit farmers.(Attn. State Warehousing Corporations)

14] Onion prices show an upward trend whenever there is a fall in production, leading to a public outcry. Thus onion being a very sensitive commodity, the government makes attempts to prevent this rise in price. This has led the government to maintain a very restrictive export policy and the exports of onions are not under OGL but on the basis of

quotas released by government. The country however has a huge export potential as exports of onions are mainly confined to SAARC countries with marginal exports to Middle East and Far East. India's presence in Europe, America and South Africa is negligible. Europe is the single largest importing block, accounting for nearly one-third of world imports. Hence, potential for exports does exist and the government must therefore give up its restricted trade policy so that the untapped export potential can be tapped.(Attn. GOI)

15]. Policy makers in the country have tried to cope up with price volatility in agricultural marketing by resorting to pervasive government controls on private sector activities and state intervention. Government intervention in agricultural markets is however contributing to the fiscal crisis in the state. Therefore these instruments are progressively and selectively being relinquished by the government . The alternative strategy to manage price uncertainty and risk management is the introduction of futures trading. Indian futures markets, however, have been operating under highly restrictive policies, providing them limited opportunities to contribute in any significant way. Commodity futures trading, unlike their counterparts in the securities market, suffer from the limitations imposed by the physical market. The physical markets of commodities still encounter a lot of obstacles in the shape of various government controls and regulations, minimum support prices, movement restrictions, monopoly procurement and unorganised ways of marketing. There are a number of logistical problems relating to movement and delivery of products, issues relating to bias in tax structure and the absence of negotiable warehouse receipts. It is therefore necessary to treat futures trading as a major thrust area to provide the much needed risk management functions for commodities. While the government is making a move in this direction, all major impediments that come in the way of proper functioning of futures trading must be removed so that trading in futures will be successful.(Attn. Forward Markets Commission)

**Building up of An Efficient Marketing System to Obviate the
Need for a Large Scale State Intervention in Maharashtra**

Sangeeta Shroff

641

**Agro-Economic Research Centre
Gokhale Institute of Politics and Economics,
(Deemed To Be A University)
Pune - 411004**

December 2003

Foreword

Agricultural marketing suffers from limitations such as lack of market integration, collusion among traders in open auctions and deprivation of the farmer of his due share in the ultimate consumer's rupee. This led to state intervention in agricultural markets in order to provide price support to farmers and to enable them to market their produce.

It was considered essential by the Ministry of Agriculture, Government of India, to study the performance of state intervention in agricultural commodities and suggest measures to obviate the need for such intervention. Accordingly this study was undertaken, making extensive use of primary and secondary data. The study dealt with three crops, namely, cotton, sugarcane and onion. In case of cotton, Maharashtra operates a monopoly procurement scheme. In case of sugarcane there are approximately 147 sugar cooperatives, funded directly and indirectly by the Government of Maharashtra. In case of onions, there are restrictions on exports which are not under Open General License but on the basis of quotas announced by the central government.

The main findings of our study showed that state intervention in case of cotton and sugarcane has become a major threat to the fiscal health of the state as well as central government. The monopoly procurement scheme of cotton is currently incurring accumulated losses to the tune of Rs 4000 crores, while accumulated losses of 147 sugar cooperatives amounted to Rs 1031 crores. In case of onions, because of the restrictive trade policy, exports have not reached their potential and are mostly limited to the SAARC region. Overall, the study suggests that an alternative strategy to manage price uncertainty is the introduction of futures trading and hence all major impediments that come in the way of proper functioning of futures markets must be removed. With respect to onions, exports must be under OGL so that farmers can gain from trade as Indian export prices are highly competitive in international markets.

The study will be very useful to policy makers and researchers.

Gokhale Institute of Politics and Economics,
(Deemed to be a University)
Pune – 411004
December 2003.

V.S.Chitre
Director

Acknowledgements

The study "Building up of an Efficient Marketing System to Obviate the Need for a Large Scale State Intervention" was conducted at the Gokhale Institute of Politics and Economics, Pune, sponsored by Ministry of Agriculture, Government of India. This study could be completed only due to the help and cooperation of a number of persons whom I wish to acknowledge.

First of all, I would like to thank Prof. V. S. Chitre, Director, Gokhale Institute of Politics and Economics, for encouraging me to take up this study. I also wish to thank Dr. A. Narayanamoorthy, (AERC incharge, GIPE) for the necessary support to complete this study.

I owe my thanks to a number of government officials who made data readily available to me, without which the work could never have been undertaken. I wish to thank Mr. V.K. Kokate, General Manager, (Finance), Maharashtra State Cooperative Cotton Growers Marketing Federation, Mumbai, for useful discussions and also for providing me with all the data related to Monopoly Procurement Scheme of Cotton in Maharashtra. My thanks are also due to Mr. Suresh Kotak, President, Indian Merchants' Chamber, Mumbai and President of East India Cotton Association for sparing his valuable time to discuss the importance of futures trading in Cotton.

I wish to thank Mr. Bijay Kumar, Sugar Commissioner, for making available the data relating to sugar cooperatives in Maharashtra. I also wish to thank Mr. Khurade, Director, office of sugar commissioner, for useful discussions. My thanks are also due to the authorities of Vasantdada Sugar Institute for the necessary data and enlightening discussions.

Dr. Ram Kharche, Managing Director, Directorate of Marketing, GOM, showed great enthusiasm and cooperation towards this study. Dr. R.R. Mohite, (Advisor and Head), Maharashtra State Agricultural Marketing Board, also devoted several hours discussing marketing problems with me. I greatly appreciate their help. I also wish to thank the Secretary, Agricultural Produce Market Committee, Pune, for helping me to study marketing of onions in Pune APMC.

I had useful discussions with Mr. Sompal, Member of Planning Commission, GOI, Dr. S.K. Goel, Commissioner Agriculture, Maharashtra State and Dr. Chitranjan, Adviser, Ministry of Water Resources, GOI.

My thanks are also due to Prof. J.P. Singh, AERC, University of Delhi, who is the coordinator of this project. I greatly appreciate his keen interest in the work. His comments helped me to strengthen the study.

I also wish to thank the library staff, the faculty and the office staff of the institute for their kind cooperation whenever required. Mr. Dete, Mr. Kate, Mr. Kasbe and Mr. Karpe did the field work and I wish to thank them for their sincere efforts. Last but not the least, I wish to thank Mr. Ajay, Ms Trupti and Mr. Mahendra for computer assistance.

Sangeeta Shroff

Contents

Chapter		Page No.
I	Introduction	1-9
II	Structure of Marketing of Agricultural Commodities in Maharashtra	10-22
III	State Intervention in Cotton Marketing	23-43
IV	Marketing of Sugarcane through Co-operatives	44-62
V	Marketing of Onions	63-80
VI	Conclusions and Policy Implications	81-98
	Annexures I to V	99-106
	References	107-108

Chapter I

Introduction

1.1 Backdrop:

Strategies for agricultural development aim at stimulating production thus leading to commercialisation of agriculture. However, complementary to production, an efficient marketing system, which includes adequate physical facilities for the safe and economic handling of the produce and institutional and legal support for orderly transactions must also be emphasised. Agricultural marketing is a major problem in developing countries like India as there are a large number of farmers who mostly sell small quantities of produce. The marketing system is characterised by imperfections and distortions and although market reforms are regularly being initiated to improve efficiency, the problem of agricultural marketing still remains a live issue.

Infact, as early as 1928, when the report of the Royal Commission of Agriculture was published, the various defects and malpractices which were prevalent in the marketing of agricultural produce which resulted in the cultivators being exploited by the middlemen and thus not receiving a fair share in the value of their produce, were highlighted.

It was pointed out in the report of the Royal Commission that the most common method of sale was to a village trader to whom the cultivator had financial obligation. Bidding took place secretly under a cover of cloth and the seller had to accept the rate fixed. The cultivators did not have information about rates prevailing in the primary and terminal markets and thus sold at rates lower than warranted by primary or terminal market conditions. Deductions from price were also claimed on the ground that the produce was not upto the sample and the cultivator had no option but to accept the new rate. Besides, scale and weights were manipulated against the cultivator, a practice which was rendered easier by the absence of standardised weights and measures. Large quantities of the seller's produce were taken as sample for which he was not paid, even when no sale was effected (Royal Commission on Agriculture In India, 1928).

Further, the farmers had low stocking capacity and hence were forced to sell their produce immediately after harvest creating a glut in the market and thus leading to fall in prices. Other factors responsible for the cultivators being exploited by

middlemen were their low level of literacy and lack of proper transport facilities between the point of production and local markets.

Since the cultivators were being exploited by the middlemen, the Royal Commission (1928) recommended that the most effective means of removing unnecessary middlemen was by establishing regulated markets, easy of access to the cultivators. Accordingly, soon after independence, the Planning Commission laid stress on market regulation and all states began enacting market legislation. In almost all states, wholesale markets are established and regulated under their respective Agricultural Produce Marketing Regulation Acts. The market areas are managed by the market committees constituted by the state governments.

In regulated markets, the system of sale is designed to be open and an opportunity is provided to the producers to sell their produce by a method which ensures the possibility of the presence of a number of buyers and competitive bidding for every lot sold. Thus vigorous competition among buyers would result in better prices for producers. The regulated markets are also designed to ensure that various market charges are fixed, correct weighing of the produce is assured and arrangement is made for the settlement of disputes. Grading of agricultural produce was introduced in the regulated markets to enable the farmers to benefit from it. The market committees in regulated markets make arrangement for dissemination of information on the current price. Efforts to improve transport and storage facilities were also undertaken.

While the system of market regulation was designed to do away with malpractices in agricultural marketing, a number of inquiries on market regulation showed that the intended regulation of markets had its limitations and at times proved ineffective. The market functionaries accustomed to unrestricted freedom, could not reconcile to the spirit of the Act and tried to counteract its repercussions on the strength of their collective influence, power and action. There was collusion amongst traders in bidding low prices and the market committees were for all practical purposes dominated by traders' interests. In certain markets, it was observed (Singal, 1984) that there were no elected market committees, nor a market yard of the committee where produce could arrive and auctions take place. There was lack of proper arbitrage operations among markets, perhaps due to improper and inadequate information about terminal market conditions. Also the proportion of village sales was

so large that it made the operation of the Regulated Markets Act ineffective in providing fair price to the grower.

Regulation of markets with its special features such as competitive bidding for every lot sold, use of standard weights and measures, grading of produce, market news service, abolition of unwarranted market charges and licensing of market functionaries, still had its limitations. The understanding and close personal relations among the traders had given them a monopoly power over the market. In this situation, the classic solution of competition by means of auction sales could not be made to work.

Thus along with market legislation, other institutional arrangements such as partial or complete state intervention in marketing as well as cooperative marketing for improving the economic conditions of the cultivators have been an important part of agricultural marketing policy.

1.2 State and the Market :

To overcome the weaknesses in the marketing system, to reduce imperfections and protect the interests of farmers, state intervention in marketing was introduced in various forms and degrees. In this section therefore, we intend to discuss state intervention in general and then observe its role played in the marketing of agricultural produce in Maharashtra.

1.2.1 Cooperative Marketing:

Cooperative marketing societies are an institutional arrangement for enabling the producer to secure a better price for his produce by eliminating middlemen and reducing marketing costs. The complex and fragmented nature of trading operations involved in the primary markets, makes the cooperatives an important instrument for linking the small farmer to the mainstream of marketing channel. Also, cooperatives can compete with private trade and thus indirectly discipline the activities of traders.

Cooperative marketing societies often act as commission agents in the market by arranging for the sale of the produce brought by the members to the market. The produce is sold by the open auction system to the highest bidder. An advantage which a farmer –member gets by selling his produce through a cooperative society rather than a commission agent is that he does not have to accept unauthorised deductions or face other malpractices which often arise in case of sales to commission agents. Since cooperatives normally operate on a large scale, they can reap economies of scale and

thus lower marketing costs. Cooperative marketing societies also advance finance to farmers against stock of produce in the godowns of the societies. This increases the holding power of the farmers and prevents distress sales. The recoveries are effected from the sale proceeds of the produce of the farmer.

The cooperative marketing infrastructure in the country manifested itself with the setting up of the National Agricultural Cooperative Marketing Federation (NAFED) in 1958. NAFED is an apex organisation of marketing cooperatives in the country and deals with in procurement, processing, distribution, export and import of selected agricultural commodities. It also makes arrangements for the supply of the agricultural inputs required by member institutions. The state level Marketing Federations and the National Cooperative Development Corporation are its members. NAFED's area of operation extends to the whole country. It has established branches in all the major port towns and capital cities in the country.

1.2.2 Public Sector Corporations:

Besides cooperatives, public sector corporations also play a major role in marketing of agricultural produce. An important step in this direction was the setting up of the Agricultural Price Commission (APC) in 1965, (which was renamed in 1985 as the Commission for Agricultural Costs and Prices). An important function of this Commission was the announcement of minimum support prices for major agricultural crops in advance of the sowing season. The minimum support prices are viewed by the commission as being in the nature of a long- term guarantee to the producers that any glut in the market which may be caused by excess production will not be able to depress their incomes to unduly low levels. Once the minimum support price of a product is announced, it is implied that the government is committed to purchase, at the announced level of support price, unlimited quantities of the crop offered for sale.

There are different public sector corporations involved in the procurement of different crops. For example, the Food Corporation of India (FCI), is the agency of the government to procure foodgrains from the producers at support prices in case prices drop below the announced support levels. The FCI also maintains a buffer stock which is an important constituent of the government's food policy. Public stocks of foodgrains are also used for distribution under the Public Distribution System.

Besides, FCI, other public sector corporations are Cotton Corporation of India and Jute Corporation of India. Their main role is to enter the primary markets when

prices are falling and withdraw from the market when prices are rising and thus help to stabilise prices. They also carry out price support operations if prices fall below support level.

Other prominent public agencies involved in marketing are Agricultural & Processed Foods Export Development Authority(APEDA), Tea Board, Coffee Board, Coir Board, Rubber Board, Spices Board etc.

Trade in most agricultural commodities is carried out through regulated markets in Maharashtra and prices are determined by market forces. However, with a view to protecting farmer's interests and to encourage them to increase production through the use of new technology, government intervention in the form of fixation of minimum support prices for major agricultural commodities was introduced. Accordingly, whenever the price of any crop falls below support level, the government is supposed to intervene in the markets and makes purchases of the concerned crop in order to protect the interests of the producers. Further, Market Intervention Scheme is also another form of support policy of the government where support is extended to horticultural crops whenever there is drastic fall in prices of these commodities.

Thus, while private trade dominates the marketing of most agricultural commodities, state intervention has been introduced to protect the interests of the producer and secure for him a better price. State intervention also serves as a competition to private traders and thus forces private traders to pay higher prices than they would have paid in the absence of competition.

Against this background, an attempt is being made to study the marketing of agricultural commodities through state intervention.. The study would analyse the extent to which the state has been successful and beneficial to producers and at what cost. With this view the study “ Building up of an Efficient Marketing System to Obviate the Need for a Large Scale State Intervention” was undertaken. In case state intervention proves to be costly and imposes a heavy burden to the exchequer, it would be prudent to keep the role of the state minimum.

1.3 Objectives of the Study :

The study has been conducted for the state of Maharashtra with a view to analyse state intervention in marketing of important agricultural commodities.

More specifically, the study has the following objectives:

- 1] To study the prevailing marketing system of cotton, sugarcane and onion in the state;
- 2] To study the role of government agencies and critically evaluate their performance in the marketing of the selected agricultural commodities.
- 3] To study the marketing problems faced by farmers in case of sales to state agencies or in regulated markets;
- 4] To examine the performance of futures markets in selected agricultural commodities and farmers' awareness about the same;
- 5] To suggest measures to improve marketing efficiency.

1.4 Methodology :

In order to conduct this study, three crops viz. cotton, sugarcane and onion have been selected. These crops have been selected because they are important from the point of view of state intervention. In Maharashtra, there is complete monopoly in the purchase of cotton by the state since 1972 and private trade in marketing of cotton is banned. In case of sugarcane, sales are made to sugar cooperatives in Maharashtra and there is financial involvement of state government in the project costs of the sugar factories. Onion is also a very important and sensitive crop in Maharashtra. The Market Intervention Scheme of the government operates with respect to onions. Also, exports of onions are not under Open General Licence (OGL) but take place on the basis of quotas announced by the government.

Thus, since all three crops, cotton, sugarcane and onions are important crops in Maharashtra and state plays a major role in the marketing of these commodities, it was considered necessary to analyse the marketing of these crops and suggest policy measures.

The study has been carried out using both secondary and primary data. A field level survey was conducted to study marketing costs and margins of the selected crops and also marketing channels. Farmers were also interviewed regarding any marketing problems faced by them.

Data was also collected from the office of the Maharashtra State Cooperative cotton Growers Marketing Federation in case of cotton, office of the Commissioner of sugar for sugarcane and Maharashtra State Agricultural Marketing Board for onion.

Published sources of data such as Season and Crop Reports (Government of Maharashtra, Maharashtra State, Various issues,) were also used.

For the field survey, the sample size was selected as suggested by the coordinator. One district (having highest area under the concerned crop) was selected. Further, two talukas from each district and three villages from each taluka (block) were selected. Finally, 10 farmers from each village in relation to probability proportional to their operational area were selected by stratifying the farmers into five size groups –less than 1.0 hectare, 1.0 hectare – 1.99 hectares, 2.0 – 3.99 hectares, 4.0 –5.99 hectares, and above 6.0 hectares. Thus, 30 farmers from each taluka and 60 farmers from each district were selected for each crop. In case of onion crop, in order to study the marketing channel, information on marketing costs and margins was obtained from 5 commission agents and 5 retailers in both the selected markets. The reference year for the study was 2001-02.

In case of cotton we have selected Yeotmal district as this district has highest area, which is 15 percent of the state's area (TE 1996-97), under cotton. The talukas selected were Ralegaon and Darwaha, showing different agro-climatic conditions, but having highest area under cotton in the district. In Table 1.1 we have indicated the sample of farmers selected in relation to probability proportional to their operational area. Thus, in total we have selected 60 farmers, 10 from each of the selected 6 villages.

Table 1.1 Sample selection of farmers in Yeotmal district

Village/ Category	Ralegaon Taluka			Darwaha Taluka		
	Gujari	Wadaki	Wadhana	Bhandegaon	Bori	Karnathwada
Less than 1 ha	-	-	-	-	1	1
1.0 to 1.99 ha	4	5	3	5	5	2
2.0 to 3.99 ha	5	4	4	3	3	3
4.0 to 5.99 ha	1	1	3	1	1	1
Above 6 ha	-	-	-	1	-	3
Total	10	10	10	10	10	10

In case of sugarcane we have selected Kolhapur district as sugarcane is an important commercial crop in this district and it has highest area under sugarcane (17 percent in TE 1996-97) in the state. The talukas selected were Shirol and Gadhinglaj, both having different agro-climatic conditions but sugarcane being an important crop.

In Table 1.2 we have indicated the selection of sample size of farmers in Kolhapur district.

Table 1.2 Sample Selection of farmers in Kolhapur district

Village/ Category	Shirol Taluka			Gadhinglaj Taluka		
	Arjunwada	Abdullat	Akiwat	Belgundi	Nool	Nesari
Less than 1.0 ha	7	6	7	6	6	7
1.0 to 1.99 ha	2	3	2	3	3	2
2.0 to 3.99 ha	1	1	1	1	1	1
4.0 to 5.99 ha	-	-	-	-	-	-
Above 6.0 ha	-	-	-	-	-	-
Total	10	10	10	10	10	10

Source: Field Survey

In both the talukas there were no farmers in the size group above 4 hectares cultivating sugarcane. Totally, 60 farmers, 10 from each of the 6 villages have been selected.

Maharashtra is a leading state in onion production and exports and within Maharashtra, the district of Nasik is the major producer of this crop. Accordingly, for our field survey we have selected Nasik district. The talukas selected were Niphad and Chandwad, where onion is predominantly grown. In Table 1.3 we have indicated the selection of sample farmers from each village in relation to probability proportional to their operational area.

Table 1.3 Sample Selection of farmers in Nasik District

Village / Category	Niphad Taluka			Chandwad Taluka		
	Vinchur	Dharan gaon	Khedle Zunge	Pathar shembe	Sograss	Shinde
Less than 1 ha	4	4	4	4	5	4
1.0 to 1.99 ha	3	4	3	4	3	3
2.0 to 3.99 ha	2	1	2	2	1	2
4.0 to 5.99 ha	1	1	1	-	1	1
Above 6.0 ha	-	-	-	-	-	-
Total	10	10	10	10	10	10

It can be observed from the sample that in the selected villages, it was mostly the small farmers that were growing onions. In size group above 6 hectares, there were no farmers cultivating onions.

1.5 Chapter Design:

The chapter design is as follows:

In chapter II, we have discussed the structure of marketing of agricultural commodities in Maharashtra. The method of marketing through regulated markets as well as through state intervention has been discussed in this chapter.

In chapter III, state intervention in cotton marketing is presented. The marketing operations of the Maharashtra State Cooperative Cotton Growers Marketing Federation, which is the agent of the state government have been assessed. The experience of the farmers with the Monopoly Procurement scheme of cotton have also been discussed.

In Chapter IV, the marketing of sugarcane through cooperatives is presented. The financial performance of sugar cooperatives and marketing problems faced by farmers is also discussed .

In Chapter V, the study of onion marketing is undertaken. The marketing costs and price spread in onion marketing is observed in two major onion markets in Pune, viz., Lasalgaon and Pune. The marketing problems of farmers cultivating onions is also discussed.

Finally, in chapter VI, we have summarised our findings and also recommended policy measures.

Chapter II

Structure of Marketing of Agricultural Commodities in Maharashtra

Agricultural marketing involves the movement of agricultural produce from the farm where it is produced to the ultimate consumers. It includes all activities involved in the creation of time, place, form and possession utility. It includes pre-harvest as well as post-harvest operations, assembling, grading, storage, transportation and distribution. Further, identification of consumer needs and their demands and communication of these needs to potential producers is also a function of agricultural marketing.

As mentioned in Chapter I, a number of institutions such as regulated markets, cooperatives and public sector corporations are involved in marketing of agricultural commodities. Therefore, in this chapter, we intend to discuss the method of marketing of agricultural produce through regulated markets and then study specifically, the marketing of cotton, sugarcane and onion in the state.

2.1 Marketing through Regulated Wholesale Markets :

Trade in most agricultural commodities is carried out through regulated markets in Maharashtra, as in other states in India. The government has enacted legislation for the establishment of agricultural markets under Maharashtra Act No.XX of 1964, entitled "The Maharashtra Produce Marketing (Regulation) Act," 1963, under which all notified agricultural commodities, currently numbering 286, grown within the purview of the regulated market, if sold wholesale, have to be marketed through mandis. There were amendments in the act from time to time. The main features of the act are:

- (a) The main objective has been to create a competitive environment for sale of agricultural produce and thus secure a reasonable return to the producer. It was envisaged that the facilities and services created in the markets would attract the buyers and sellers of agricultural produce in the state.
- (b) Under the act, the government has set up regulated markets in different areas of the state to manage wholesale trade of agricultural produce. The retail sales in daily or weekly local bazaars have remained outside the jurisdiction of regulated markets.

- (c) The day-to-day functions of the market are entrusted to the Agricultural Produce Market Committee (APMC) constituted under the supervision of a state level Agricultural Marketing Board, i.e. Maharashtra State Agricultural Marketing Board (MSAMB). The MSAMB was established in 1984 under clause No. 39 (A) of Maharashtra State Agricultural Produce Marketing (Regulation) Act of 1963. The main functions of MSAMB are to develop an up-to-date and well coordinated agricultural marketing system in the state. The Board supports pre-harvest (Production) and post-harvest (agro processing/value addition) practises to promote marketing and export. It is also the function of MSAMB to disseminate market price information. A WTO cell to monitor import and export of agricultural commodities has also been set up under the supervision of the Board.
- (d) The APMC act requires that all notified agricultural produce, bought or sold within the market area must pass through the market yard or sub-yard managed by the APMC. No one is allowed to market any notified produce in the market area other than the principal yard or sub-yard.
- (e) All functionaries like traders, commission agents, weighmen and loading workers must hold licenses of the APMC to carry on their business.
- (f) The APMC's are permitted to generate income by charging market fee, license fee and rentals. A part of the surplus is passed on to the state level Agricultural Marketing Board to undertake infrastructure development.
- (g) The members of the APMC are elected by agricultural credit societies and other cooperative societies, and by village panchayats within the area.

Thus under the Maharashtra Agricultural Produce Marketing (Regulation) Act, 1963, all notified agricultural commodities, currently numbering 286, grown within the purview of the regulated market, if sold wholesale, have to be marketed through mandis. The controlled commodities include various cereals, pulses, oilseeds, fruits, vegetables etc. The main objectives of the Act were to protect the farmers from being exploited by middlemen and conduct sales through auction method so that farmers are ensured of competitive prices.

There are currently 260 principal regulated market yards and 591 regulated sub-market yards in the state. Further, there are also 3500 rural periodic markets which are under the direct control of the panchayati raj institutions .

In Table 2.1 we have presented business operations of the APMC's in Maharashtra.

Table 2.1 Arrivals and Value of Produce of APMC's in Maharashtra

Year	Arrival (million metric tonnes)	Value of produce (Rs billion)
1995-96	8.7	59.95
1996-97	11.7	82.37
1997-98	8.6	66.93
1998-99	11.1	126.05
1999-2000	17.2	134.17

Source: Maharashtra State Agricultural Marketing Board, Pune

It can be observed that over the years there has been an increase in the arrivals of produce to the APMC's and from 1998-99 to 1999-2000 the arrivals increased by about 6 million metric tonnes.

Further, in Table 2.2, we have indicated the incomes and expenditures of regulated markets in Maharashtra. It can be observed from the table that the regulated markets made a profit of Rs 340 million in 1999-2000. These revenues are to be used for providing market infrastructure, such as internal roads, auction halls, trader shops, platforms for agricultural produce, storage facilities etc.

Table 2.2 Income and Expenditure of Regulated Markets in Maharashtra (1999-2000)

Region	Income (Rs million)	Expenditure (Rs million)	Profits (Rs million)
Mumbai	385	284	101
Nasik	254	220	33
Pune	302	229	74
Aurangabad	198	180	18
Amravati	210	148	62
Nagpur	181	128	53
Total	1530	1189	340

Source : Maharashtra State Agricultural Marketing Board, Pune.

Thus marketing of agricultural produce in Maharashtra is mostly regulated by the Agricultural Produce Market (Regulation) Act, 1963. The state Agricultural Marketing Board, provides various services to the APMC's such as training, extension and financial support for modernizing infrastructure and other development initiatives in regulated markets, by way of loans and subsidies.

2.1.1 Marketing Infrastructure in Maharashtra:

Inadequate infrastructure in rural areas are a major obstacle to efficient marketing. In this section therefore, the infrastructure available in the state in terms of regulated markets, roads and storage facilities are discussed.

Table 2.3 Number of regulated Markets in Maharashtra (District-wise) 1994-95

District	Number of regulated markets	Number of average villages served per market	Average area served per regulated market (Sq.km)
Mumbai	1	29	42.53
Thane	7	1177	36.97
Raigad	9	1677	20.70
Ratnagiri	1	1515	2.74
Sindudurg	-	-	-
Nasik	12	1729	148.16
Dhule	8	1205	101.04
Jalgaon	12	1333	108.71
Ahmednagar	13	1479	139.19
Pune	12	1225	123.91
Satara	9	2157	76.09
Sangli	5	770	102.92
Solapur	10	1110	205.06
Kolhapur	4	1175	127.41
Aurangabad	9	1252	168.47
Jalna	5	916	101.02
Parbhani	14	1553	188.47
Beed	8	1240	97.83
Nanded	13	1510	165.03
Osmanabad	7	660	47.08
Latur	9	911	63.17
Buldhana	11	1387	75.56
Akola	14	1669	124.45
Amravati	13	1879	120.86
Yeotmal	13	1981	107.60
Wardha	6	1040	43.48
Nagpur	10	1944	120.66
Bhandara	12	1323	36.90
Chandrapur	10	1982	80.04
Gadchiroli	3	989	17.58
Maharashtra	260	38817	14738.37

Source: Statistical Abstract of Maharashtra State, 1994-95, DES, GOM.

It can be observed from Table 2.3 that the state has 260 regulated markets. The number of regulated markets in each district however varies from 1 in Mumbai to 14 in Akola.

Besides, regulated markets, road infrastructure is also important to facilitate transport of commodities from the point of production to the point of consumption. Transport helps to widen the market and bridge the gap between producers and

consumers. The transport of goods from surplus areas to places of scarcity helps in checking price rise in the scarcity areas and price fall in the surplus areas. Motorable roads are therefore necessary for efficient marketing. In Table 2.4, the road length according to surface type is presented.

Table 2.4 Road length according to surface type (kms) (1994)

Total road length	184112	100 percent
Cement concrete	61257	33 percent
Water bound macudum roads	89448	49 percent
Unsurfaced roads	33407	18 percent

Source: Statistical Abstract of Maharashtra, DES, Govt. of Maharashtra, 1994

It can be observed that 18 percent of the road length is still unsurfaced and only 33 percent are cement concrete.

Further, in Table 2.5, the road infrastructure is presented (Districtwise) in the state.

Table 2.5 Road Infrastructure in Maharashtra (1994-95)

District	Road length per 100 sq kms.	Road length per lakh population	Villages linked with roads	
			Number	Percentage
Mumbai	8	0.59	-	-
Thane	56	161.72	1621	93
Raigad	58	282.97	1366	87
Ratnagiri	64	384.36	1329	95
Sindudurg	64	460.87	679	96
Nasik	67	348.36	1655	96
Dhule	58	375.41	1396	92
Jalgaon	63	283.15	1455	97
Ahmednagar	71	451.99	1487	92
Pune	71	265.34	1654	87
Satara	83	431.28	1396	95
Sangli	91	429.54	690	86
Solapur	67	382.98	883	80
Kolhapur	81	248.72	1013	88
Aurangabad	59	344.64	1045	84
Jalna	39	403.55	683	75
Parbhani	57	348.49	1148	96
Beed	54	391.38	765	93
Nanded	72	433.33	926	94
Osmanabad	59	431.35	660	94
Latur	64	390.58	449	51
Buldhana	40	261.25	848	67
Akola	45	265.96	1123	73
Amravati	45	301.66	1239	73
Yeotmal	45	353.13	1369	78
Wardha	43	297.19	820	81
Nagpur	51	198.41	1143	69
Bhandara	69	346.24	1413	87
Chandrapur	61	451.76	1166	79
Gadchiroli	33	800.94	1373	90
Maharashtra	59	293.34	32799	83

Source: Statistical Abstract of Maharashtra,(1994-94), DES, GOM

It can be observed from Table 2.5 that the number of villages linked with roads was 83 percent. In 43 percent of the districts more than 90 percent of the villages were linked to roads. The situation was however poor in Latur district where only 51 percent of the villages were linked with roads. For the state as a whole, the road length was 59 sq. kms. per 100 kms.

Besides transport, infrastructure in the form of storage also assumes importance. In the absence of storage facilities, prices in the post-harvest period would crash due to glut in the market, while in the lean period it would rise to unduly high levels. The storage function thus adds time utility to the produce and helps to prevent distress sales by giving the producers holding power. Warehouses also meet the financial needs of farmers who store their produce in the warehouses. In Table 2.6 the number and capacity of storage units is presented.

Table 2.6 Number and capacity of storage units 1994-95

(in metric tonnes)		
Name of agency	Number	Capacity
Food Corporation of India	7	1850841 (53 percent)
State Warehousing Corp.	603	967984 (28 percent)
Central Warehousing Corp.	66	685951 (19 percent)
Total	676	3504776(100 percent)

Source: Statistical Abstract of Maharashtra State, DES, Govt. of Maharashtra, 1994

It can be observed that although the Food Corporation has only 7 storage units, it can hold 53 percent of the storage capacity of the state. The State Warehousing Corporations have maximum number of storage units.

2.2 State Intervention in Cotton Marketing in Maharashtra :

As mentioned in the previous section, trade in case of most agricultural commodities in Maharashtra takes place through regulated markets. However, with respect to cotton which is an important commercial crop in Maharashtra, sale does not take place in regulated markets but instead there is complete state intervention in marketing. From the 1972-73 cotton season, a decision was made by the Maharashtra State Government to enter the cotton market in the state through its agency as a monopolist, banning all private traders and fixing the price of cotton to be paid to the producers. Under the Maharashtra Raw Cotton (Procurement, Processing and Marketing) Act, 1971, "except with the previous permission of the state government, no person other than the state government or an officer or agent of such government authorised by it in this behalf, shall purchase, sell or store for sale (not being baled cotton) or carry on business in raw cotton". For the administration of this act, a "

Maharashtra State Cotton Control Advisory Board” was established with the Minister of State (Cooperation) as chairman of the board. Thus a scheme of Monopoly Marketing of cotton was introduced in Maharashtra and the main purpose of this scheme was to assure the grower a fair and remunerative return by way of (i) a guaranteed price at the time of sale (ii) sharing with the farmer a part of any excess price received from sale of cotton by the Federation after deducting the costs of marketing.

2.2.1 Infrastructure of the Monopoly Procurement Scheme:

The Monopoly Procurement Scheme is operated on behalf of the state by the Maharashtra State Cooperative Cotton Growers’ Marketing Federation (MSCCGMF) as the chief agent of the state government. In order to operate the scheme, the entire cotton growing area in the state has been divided into twelve zones each headed by a zonal manager. Every zone is further sub-divided into sub-zones. There are in all 88 sub-zones each headed by a sub-zonal manager. Every sub-zone has a number of procurement stations depending upon the arrivals of kapas from the villages.

Under the Monopoly Procurement Scheme, every cotton grower in the state wanting to sell his cotton has to tender his “ kapas” at the collection centre. As an administrative measure, a “green card” was introduced which serves as the authorized identity card for the cotton grower to sell his kapas (raw cotton). This green card contains information regarding the area under cotton, the variety of cotton grown, the details regarding quantity of cotton sold, its value and the recoveries effected from the loans obtained from the Primary Agricultural Credit Societies (PACS). The green card is issued to the cultivators by the Primary Cooperative Credit Society of the village from the beginning of the cotton season irrespective of the fact whether he is a borrower or a non-borrower of cooperative loan.

The cultivators bring their kapas to the cotton collection centre where the grader of the federation examines the kapas for its variety and grade. The kapas is then weighed by authorised weighmen appointed by the Agricultural Produce Market Committee. If the cotton grower is not satisfied with the variety or grade of cotton given by the grader of the Marketing Federation or the weighmen made, he can make a complaint with the “Arbitration Committee” which settles disputes.

The Federation buys raw cotton from the producers and sells pressed bales of cotton lint and cotton seed. However, while the bulk of raw cotton is sold by farmers within a period of four months from the beginning of cotton picking, the sales of

cotton lint and seed continues over the year. Sometimes, the federation may have to carry stocks of cotton lint to the next marketing year. This results in requirement of massive working capital to pay the guaranteed price to the farmer-tenderers as well as bear the cost of ginning, pressing, transport, establishment, etc., before any part of it can be recovered through sale of lint and seed. In order to get working capital, the Marketing Federation approaches the Reserve Bank of India or NABARD through the Maharashtra State Cooperative Bank to operate the scheme after providing margin money of 25 percent of the total requirement. The actual requirement of credit varies from season to season depending upon the extent of the crop and the guaranteed price.

Thus the Maharashtra State Cooperative Cotton Growers Federation was in charge of the Monopoly Procurement Scheme regarding procurement, processing and marketing of cotton. It was conceived that if all marketing functions such as assembling, grading, pooling, processing, storage, finance insurance, sale, transportation, standardisation and export are performed by the Federation on behalf of the growers, it would result in a better price received by growers and also prevent them from exploitation by private trade.

2.3 Marketing by Cooperative Sugar factories in Maharashtra:

Maharashtra has been a pioneering state with respect to setting up of cooperative sugar factories (CSFs) and the first such factory (Pravara Cooperative sugar factory) was set up in 1948. This was the first cooperative sugar factory set up not only in Maharashtra but even in the whole of India. The successful establishment and operation of this factory, initiated a trend in cooperative development with rapid multiplication of cooperative sugar factories in the state. In Table 2.7 we have shown district-wise number of installed sugar factories in Maharashtra.

Table 2.7: Districtwise number of installed sugar factories (2001-02)

Sr.	Zones / Districts	No. of Factories
	Zone: South Maharashtra	
1	Kolhapur	15
2	Sangli	12
3	Satara	09
	South Total	[36]
	Zone: Central Maharashtra	
4	Pune	12
5	Solapur	16
6	Ahmednagar	17
7	Nasik	08
	Central Total	[53]

Contd....

Sr.	Zones / Districts	No. of Factories
	Zone: North-East Maharashtra	
	Region: Khandesh	(11)
8	Dhule	4
9	Nandurbar	2
10	Jalgaon	5
	Region: Maharashtra	(44)
11	Aurangabad	8
12	Jalna	4
13	Beed	8
14	Parbhani	3
15	Hingoli	3
16	Nanded	6
17	Osmanabad	5
18	Latur	7
	Region: Vidarbha	(16)
19	Buldhana	3
20	Yeotmal	4
21	Akola	1
22	Washim	1
23	Amaravati	2
24	Wardha	2
25	Nagpur	2
26	Bhandara	1
	North-East Total	[71]
	State Total	[160]

Source: Commissioner of Sugar, Maharashtra state, Pune

From Table 2.7, it can be observed that there are 160 installed sugar factories in Maharashtra. Out of these 160 installed sugar factories in Maharashtra, 147 factories are in cooperative sector and 13 in private sector. The number of private sugar factories in Maharashtra have withered away and it is a Government of Maharashtra (GOM) policy that all mills should be cooperatively owned. Besides, these factories which are in operation, there are 57 factories which are under erection. There are 16.02 lakh shareholders of CSFs out of which 14.53 lakh were sugarcane growers.

Despite there being 160 sugar factories, all factories are not in operation every year. Some factories remain closed in certain years due to reasons such as shortage of cane. In Table 2.8 we have indicated the production characteristics of sugar cooperatives.

Table 2.8 Production Statistics of Sugar Factories in Maharashtra

Sr. No.	Characteristics	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002
1	No.Of Sugar Factories In Operation	95	119	123	137	135
2	Sugarcane Crushed (Lakh Mt)	345.77	479.00	570.95	576.49	483.87
3	Sugar Production (Lakh Mt)	38.47	53.37	65.03	67.05	56.13
4	Recovery % Cane	11.13	11.16	11.40	11.64	11.62
5	Pol % Cane	13.07	13.14	13.40	13.62	13.54
6	Fibre % Cane	14.38	14.51	14.44	14.27	14.01
7	Bagasse % Cane	30.21	30.62	30.45	30.08	29.42
8	Molasses % Cane	3.91	4.01	4.04	3.99	3.94
9	Sugar Lost % Cane	1.96	2.01	2.02	2.00	1.94

Source: Vasant Dada Sugar Institute, Pune.

It can be observed from Table 2.8 that all sugar cooperatives were not always in operation. In 1997-98, only 95 factories were operating, but the number increased to 135 in 2001-02. Accordingly, the sugarcane crushed also increased and production of sugar increased from 38.47 lakh metric tonnes in 1997-98 to 56.13 lakh metric tonnes in 2001-02. However, recovery percentage hardly increased and was 11.62 percent in 2001-02. The sugar factories on an average achieved Pol in cane of 14 %.

The CSFs are involved in scheduling of planting, harvesting, transport and financing of the sugar crop. The cost of harvesting and transporting cane to the factory is borne by the cooperatives. They purchase sugarcane supplied by farmers and process it into sugar.

The establishment of these cooperative sugar mills has been largely funded directly and indirectly by the Government of Maharashtra. Usually, the farmer members only have to provide about 10 percent of the investment costs. About 30 percent is provided by the Government of Maharashtra as equity contribution, while the remaining amount is financed as loans (eg. NCDC, IFCI, IDBI, etc) and is guaranteed by state government. In addition, the Government of Maharashtra provides a subsidy of 50 percent on shares purchased by SC/STs. All the mills that have been installed are small by international standards partly to an earlier Government of India policy to give preference to granting licenses to mills with processing capacity below 2,500 tonnes per day. The Government of India licensing policy was abolished in 1998.

According to the model bye-laws of sugar factories, the board of directors is to decide the cane price to be paid to the cultivators. But those sugar factories which have not repaid their term loans and are yet to discharge the government guarantee or have still not repaid the government equity, have to get the cane price approved by the state government. The government has appointed a committee headed by the chief

minister (Minister's committee) which takes a decision each year regarding the cane price. The state does not have a system of State Advised Price (SAP) as in other states, but the Minister's committee decides the first advance to be paid towards the cane price which is more or less equal to Statutory Minimum Price (SMP) adjusted to average recovery of 11 percent for Maharashtra and the transport and harvesting charges paid by the factory. Depending upon the surplus generated, cooperative sugar factories have to pay one or more advances till final prices are determined. Normally, the mills are required to pay the SMP as an initial advance price within 15 days of delivery; a second payment is made when the mills balance sheet permits and a small final payment is made some months later, following a state audit of the mill.

Zoning was introduced in the state of Maharashtra in 1984, mainly to prevent the cooperative sugar factories from incurring heavy losses. Under this order, every sugar factory was given areas from which only that factory could draw cane, to the exclusion of all other factories. Zoning was in force for 13 years (from 1984 to 1996). In 1997, the zoning order was amended and dilution of zoning was introduced. As per this amendment, with dilution of zoning a non-member was free to supply his cane to any factory of his choice. As regards a member, he shall be bound to supply his cane proportionate to his shareholding, to the factory whose member he is. The rest of the cane can be supplied to the factory of his choice.

Sugar is a commodity which is covered under the Essential Commodities Act (1955). Thus according to this act the central government can impose restrictions on prices, movement, stocking and trading of sugar. The marketing of sugar is dualistic in nature. Sugar is split into levy and free market sugar and a great deal of control is exercised on both markets. A specified percentage of total production of each sugar factory is procured as levy sugar at notified prices for distribution through Public Distribution System (PDS). Currently, sugar mills are obliged to deliver 10 percent of their produce as levy to the government. New mills are relieved of the obligation to deliver any levy quota for a period of 5 to 8 years depending upon location, under an "incentive scheme". Mill expansion is also exempted from levy sales for 5 years. Mills can also be relieved of part of their levy sugar obligations by accepting sugar early or late in the crushing season when extraction rates are lower. The sugar factories are allowed to sell the rest of the production in the open market, but the government fixes a quota for free sale release of sugar for each factory on a quarterly basis. Also the mills can sell free market sugar to licensed wholesale merchants or

industrial users. There are also limits to the size of transactions and stocks which can be held by merchants. Merchants are licensed by the states under the Essential Commodities Act.

The government was on the verge of decontrolling the sugar industry, subject to futures trading becoming fully operational. However, latest reports (The Indian Express, March 6th, 2003) note that the government has decided to extend the sugar control regime for another two and a half years in a bid to stabilise the supply and demand scenario of the commodity. The cabinet has also given consent to extend sale of sugar under levy or fair price system for another 30 months, i.e till September, 2005. After futures trading in sugar comes into force, there will be no need for the government to prescribe quotas for free release and trade in sugar as also for the levy as PDS supplies are to be sustained through negotiated purchases from the government.

2.4 Marketing of Onions :

While marketing of cotton is completely controlled by the state, and marketing of sugarcane is in the hands of sugar cooperatives with financial involvement of the government, the marketing of onions is through regulated markets. The procedure for marketing of produce by auction method in regulated markets was already discussed in Section 2.1. The intervention by the government takes place only when prices fall to very low levels and farmers are forced to make distress sales. In such cases the government intervenes through its Market Intervention Scheme which applies to horticultural crops. The Government of India launches the Market Intervention Scheme for a particular horticultural crop only in the season when its price crashes and does not apply to each season. Thus this scheme is different from the Minimum Support Price policy of the government which applies to major agricultural commodities for every season and farmers always have the option of selling to the government agency at support price. In case of Minimum Intervention Scheme, government purchases the produce at a price fixed mainly on the basis of cost of production and losses incurred due to procurement are shared equally by Government of India and State Government.

Thus in case of internal trade of onions, while marketing is conducted mainly by auction method under the supervision of the APMCs, external trade has some restrictions imposed by the government. While imports are free and under Open

General License (OGL), exports of onions are not free as in case of almost all agricultural commodities, but can be exported only according to quotas announced by the government each year. Out of the total quota released for export, NAFED and MSAMB have a share of 35 percent each, and 30 percent share is given to the export corporations of other states .

It was in the Exim Policy for 1997-2002 that the Government of India (GOI) authorised the Government of Maharashtra (GOM) to designate an agency for canalised export of onions from the state. In turn the GOM, designated Maharashtra State Agricultural Marketing Board as the designated agency for canalisation of onion exports from the state. Thus the MSAMB is now the exclusive canalising agency for onion exports.

Any person who desires to export onion has to register himself with the authorised office of MSAMB. The export of onion is subject to Minimum Export Price (MEP), as fixed by NAFED from time to time. The exporter has to apply for “ No Objection Certificate” (NOC) to MSAMB for each export consignment. The exporter has to furnish to MSAMB the details such as quantity to be exported, export rate, port of shipment, shipment period, destination and details of Letter of Credit. While granting the NOC, the MSAMB is entitled to collect service charges from the Associate shipper at the fixed rate of 3.5 percent on invoice value.

Marketing of onion is thus subject to government intervention mainly in the form of export restrictions as exports are not under OGL but on the basis of quotas announced by the government, for each season.

Chapter III

State Intervention in Cotton Marketing

3.1 Backdrop:

Maharashtra is one of the principal cotton growing states in the country. The total area under cotton (1999-2000) was 32.54 lakh hectares, which is nearly 37 percent of the total area under cotton cultivation in the country. The production however shows wide fluctuations over the years and ranged from 11.55 lakh bales in 1991-92 to 31.4 lakh bales in 1996-97. These wide fluctuations in production occur mainly due to heavy dependence of this crop on monsoons. Only 3 percent of the area under cotton is irrigated, while 97 percent of the cotton area is grown under rainfed conditions.

There are 22,000 villages, from 23 cotton producing districts wherein about 24 lakh cultivators and their families are involved in cotton production in the state. As per the 2001 census, there are 120 lakh cultivators in Maharashtra, which means that 20 percent of them grow cotton. For them, cotton is the primary cash crop and therefore the principal source of income.

The value of cotton crop in Maharashtra (inclusive of cottonseeds) varies from 5.4 percent to 10.8 percent of the Gross State Domestic Product from agriculture (see Appendix 3.1)

3.2 Cotton Production Performance

Cotton is an important commercial crop in Maharashtra and constituted 14 percent of gross cropped area in triennium ending 1996-97. It has highest area under cotton in the country which was 32 lakh hectares in TE ending 1999-2000, while Gujarat which ranks second in terms of area had 15.47 lakh hectares under cotton during the same period, which is slightly less than half of Maharashtra's area. However, in terms of yield, the picture is entirely different as yield from cotton is lowest in Maharashtra and much below the All India average. Cotton is almost entirely an unirrigated crop in Maharashtra while in states such as Punjab and Haryana, the entire area under cotton is irrigated.

In Table 3.1, we have shown district-wise, the area, production and yield of cotton in Maharashtra

Table 3.1: Districtwise Area, Production, and Yield of Cotton in Maharashtra.

Area : '00 hectares
 Prod.: '00' bales of 170 Kg. each
 Yield : Kg per hectare.

Districts	Area		Production		Yield	
	TE 90-91	TE 96-97	TE 90-91	TE 96-97	TE 90-91	TE 96-97
Nasik	16.00	20.00	17.33	20.67	199.67	227.00
Dhule	671.33	815.33	551.00	708.67	140.00	157.67
Jalgaon	1721.33	2770.33	1718.67	3390.33	168.67	225.67
A'Nagar	14.67	28.00	20.67	52.33	237.67	332.67
Pune	1.67	1.67	3.00	1.67	307.33	430.67
Solapur	22.67	36.33	32.33	50.33	241.00	272.67
Satara	10.33	42.67	18.67	50.33	312.67	316.33
Sangli	14.33	21.67	25.33	27.33	303.33	249.67
Kolhapur	1.00	2.00	1.00	2.00	154.33	210.00
A'Bad	595.00	993.33	671.00	739.67	191.67	152.00
Jalna	1190.33	1442.67	780.00	1181.33	110.33	143.33
Beed	283.33	759.67	210.67	635.33	128.00	140.33
Latur	255.67	339.67	132.33	260.00	94.33	134.00
Nanded	2239.00	2714.00	1419.00	1759.33	108.33	113.33
Parbhani	2652.33	3114.67	1470.67	2868.00	95.00	157.33
Buldhana	2554.00	2502.33	1636.33	2136.00	108.33	135.00
Akola	3583.67	3497.67	2251.00	4194.00	106.67	181.33
Amaravati	3627.00	3611.33	2350.67	3564.33	110.33	146.33
Yavatmal	4326.33	4496.00	2179.00	3907.67	85.67	128.00
Wardha	1499.33	1433.67	1656.67	1756.67	187.33	219.00
Nagpur	643.00	563.33	560.33	616.00	149.33	192.67
Chandrapur	659.67	576.33	495.33	624.00	128.00	169.00
Gadchiroli	2.33	1.33	2.00	2	142.67	132.33
Maharashtra.	26584.33	29784.00	18203.00	28547.33	116.00	158.00

Source: Season and Crop Reports, Maharashtra State (Various issues)

From Table 3.1, it can be observed that area under cotton in Maharashtra which was 26.5 lakh hectares in TE 1990-91 increased to 29.78 lakh hectares TE 1996-97. Yavatmal district in Maharashtra had highest area under cotton constituting 15 percent of the state's area in TE 1996-97. Amravati division which consists of four districts, namely, Buldhana, Akola, Amravati and Yavatmal was the main cotton producing region in the state as this region constituted 47 percent of the area under cotton. The production of cotton increased from 18 lakh bales in TE 1990-91 to 28.5 lakh bales in TE 1996-97. The yield of cotton showed an increase from 116 kg per hectare in TE 1990-91 to 158 kg per hectare in TE 1996-97. However the yield is still very low as compared to other cotton producing states and also shows wide fluctuations from year to year. The yield in Pune (430 kg per hectare) and Ahmednagar (332 Kg per hectare) in TE 1996-97, was higher than state average,

perhaps due to the cotton crop being irrigated. Thus although cotton is an important crop in Maharashtra in terms of area, the low yield continues to be a worrisome feature of Maharashtra's cotton economy.

3.3 State Intervention in Cotton Marketing in Maharashtra:

With independence and partition, nearly 40 percent of the area of undivided India went to Pakistan, whereas 97 percent of the textile industry remained in India. The country had to thus depend upon imports of raw cotton, in order to meet the requirements of the textile industry. Cotton is also important to the handloom sector, and it was in this context that the Cotton Corporation of India (CCI) was created in July 1970 as a public sector organisation that would import cotton to meet the requirements of the textile industry. The canalised system, it was thought, would not prevent any loss of foreign exchange through over-invoicing of imports and under-invoicing of exports. However, due to technological breakthrough in the late 1970s, leading to the introduction of new high-yielding varieties of long staple cotton, the country became self-sufficient and the need to import cotton was no longer felt. Also cotton imports and exports are under open general license (OGL) and the role of the Cotton Corporation in the domestic market is mainly to perform price support operations as an agent of the government in the event of prices falling below support level.

Soon after setting up of the CCI in 1970, a scheme of Monopoly Purchase of raw cotton was introduced in August 1, 1972. In the debates held by the Maharashtra Legislative Assembly on September 1971 with respect to cotton trading, the Minister for Cooperation stated that although the Cotton Corporation of India was already setup, its operations were mainly confined to imports of cotton and it was not actively involved in the internal trade of cotton. The Cotton Corporation could alone not eliminate the middlemen and hence setting up a monopoly machinery was not a duplicated effort. Thus when the monopoly scheme was set up, its main aim was to reduce marketing costs and margins by eliminating middlemen and securing for the growers the full advantage of the terminal price. The main premise of state intervention was that farmers were deprived of their due share in the terminal price as they were exploited by traders, which was possible as farmers had poor stocking capacity and were often in urgent need of cash. State intervention, it was thought,

could be a remedy for the inefficiencies prevailing in the marketing of cotton by private trade.

3.3.1 Mode of Payment under the Monopoly Procurement Scheme:

As noted earlier, the main purpose of the monopoly scheme was to ensure a remunerative return to the grower by allowing him to take advantage of the terminal price. To meet this objective, a mode of payment was devised as follows:

Guaranteed Price: The main feature of the Maharashtra's Monopoly scheme is the "guaranteed price" to the grower. The guaranteed price for a particular variety and grade of kapas (raw cotton) is the same throughout the season and throughout all purchasing centres in the state. The Government of Maharashtra considers the support prices of kapas at the time of fixing the guaranteed price under the scheme. The state government also takes into account factors such as cost of cultivation of cotton, trends in prices of kapas, cotton and cotton seed prices in the domestic and international markets, demand and supply of cotton and the prices realized under the scheme in the previous season, while fixing the guaranteed price. Once this price is fixed, the cultivator is assured that he will receive it, even if the federation is unable to sell at that price. Hence it is called guaranteed price.

Every cotton grower who tenders his cotton in the collection centre, in the first instance received 80 percent of the guaranteed price as "advance price" for the quantity of cotton tendered by him. The difference between the guaranteed price and advance price was to be paid to him before the close of the cotton season. (Cotton season means the period from the first day of July of any year to 30th June of the next year.) However, since the 1977-78 season, the government has been paying 100 percent of the guaranteed price to the cotton growers at the time of sale.

Final Price: In order to obtain the final price, the scheme accounts are closed when about 75 percent to 80 percent of the total number of bales are sold and there is no time limit for this. For this purpose, the variety wise sale receipts of cotton, cotton seed and cotton waste are taken together and added to the closing stock not disposed off which is valued on the basis of the average sale price realized for each variety and grade of cotton sold before that day. From this total, the expenditure incurred on processing, marketing and miscellaneous items are deducted. The final price for different varieties or grades of cotton is thus arrived and notified in the official gazette.

Bonus: If the final price is greater than the guaranteed price, 75 percent of this difference is to be distributed to the cultivators as bonus.

Price Fluctuation Fund: If the final price is greater than the guaranteed price, 25 percent of this excess is transferred to a Fund called Price Fluctuation Fund. The Price Fluctuation Fund is created so that in years when the final price is less than guaranteed price and hence there is loss to the scheme, the payment of guaranteed price can be ensured by withdrawing from the Price Fluctuation Fund.

Capital Formation Fund: Much later, an amendment and extension was made in the Maharashtra Raw Cotton (Procurement, Processing and Marketing) Act, in 1981, under which another fund called the Capital Formation Fund was established. The cotton growers were required to contribute 1 to 3 percent of the guaranteed price towards this fund.

After observing the mode of payment under the Monopoly Procurement scheme, we have presented in Table 3.1*, the prices fixed under the scheme and compared them to border prices.

Table 3.1* Support Price, Guaranteed Price, Final Price and Border Price (1975-76 to 1990-91)

Variety: H-4

Year	Support Price (Rs)	Guaranteed Price (Rs)	Final Price (Rs)	Border Price (Rs)
1975-76	--	321	413	351
1976-77	--	321	558	558
1977-78	365	365	449	482
1978-79	365	425	427	460
1979-80	395	425	412	446
1980-81	436	520	553	573
1981-82	436	520	464	563
1982-83	520	520	478	510
1983-84	527	580	605	644
1984-85	535	592	497	621
1985-86	535	592	342	531
1986-87	540	540	668	628
1987-88	550	550	913	912
1988-89	600	600	801	866
1989-90	690	690	821	989
1990-91	750	750	1059	1083
1991-92	850	850	1222	NA
1992-93	960	960	910	NA
1993-94	1060	1060	1684	NA

Source: MSCCGMF; Annual Cotton Statistics (CMI unit), GoM.

3.3.2 Marketing of Cotton by The Maharashtra State Cooperative Cotton Growers' Marketing Federation:

As noted earlier, the marketing of cotton in Maharashtra has a unique feature, i.e. there is complete state intervention. With the enforcement of the Maharashtra Raw Cotton (Procurement, Processing and Marketing) Act, 1971, all private trading in cotton was banned and the cultivator was given only one option in regard to the selling agency, namely, Maharashtra State Cooperative Cotton Growers' Marketing Federation (henceforth referred to as Maharashtra Federation). The main objectives of the scheme were (a) to ensure fair and remunerative price of cotton to the growers in the state (b) to effect additional transfer of incomes to the cotton growers by eliminating middlemen and securing in full the advantage of terminal price (c) to supply scientifically graded quality cotton to the consumer mills.

The marketing season for cotton normally commences in November and ends by March. Normally 15 percent of the produce is sold in November, while 60 percent is sold between December and January which is the peak marketing season. The remaining 25 percent of the produce is sold between February and March.

It is now three decades since the scheme is in operation. Its performance during the first two decades, i.e. from the period 1972-73 to 1993-94 showed that it made losses in 8 out of 22 years. The major losses were in 1984-85 and 1985-86, when the scheme made losses of Rs 77 crores and Rs 308 crores respectively. There was a bumper crop of cotton and the prices in all primary markets began to crash. The Monopoly scheme was under strain as it had paid unduly high guaranteed prices to the farmers, but incurred high marketing costs and realized low sale prices. To make good these losses, a sum of Rs.331/- crores had to be transferred from the state exchequer to the federation for its survival. The Price Fluctuation fund which was devised essentially to ensure payment of guaranteed prices in years of losses was completely wiped out and the state had to come to the rescue of the scheme. The financial difficulties of the scheme were aggravated because there was inflow of cotton in 1985-86 of about 10 lakh bales from border states which is against the spirit of the Act. As guaranteed prices in Maharashtra were far higher than ruling market prices in border states which had touched support level, there was illegal inflow of cotton into the state and the scheme besides subsidising farmers in Maharashtra also subsidised those in adjoining states.

Due to heavy losses incurred by the scheme in 1984-85 and 1985-86, the policy of fixing guaranteed price at support level from the 1986-87 to 1993-94 season was implemented. As prices remained above support level, the scheme made profits during this period. However, from the 1993-94 season, besides paying guaranteed price at support level, the scheme paid an advance additional price to growers as ruling market prices were higher than support level. However, the advance additional price paid to the growers was so high that it resulted in the scheme incurring huge losses year after year.

In Table 3.2** we have indicated the Advance Additional Price paid to cotton growers.

Table 3.2 Prices Paid to Cotton Growers under Cotton Monopoly Procurement Scheme**

Variety: LRA-5166						
Year	Support Price (Rs) (1)	Guaranteed Price (Rs) (2)	Advance Additional Price (Rs) (3)	Total Price (Rs) (2+3)	Final Price (Rs) (4)	Border price (Rs) (5)
1994-95	1140	1150	850	2000	1650	1648
1995-96	1260	1310	700	2010	1687	1800
1996-97	1290	1330	670	2000	1752	1900
1997-98	1430	1430	560	1990	1867	2050
1998-99	1545	1545	445	1990	1668	1300
1999-00	1650	1650	525	2175	1689	1950
2000-01	1700	1700	475	2175	2175	NA
2001-02	1750	1750	425	-	-	NA
Variety: H-4/H-6						
1994-95	1200	1210	890	2100	1946	NA
1995-96	1350	1400	700	2100	1762	1750
1996-97	1380	1430	670	2100	1940	1850
1997-98	1530	1530	570	2100	1903	2000
1998-99	1650	1650	450	2100	1789	2200
1999-00	1775	1775	525	2300	1866	2025
2000-01	1825	1825	475	2300	NA	NA
2001-02	1875	1875	425	--	NA	NA

Source: MSCCGMF; Agricultural Price Committee Cell, GoM.

In Table 3.2 we have presented the marketing costs incurred by the Maharashtra Federation from the period 1993-94 to 1999-2000.

Table 3.2: Marketing of Cotton by Maharashtra State Cooperative Cotton Growers Marketing Federation

(Rs. Crores)

Particulars	93-94	94-95	95-96	96-97	97-98	98-99	99-2000
Bales Pressed (No. in lakhs)	13.36	10.99	27.71	31.14	18.50	24.67	36.0
I Gross Total Receipts	1104.48	1054.09	2465.8	3007.24	1847.89	2422.68	3664.4
II Total Marketing Costs	139.23	212.43	448.47	467.43	356.42	525.21	792.0
a. Ginning Charges	28.16	25.37	69.91	86.21	51.91	71.68	110.7
b. Pressing Charge	16.57	15.84	42.62	54.75	32.35	45.77	72.0
c. Interest Paid to Bank	17.94	84.75	184.34	142.10	112.55	230.08	324.0
d. Insurance	6.43	8.61	22.96	22.65	14.32	19.27	30.60
e. Chief Agents Commission	32.29	30.49	31.29	40.61	61.43	44.57	66.6
f. Other Marketing Costs	37.84	47.37	97.35	121.11	83.86	113.84	188.1
III a. Payment to cultivators at Guaranteed Price	651.84	575.46	1564.4	1846.01	1148.26	1719.89	2840.40
b. Advance Additional Price	284.56	425.62	975.4	1071.21	547.5	628.00	925.00
c. Total Payment to Farmers	936.4	1001.08	2539.8	2917.22	1695.76	2347.8	3765.4
IV. II + III	1075.63	1213.51	2988.27	3384.65	2052.18	2873.01	4557.4
V. Profit or Loss (I-IV)	28.85	-159.42	-522.47	-377.41	-204.3	-450.33	-893
VI. Marketing Costs as a Percentage of Gross Sale Receipts.	12.6	20.15	18.2	15.5	19.3	21.7	21.6
VII. %Share of farmer in gross total receipts of Federation	84.78	94.97	103.00	97.0	91.76	96.90	112.75

Source: MSCCGMF, Mumbai.

From Table 3.2 it can be observed that the monopoly scheme has been incurring losses continuously from the year 1994-95. The federation had been paying unduly high advance additional price to the growers and this added to its financial burden. The share of the farmer in the gross total receipts of the federation ranged between 84.78 per cent to 112.75 per cent. This indicates that in some years the federation was paying the farmers more than its gross receipts. The marketing costs as a percentage of gross total receipts of the Federation which were 12.6 percent in 1993-94 increased to 21.6 percent in 1999-2000. Interest cost formed a major component of marketing costs as the federation was always holding large amounts of unsold stocks. The interest burden which was Rs 17.94 crores in 1993-94 increased over the years and amounted to Rs 324 crores in 1999-2000. The time taken to dispose its stocks is presented in Table 3.3.

Table 3.3 Time taken in disposing stocks

Year	1994-95	1995-96	1996-97	1997-98	1998-99
Time (months)	23	23	15	23	17

Source: MSCCGMF, Mumbai

The data in Table 3.3 indicate that the Federation often took as much as 23 months to dispose of its stocks. It has to compete with private trade in the market. The speed with which private traders finalize deals, change their prices and service their clients cannot be matched by the Federation because of its bureaucratic setup. The private traders dispose of their stocks within a period of 3 to 4 months. Holding stocks for long, deteriorates the quality of cotton and the federation had to sometimes offer discounts on its sale operations. Also, improper grading, i.e. inferior quality being graded as superior quality is a common malpractice observed. The practice of purchase of raw cotton by small traders from growers who further sell it to the federation is rampant. In this case, the benefits of procurement price actually accrue to traders and this is made possible by a nexus between politicians and village-level middlemen. Traders often buy cotton from farmers at a low price and, in connivance with officials sell it to the federation for a higher price as “superior quality cotton”. In a survey of 7,800 samples carried out in 2000-01 by the Marketing Federation, about 20 percent were found to be upgraded in this manner (Sanstha Committee Report, 2001) Thus while making payment, the federation pays for superior quality cotton but at the time of sales to mills, the price received is for inferior quality cotton. This naturally adds to the losses of the federation.

The losses incurred by the federation are shown in Table 3.4.

Table 3.4 Losses incurred by Maharashtra Federation (Rs crores)

Year	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	Total
Losses	159.42	522.47	377.41	204.3	450.33	893.0	672.0	703.35	3982.28

Source: MSCCGMF, Mumbai.

It can be observed that currently the Maharashtra Federation is making losses to the tune of Rs3982.28 crores. The scheme provides that whenever the final prices are lower than guaranteed price the deficit is made good from the Price Fluctuation Fund. This fund was however completely wiped out due to continuous losses year after year. These losses are to be made good by the state exchequer. A scheme which is considered to be heavily on the government for its survival can hardly be considered to be efficient in its marketing operations. The monopoly scheme which aimed at ensuring remunerative price to the growers in the state and securing for them

the advantage of terminal price however could pay the growers only with the help of subventions from budgetary resources.

Another important objective of the federation was to supply scientifically graded quality cotton to the textile mills. However the federation faced many problems regarding quality such as contamination, inconsistency in parameters, problems in varietal and grade wise mixing and level of trash content. The variety LRA 5166 which is very popular in Maharashtra was one of the most contaminated cotton as observed in a survey conducted by the International Trade Textile Manufacturer's Federation in 2001 (Sanstha Committee Report, 2001). To ensure quality control the federation has four laboratories located at Nagpur, Akola, Parbhani and Aurangabad. These laboratories are equipped with instruments to test fibre length, micronaire value strength, uniformity ratio, maturity and trash content. These laboratories were set up in 1988 and were equipped with testing facilities which were not the most modern. The capacities of these laboratories were is about 13,000 samples per annum. The size of the federation's business is such that it has to test 90,000 samples per annum. Thus the federation was not getting all samples checked.

The overall marketing operations of the federation showed that it was paying unsustainable guaranteed prices to the growers, incurring huge marketing costs, holding large stocks due to slow sales and grading was not up to the mark. The cotton supplied to textile mills was also contaminated and thus its important objective of supplying scientifically graded cotton was also not achieved. However, from Table 3.1, it can be observed that area under cotton increased from 26.5 lakh hectares in TE 1990-91 to almost 30 lakh hectares in TE 1996-97. However inefficient marketing and dependence on government subventions is hardly a way to induce farmers to increase area under the crop.

3.4 Marketing of Cotton in Maharashtra (A field level analysis):

In the previous section we observed the performance of the Maharashtra federation with respect to marketing of cotton in the state. However to get a complete picture of state intervention in cotton marketing in Maharashtra, it was also necessary to conduct a field survey in order to understand the extent to which the farmers are satisfied with the functioning of the scheme.

A field survey was conducted in Yeotmal district which has highest area under cotton in the state. The talukas (blocks) selected were Ralegaon and Darwaha which

had highest area under cotton in the district. Three villages from each taluka and 10 farmers from each village were selected for survey according to probability proportional to operational area. The characteristics of the sample farmers, land details, cropping pattern, animals owned and utilisation of their produce are shown from Table 3.5 to 3.9.

Table 3.5 Characteristics of Sample Farmers

Size Group	Age Group (Years)	Caste				Avg. Size of holding (ha)	Family members		Highest Education in the family
		B	K	OBC	D		Adult	Children	
Less than 1 ha	48.3	1	1	-	-	0.75	4	2	SSC
1 to 1.99 ha	55.6	10	12	2	-	1.55	4.2	2.5	SSC
2 to 3.99 ha	52.6	4	10	6	2	2.80	3.2	2.5	SSC
4 to 5.99 ha	42.4	-	6	2	-	5.1	5.5	1.5	11 th Std.
Above 6 ha	58.4	-	1	3	-	6.96	5.4	2.5	12 th Std.
Average	52.6	15	30	13	2	2.4	4.7	2.4	12 th Std

Source : Field Survey. Note: B-Banjara;K-Kunbi;D- Dhargar

Table 3.6 Land Details (Figures refer to percentages)

Size Group	Irrigated	Unirrigated
Less than 1 ha	60	40
1 to 1.99 ha	14.3	85.7
2 to 3.99 ha	17.2	82.8
4 to 5.99 ha	17.66	82.34
Above 6 ha	7.7	92.3
Average	14.82	88.18

Source: Field Survey.

Note: In case of entire holding, the land was wholly owned and neither leased in or leased out.

Table 3.7 Cropping pattern (Area in hectares, production in quintals)

Size group	Cotton		Tur		Hybrid Jowar		Soyabean		Total	
	Area	Prod	Area	Prod	Area	Prod	Area	Prod	Area	Prod
Less than 1 ha	0.55 (83)	4 (77)	0.12 (17)	1.2 (23)	-	-	-	-	0.67	5.2
1 to 1.99 ha	1.0 (69)	6 (54)	0.25 (17)	2.0 (18.2)	-	-	0.20 (14)	3 (27.3)	1.45	11
2 to 3.99 ha	1.6 (69)	8 (50)	0.32 (13.8)	3.1 (19.2)	-	-	0.40 (17.24)	5 (29.8)	2.32	16.1
4 to 5.99 ha	2.9 (59)	9.3 (27.50)	0.4 (8.2)	3.5 (10.4)	0.89 (35.5)	9 (26.6)	0.8 (16.3)	12 (35.5)	4.9	33.8
Above 6 ha	2.95 (44.6)	10.2 (19.1)	0.86 (13.0)	7.0 (13.1)	1.2 (18.1)	10.2 (19.1)	1.6 (24.2)	26 (48.7)	6.61	53.4
Average	1.7 (63.6)	7 (45.1)	0.27 (10.1)	2.5 (16.1)	0.4 (14.98)	2 (13)	0.3 (11.2)	4.00 (25.8)	2.67	15.5

Source : Field Survey. Note: Figures in brackets are percentage to total

Table 3.8 Livestock Animals owned by Sample Farmers

Size Group	Milch	Draught	Young Stock	Total
Less than 1 ha	2	1	1	4
1 to 1.99 ha	1	2	1	4
2 to 3.99 ha	2	2	1	5
4 to 5.99 ha	2	2	1	5
Above 6 ha	1	1	2	4
Average	2	2	1	4.2

Source : Field Survey.

Table 3.9 Utilization of Produce (Quintals)**Tur (a)**

Size group	Home Consumption	Animal Feed	Seed	Quantity Marketed
Less than 1 ha	0.25	-	0.10	0.65
1 to 1.99 ha	0.50	-	0.20	1.30
2 to 3.99 ha	0.50	-	0.20	2.30
4 to 5.99 ha	0.60	-	0.40	2.50
Above 6 ha	1.50	-	1.00	4.50
Average	0.55	-	0.20	1.78

Source : Field Survey.

Hybrid Jowar (b)

Size group	Home Consumption	Animal Feed	Seed	Quantity Marketed
Less than 1 ha	-	-	-	-
1 to 1.99 ha	3.0	-	-	-
2 to 3.99 ha	5.0	-	-	-
4 to 5.99 ha	5.0	-	-	7.0
Above 6 ha	12.0	-	-	14.0
Average	6.6	-	-	3.2

Source : Field Survey.

Table 3.9* Value of Assets (Rs)

Size Group	Tractor	Trolley	Bullock cart	Tube well/ Pumpset	Others
Less than 1 ha	-	1600	2000	-	200
1 to 1.99 ha	-	3500	8130	-	450
2 to 3.99 ha	-	12000	12550	-	1920
4 to 5.99 ha	31250	18000	15850	34000	3500
Above 6 ha	62500	20000	18000	42000	4120
Average	8334	9183	11306	1266	2038

Source: Field Survey

From Table 3.5, it can be observed that the dominant caste of the cotton farmers was *Kunabi*, and the level of education was normally up to high school level. The land details indicate that the land under cotton was mostly unirrigated. It was also

noted earlier that cotton is mainly a rainfed crop in Maharashtra. The land was also owned by the sample farmers and was not leased in and no land was leased out.

The cropping pattern of the sample farmers showed that besides cotton, the farmers were cultivating mostly tur and hybrid jowar. Farmers owning more than 4 hectares of land also cultivated soyabean. Tur and hybrid jowar were also used for home consumption. In case of hybrid jowar especially, a large part of the quantity produced was retained for home consumption. Hybrid howar was however not retained for seed as farmers prefer to buy the seed every year and it is in case of traditional varieties mostly that the crop is retained as seed. The farmers in all six groups owned 5 to 6 animals which were milch, draught as well as young stocks. However with respect to agricultural assets the condition was not satisfactory. None of the farmers owned tractors, 40 out of 60 farmers in the sample owned bullock carts and 20 out of 60 farmers had tube wells. Thus after observing the characteristics of the sample farmers, their asset position and their cropping pattern, in the next section we observe their problems, if any, faced while marketing their produce to the Maharashtra federation.

3.4.1 Marketing Problems of Sample Farmers:

Since cotton is a cash crop, the entire quantity is marketed and farmers do not retain the crop for self consumption as in the case of foodgrains. Legally, the farmers can only sell their produce to the government designated agency and selling across the border or to private trade is against the spirit of the act. However, we questioned the farmers regarding their preference of sale, i.e. whether they preferred to sell to public or private agencies. Our findings are tabulated in Table 3.10.

Table 3.10 Farmers' Response about Marketing of Produce (Public vs Private agencies)

(figures relate to number of farmers)

Size group	Do you find it advantageous to sell your produce to public agencies?		Reasons for preference of sale to public agencies
	Yes	No	
Less than 1 ha	2 (100)	-	Better price, (100) honest weighment (100)
1 to 1.99 ha	18 (75)	6 (25)	Better price (80), quick disposal (80), honest weighment (50)
2 to 3.99 ha	16 (73)	6 (27)	Better price (78), quick disposal (90)
4 to 5.99 ha	4 (50)	4 (50)	Better price (75), quick disposal (90), honest weighment (95)
Above 6 ha	3 (75)	1 (25)	Better price (75), quick disposal (90), honest weighment (95)
Total	43 (72)	17 (28)	Better price (75), quick disposal (85), honest weighment (95)

Source: Field Survey; (figures in brackets are percentage of responses)

The field survey shows that 72 percent of the farmers in the sample preferred to sell their produce to state agencies, the main reason being that they received better prices, there was honest weighing and also they had an assured market. We had noted earlier that cotton farmers in Maharashtra, in the recent past, besides being paid the guaranteed price also received an advance additional price. Thus the total price received by them was higher than that received by those in border states. They therefore found it beneficial to sell to state agencies, although as observed, this was at the expense of the budgetary resources. The produce was weighed at the time of tender and the growers had an assured market and price which was advantageous to them, especially in years of bumper crop.

The farmers were also questioned about the price comparison between public agencies and private traders and their replies are indicated in Table 3.11.

Table 3.11 Farmers' response regarding price offered for produce (Public vs Private agencies)

(figures relate to number of farmers)

Size group	Is price offered by private traders lower than state agencies?	
	Yes	No
Less than 1 ha	2 (100)	-
1 to 1.99 ha	18 (75)	6 (25)
2 to 3.99 ha	14 (58)	8 (42)
4 to 5.99 ha	6 (75)	2 (25)
Above 6 ha	2 (50)	2 (50)
Total	42 (70)	18 (30)

Source: Field Survey; (figures in brackets are percentage of responses)

It can be observed from the field survey that 70 percent of the farmers were of the view that private traders offered lower prices than public agencies. Price data also reveal that in the past few years, the federation was offering higher prices than that offered by private traders in border states. For example, in 2000-01, the ruling price of H-4 variety was Rs 2153/- per quintal (Cotton Statistics & News, East India Cotton Association) whereas the Maharashtra Federation paid Rs 2300/- per quintal. Again the variety LRA-5166 is very popular in Maharashtra and constitutes 25 percent of total procurement of the Federation. While open market prices of this variety were Rs 2080/- per quintal, the Monopoly Scheme paid the farmers Rs 2175/- per quintal. Thus growers were receiving prices higher than those determined by market forces in case of sales to Maharashtra Federation.

Attempts were made in the field survey to observe the marketing problems of the farmers in terms of transporting their produce to the collection centre, space

available in collection centre, time taken in the collection centre for tender and weighing of produce and also time taken for payment for sale of produce. These observations are presented in Table 3.12 (A) to 3.12 (E).

Table 3.12 Farmers' response regarding marketing problems:

A. Farmers response' regarding transport problems:

(Figures refer to number of farmers)

Size group	Are transport rates high?		Is transport available easily?		Loading and unloading is done	
	Yes	No	Yes	No	Timely	Untimely
Less than 1 ha	--	2 (100)	2 (100)	--	1 (50)	1 (50)
1 ha to 1.99 ha	4 (17)	20 (83)	19 (79)	5 (21)	18 (75)	6 (25)
2 ha to 3.99 ha	7 (32)	15 (68)	20 (91)	2 (9)	19 (86)	3 (14)
4 ha to 5.99 ha	5 (63)	3 (37)	8 (100)	--	7 (88)	1 (12)
Above 6 ha	3 (75)	1 (25)	4 (100)	--	2 (50)	2 (50)
Total	19 (32)	41 (68)	53 (83)	7 (17)	47 (78)	13 (12)

Source: Field Survey ; (figures in brackets are percentage of responses)

B. Farmers' response regarding space in collection centre

(figures relate to number of farmers)

Size group	Enough space to exhibit the produce		Space to park vehicle or animal cart		Staying arrangement if produce is not sold on the same day.	
	Yes	No	Yes	No	Timely	Untimely
Less than 1 ha	2 (100)	-	2 (100)	--	--	2 (100)
1 ha to 1.99 ha	20 (83)	4 (17)	20 (83)	4 (17)	4 (17)	20 (83)
2 ha to 3.99 ha	20 (91)	2 (9)	21 (95)	1 (5)	4 (18)	18 (82)
4 ha to 5.99 ha	8 (100)	--	8 (100)	--	3 (37)	5 (63)
Above 6 ha	4 (100)	--	4 (100)	--	1 (25)	3 (75)
Total	54 (90)	6 (10)	55 (92)	5 (8)	12 (20)	48 (80)

Source: Field Survey; (figures in brackets are percentage of responses)

C. Farmers' response regarding time taken to tender cotton at the collection centre:

(Figures relate to number of farmers)

Size group	Timely		Next Day	Largest Delay	Is there arbitrary grading		Was some quantity of your produce taken as sample	
	Yes	No			Yes	No	Yes	No
Less than 1 ha	--	2(100)		4-5 days	1(50)	1(50)	--	2(100)
1 ha to 1.99 ha	7(29)	17(71)	2	4 days	17(71)	7(29)	--	24(100)
2 ha to 3.99 ha	5(23)	17(77)	1	3-4 days	17(77)	5 (23)	--	22(100)
4 ha to 5.99 ha	6(75)	2(25)	1	2 days	7 (88)	1 (12)	--	8 (100)
Above 6 ha	1(25)	3 (75)		6 days	4 (100)		--	4 (100)
Total	19(32)	41(68)	4		46 (77)	14(23)	--	60(100)

Source: Field Survey; (figures in brackets are percentage responses)

D. Farmers' response regarding weighment of produce

(figures relate to number of farmers)

Size group	Is weighment done timely?		Is there arbitrary deduction from weight?	
	Yes	No	Yes	No
Less than 1 ha	--	2 (100)	--	2 (100)
1 ha to 1.99 ha	13 (54)	11 (44)	--	24 (100)
2 ha to 3.99 ha	18 (82)	4 (18)	--	22 (100)
4 ha to 5.99 ha	7 (88)	1 (12)	--	8 (100)
Above 6 ha	4 (100)	-	--	4 (100)
Total	42 (70)	18 (30)	--	60 (100)

Source: Field Survey; (figures in brackets are percentage responses)

E: Farmers' response regarding payment for produce

(figures relate to number of farmers)

Size group	Is there timely payment of guaranteed price?		Is there timely payment of Balance price?		In case of delay, by how much time is payment delayed?	In case of delayed payments, is interest paid?
	Yes	No	Yes	No		
Less than 1 ha	2 (100)	--	-	2 (100)	1 Year	No
1 ha to 1.99 ha	24(100)	--	4(17)	20 (83)	5 Months	No
2 ha to 3.99 ha	22(100)	--	2 (9)	20 (91)	6 Months to 1 Year	No
4 ha to 5.99 ha	8(100)	--	1(12)	7 (88)	6 Months to 1 Year	No
Above 6 ha	4(100)	--	-	4 (100)	1 Year	No
Total	60(100)	--	7 (12)	53 (88)		

Source: Field Survey; (figures in brackets are percentage responses)

It can be observed from Table 3.12 (A) that 68 percent of the sample farmers did not find the transport rates high and almost all farmers in the sample felt that transport was available easily. Again 78 percent of the sample farmers responded that loading and unloading was done timely. It therefore appears that by and large the farmers did not face any transport problems although some farmers felt that transport rates were high, and loading and unloading was not done timely.

Regarding space in the collection centre (Table 3.12 B) while almost all farmers felt there was adequate space to exhibit their produce and park their vehicle or animal cart, most of them did not get any staying arrangement if the produce was not sold on the same day. Further, in most cases, the farmers were not able to tender their cotton on the same day and there were often delays. The delay in some cases was as much as 6 days.

At the time of sale of cotton, the produce is weighed and graded. While most farmers did not have problems with weighment of produce, 76 percent of the farmers owned up that grading was done arbitrarily often in favour of the farmers. Our earlier

analysis on losses incurred by Maharashtra Federation had also noted that one of the reasons for huge losses was due to “inferior quality” cotton being graded as “superior quality”. There were several disputes regarding grading of cotton at the time of sale at the collection centres which were being referred to the Dispute Settlement Board or the *Wandha* Committee. The *Wandha* Committee had been established, under the aegis of the Agricultural Produce Market Committee, to settle disputes between the cultivators and the graders which arise in the course of grading cotton. It was noted by the federation that the *Wandha* Committee was however not functioning effectively or satisfactorily. In the event of a dispute regarding grading of cotton, the Committee frequently graded the cotton of the cultivator higher than that given by the federation. The federation had to therefore pay higher prices to the cultivators, but could not recover these costs at the time of sale to the textile mills. Improper and arbitrary grading was thus a prominent feature of the Monopoly Procurement scheme of cotton.

However, at the time of tender, no quantity of the produce was taken as sample, nor were there any arbitrary deductions in price. But as regards payment for produce, most farmers faced delayed payments. While the guaranteed price was paid to them at the time of tender, the balance, which was the difference between the final price and guaranteed price plus marketing costs was often paid to the growers much after the close of the season. In the later years the government was also announcing an advance additional price to be paid to growers, but the payment of these prices was often delayed as the federation was facing financial crisis and had accumulated liabilities.

The field level analysis on state intervention in cotton marketing thus indicated that the farmers suffered from arbitrary grading, pending payment and inordinate delay at procurement centres at the time of tender of produce. But though payments were delayed, they were receiving prices higher than those prevailing in border states.

3.5 Farmers’ response regarding price signals :

Prices play an important role in guiding the farmer regarding allocation of his resources. They also motivate the farmer to adopt improved technology and promote investment in farm enterprises. Farmers (unless they grow solely for self-consumption) are sensitive to prices and allocate resources taking the price factor into consideration. Therefore, farmers must have access to information on prices

prevailing in primary and terminal markets. We therefore collected information about the channels through which farmers receive price signals and the findings are summarised in Table 3.13.

Table 3.13 Farmers' Response regarding Price Signals

Size Group	Through which channels do you receive price signals?					How does it affect your decision on cropping pattern and production?
	Radio	TV	Newspapers	Traders	others	
Less than 1 ha	2	2	—	2	-	Change in area (2)
1 to 1.99 ha	10	18	16	18	4	Change in area and use of improved technology if price is favourable (24)
2 to 3.99 ha	16	14	17	19	6	Change in area and use of improved technology if price is favourable (22)
4 to 5.99 ha	4	3	3	6	2	Change in area and use of improved technology if price is favourable (8)
Above 6 ha	2	2	1	4	2	Change in area and use of improved technology if price is favourable(4)
Total	34	39	37	49	14	

Source : Field Survey Note: Figures in brackets also relate to number of farmers

From Table 3.13 it can be observed that farmers received information on price signals through various media such as radio, TV, newspapers. The commission agents and the local traders also provided them information about primary and terminal market conditions. A favourable price also induced farmers to increase area under the crop and adopt improved technology. It was observed earlier in our analysis that area under cotton showed an increasing trend in Maharashtra and the area which was 26 lakh hectares in 1988-89 increased to as much as 31 lakh hectares in 1996-97. Perhaps, the price security offered by the federation motivated the farmers to allocate more area to cotton. Further, there were no fluctuations in prices throughout the year and the price remained the same for the entire season. This method of price payment is a contrast to that of most other crops where farmers normally receive low prices in the post-harvest glut and higher prices in the lean season.

Besides price signals, adequate extension services and information on new technology is a prerequisite for increasing production. The farmers were therefore questioned about their sources of information regarding technological changes. Their replies are tabulated in Table 3.14.

Table 3.14 Farmers' response on Information about Technological Changes

Size group	From whom do you receive information about technological change?		
	Village Sarpanch	Block authorities	others
Less than 1 ha	2	2	—
1 to 1.99 ha	12	18	—
2 to 3.99 ha	16	18	4
4 to 5.99 ha	3	4	2
Above 6 ha	2	2	2
Total	35	44	8

Source: Field Survey

It can be observed from Table 3.14 that farmers received information about new technology from various sources such as Village Sarpanch, Block authorities, neighbours and input marketing agencies.

Price and technology are the key factors which induce farmers to make decisions on cropping pattern and use more inputs. The influence of price change and technical change on farmer's decisions are summarised in Table 3.15.

Table 3.15 Farmers' response on influence of price and technical change on farming decisions

Size Group	How do you weigh the influence of price change and technical change on	
	Area allocation?	Input use?
Less than 1 ha	Increase area if price is favourable (2)	-
1 to 1.99 ha	Increase area if price is favourable (24)	-
2 to 3.99 ha	Increase area if price is favourable (20)	increase use of inputs (18)
4 to 5.99 ha	Increase area if price is favourable (5)	increase use of inputs (3)
Above 6 ha	Increase area if price is favourable (3)	increase use of inputs (4)
Total	Increase area if price is favourable (54)	increase use of inputs (25)

Source: Field Survey; figures in brackets refer to number of farmers

Our field survey showed that in case of increase in prices, farmers in all size groups would allocate more area towards the crop, but only farmers having farm size above 2 hectares indicated that they would also increase the use of inputs. Perhaps farmers with very small landholdings find it difficult to invest more on inputs due to financial constraints. Almost all farmers in the sample had not adopted any new

enterprise in recent years or increased area under any one of the old enterprises based on price change or technological change.

3.6 Futures Market:

State interventions while providing price support to farmers, also have their own limitations, as was observed in Maharashtra. It is therefore imperative to manage price volatility in other ways. Price volatility can be managed with the introduction of futures trading in cotton. In India, cotton had a long tradition of futures trading, much before independence, until it was suspended in 1966 to curb the rising trend in prices. Futures trading has been resumed in December 1988 and the Government of India has granted permission to the East India Cotton Association (EICA) to regulate and organize trading in cotton futures contract. EICA would function under the guidance and directives of the Forward Markets Commission.

Futures contracts are a set of standardized exchange-traded risk management tools. Indian Cotton Contract, a domestic futures contract in cotton, is an example of futures contract. The primary economic purposes of the cotton futures market in serving the cotton industry as recognized the world over, are to provide a forum for price discovery and a tool for risk management. The ability to hedge price risk using futures contract in cotton will be an incentive for farmers to take up cotton cultivation more extensively. The transparent price discovery will enable farmers to plan the type of variety they prefer to sow according to the realisation as reflected in the prices of futures market. Cotton futures can help kapas processors, textile manufacturers, exporters of cotton textiles and a number of other market functionaries to manage price risk associated with their purchases and inventories of cotton and cotton based products.

Cotton futures contract can also be used by cotton yarn and cotton textile manufacturers to have an efficient working capital management. The need to maintain a large inventory of cotton to safeguard against price fluctuations can be greatly minimised thereby benefiting them to reduce the cost of production.

Thus instruments that minimize price risk such as the futures contract in cotton would become a valuable and effective tool in the hands of the users of cotton.

Due to revival of futures trading in cotton we posed a question to our sample farmers regarding their knowledge on futures markets. Their replies are tabulated below in Table 3.16.

Table 3.16 Farmers' response about awareness on Futures Markets

(Figures refer to number of farmers)

Size group	Do you know about futures market?	
	Yes	No
Less than 1 ha	-	2 (100)
1 to 1.99 ha	-	24 (100)
2 to 3.99 ha	-	22 (100)
4 to 5.99 ha	-	8 (100)
Above 6 ha	-	4 (100)
Total	-	60 (100)

Source: Field Survey; (figures in brackets are percentage responses)

The field survey shows that farmers were completely ignorant about futures trading in cotton. However it may be noted that futures trading, which was revived after 32 years, is still in an infant stage. The trading in cotton futures contract is conducted in the designated trading hall of Cotton Green, Sewri, Mumbai, and is through open outcry system. However, futures trading has so far remained on a low key due to certain impediments and hurdles. There is lack of awareness of futures, and the new generation of persons functioning in the physical markets are not conversant with either the utility of futures markets, nor the trading techniques. Also the Forward Market Commission lacks full fledged market intelligence and research cells for gathering and disseminating speedily the market intelligence.

In futures markets, trading takes place only in units of 55 bales. This unit is quite high and restricts small players. Further, traders find that the rules and regulations laid down by the Forward Market Commission regarding margins, netting, deposits, day-to-day clearing, sales tax, excise duty, octroi and other measures are stringent and need to be rationalised.

Finally, the operation of the Monopoly Procurement Scheme of cotton is a further impediment to the success of futures. This is because futures trading requires large players in the markets. However, in Maharashtra, farmers are compelled to sell their cotton to the Federation and hence cannot participate in futures markets. Also, they are assured of guaranteed price so they do not feel the need for futures as they do not face price uncertainty. Again, a number of mills also buy directly from the federation and therefore do not enter futures markets. The Maharashtra Federation has its own bureaucratic setup regarding sales and does not function in futures market.

Thus due to a number of hurdles, trading in futures has been virtually negligible since inception. Members have to still gain experience on the modus operandi of trading in these contracts. Efforts are being made by EICA to commence on-line futures trading so as to make business more active and broad-based.

Since there is hardly any active trading in futures markets, there is bound to ignorance on the part of the cultivators on this aspect of marketing as revealed in our field survey. Complete monopoly marketing of cotton in Maharashtra since the last three decades also hinders the popularity of futures markets.

Chapter 1V

Marketing of Sugarcane through Cooperatives

4.1 Backdrop:

Sugar industry is the second largest agro-based industry in the country next to cotton textiles. Further, while cotton textile industry is located mostly in urban areas, the sugar industry is located mostly in rural areas. Maharashtra is India's largest producer of sugar while Uttar Pradesh is the largest producer of sugarcane. The area under sugarcane is also highest in Uttar Pradesh and it constitutes 48 percent of the area under sugarcane in the country (1999-2000). Maharashtra which ranks second in terms of area accounts for 14 percent of country's area. In terms of yield, Tamil Nadu ranks first but the yield of Maharashtra is above All India average.

4.2 Sugarcane Production Performance:

While the cropping pattern of Maharashtra is dominated by coarse cereals, sugarcane is an important cash crop in the state. Sugarcane does not require much effort to grow and is often termed as a "lazy man's crop". Sugarcane had traditionally been grown for 15 to 18 months. Due to water scarcity, there has been an increasing shift to shorter duration annual crops. Sugarcane is a highly water intensive crop and accounts for 17 percent of the gross irrigated area in the state (1996-97). Almost the entire area under sugarcane is irrigated, mostly with groundwater as barely 5 percent is irrigated using canals.

In Table 4.1 we have shown district-wise, the area, production and yield of sugarcane.

It can be observed that while area under sugarcane increased from 3.7 lakh hectares to 5.4 lakh hectares during the period 1990-91 to 1996-97, there was negligible increase in yield which increased from 81 tonnes in 1990-91 to 82 tonnes in TE 1996-97. Although the yield in Maharashtra is more than All India average, there is no major improvement in yield in the state. There is a tendency in Maharashtra for less *adsali* cane (18 months) to be grown and more cane to be grown as an annual crop. This partly reflects the increasing shortage of water in the state since *adsali* crop has to face two dry seasons rather than one. The annual crops however face one dry season but also have lower yields. Farmers therefore grow the annual crop which has a relatively shorter duration.

Table 4.1: Districtwise Area, Production and Yield of Sugarcane

Area: 00 hectares
 Prod: 00 tonnes
 Yield: kg per hectare

Districts	Area		Production		Yield	
	TE 90-91	TE 96-97	TE 90-91	TE 96-97	TE 90-91	TE 96-97
Nasik	284.33	286.33	29758.00	25460.67	108417.00	88793.67
Dhule	129.00	202.33	8725.00	15948.67	76327.00	79256.00
Jalgaon	105.33	168.33	8287.00	14236.00	74816.00	84449.67
A'Nagar	439.67	620.00	37266.33	52708.33	89671.00	84979.67
Pune	301.67	394.33	27437.67	34827.67	92119.00	88275.00
Solapur	343.67	447.67	29072.00	39097.00	80524.00	87051.00
Satara	327.67	465.67	27757.33	43529.00	85831.67	93362.67
Sangli	234.00	418.33	22372.67	39597.67	93942.33	94822.00
Kolhapur	585.33	904.33	51613.33	74421.67	92009.67	82441.67
A'Bad	196.00	274.33	16391.67	20055.00	74479.00	72424.33
Jalna	100.67	164.67	9898.33	12157.33	92976.00	72351.33
Beed	149.33	190.00	11572.67	13078.33	77492.67	68099.33
Latur	100.67	194.33	7123.00	12187.33	68046.67	62524.67
Osmanabad	162.33	166.00	10684.33	10923.33	63993.00	65435.00
Nanded	98.33	143.33	6630.33	9869.00	65497.67	69312.00
Parbhani	88.33	149.67	6276.33	10318.33	77205.67	69088.33
Buldhana	29.00	19.67	2101.67	1470.67	76568.33	74306.33
Akola	21.00	21.33	1524.00	1589.33	73192.33	74473.67
Amaravati	8.33	26.33	670.33	2103.33	76808.33	79581.33
Yavatmal	49.67	74.00	3559.67	5222.00	71458.67	70130.33
Wardha	9.33	20.00	672.33	1411.67	73211.67	71763.67
Nagpur	4.67	10.00	331.67	709.00	73164.33	71979.33
Bhandara	8.67	17.00	633.33	1438.00	73200.67	80180.33
Chandrapur	2	2	155	134	77500	67000
Maharashtra.	3777.67	5378.67	320410.67	442404.00	81083	82318

Source: Season and Crop Reports (Various issues), Govt. of Maharashtra

A district-wise analysis shows that area under sugarcane was highest in Kolhapur in TE 1996-97 and accounted for about 17 percent of the state's area under sugarcane. Next to Kolhapur is Ahmednagar, followed by Satara, Solapur and Sangli respectively. These districts along with Pune constituted 52 percent of the area under sugarcane (1996-97).

In Maharashtra, increase in production of sugarcane is mainly due to increase in area. Sugarcane is a highly water-intensive crop and the amount of water utilised for sugarcane is much more than that of other crops. A study (Sawant, et al, 1999) on agricultural development in Maharashtra noted that expanded cultivation sugarcane deprived even the minimum benefits of life saving irrigation to many crops particularly foodgrains, in a water-scarce state like Maharashtra and accentuated the degree of inter-crop and inter-farmer inequity in distribution of irrigation benefits,

while on the other hand it was accompanied by a significant fall in yields. The study also noted that while the average consumption of fertilizers in the state was 67 kg per hectare in 1990-91, in case of sugarcane it was 501 kg per hectare during the same period.

Thus while area under sugarcane is showing an increasing trend and was 7.89 lakh hectares by 2001-02, excessive water consumption accompanied with low yields are a major cause for concern.

4.2 Marketing of Sugarcane by Cooperatives:

The marketing of sugarcane in Maharashtra, is almost entirely in the hands of the cooperative sector, and as noted in Chapter II, there are at present 160 sugar factories installed in Maharashtra, out of which 147 are in the cooperative sector while only 13 are in the private sector.

In the earlier system of licensing, the chief promoter of the sugar factory had to forward a proposal to the state government giving details of the project. If the feasibility norms were satisfactory, the proposal was forwarded to the Central Ministry of Food and after screening if found satisfactory was further forwarded to Ministry of Commerce. A letter of Intent was then issued by the Industry Ministry to the chief promoter. To get these procedures completed, the time taken varied between six months to six years. The licensing policy was backed by political influence. However, in 1998, the Government of India (GOI), decided to delete the sugar industry from the list of industries requiring compulsory licensing under the provisions of the Industries (Development and Regulation) Act, 1951. As a result, the entrepreneurs who wish to avail themselves of the delicensing of sugar industry would be required to file an industrial entrepreneur memoranda (IEM) with the secretariat of industrial assistance in the Ministry of Industry, GOI, as laid down for all delicensed industries. This implies that henceforth letter of intent or industrial license will not be required for setting up sugar factories. Similarly, the recommendations of the state government will not be required for issuance of IEM.

4.2.1 Role of State Government in Sugar Cooperatives:

The decision to permit new mills is made by the State Commissioner for Sugar, following the recommendations of the Minister of Cooperatives. The establishment of sugar mills has been largely funded directly and indirectly by the Government of Maharashtra.

A recent study (Wadhwa, 2000) noted that the financial involvement of the state government in the project cost of the cooperative sugar factories in the state has been by way of (i) contribution to their equity (share capital), (ii) loans extended to them from the state exchequer, (iii) default guarantee for all loans raised by them from banks and financial institutions, and (iv) deferral of purchase tax.

The contribution of the state government to the share capital of every factory has been 32.5 percent of the originally appraised cost of the project. The loan amount borrowed by every factory from the banks and financial institutions, for which the state government has been giving default guarantee, amounts to 60 percent of the appraised cost of the project. In this way, the financial involvement of the state government in every cooperative sugar factory has been 92.5 percent of the originally appraised cost of the project. In addition, the state government has been giving, due to cost over-runs, direct loans to the cooperative sugar factories as “ Last Mile Assistance” to enable them to complete the projects. Further through government resolutions, soft loans and other forms of financial support was also rendered to cooperative sugar factories.

The Godbole Committee Report on Cooperative Sugar Factories in Maharashtra (1999), noted that the financial institutions were of the view that for the last 45 years, the state government played a very important role as promoter of cooperatives in the state. In addition, the state government has also been regulating the sugar factories on all vital matters which has a close bearing on the development, regulation and viability of the sugar factories in the state. Further, the directors' elections to the societies are held under the overall supervision of the state government. In the event of any irregularity/mismanagement, the state government has the right to supercede the board, and an Administrator, who is generally a nominee of the state government, is appointed to take over the complete charge of the society. In the light of these circumstances, the financial institutions recognised the state government as the promoter of the factories.

4.3.2 Sugarcane Pricing Policy:

At the beginning of each crushing season, Government of India (GOI) announces a Statutory Minimum Price based on sugar recovery rate from cane of 8.5 percent (a premium is set for higher recovery rates), which must be adhered to by all sugar mills/factories. This SMP is however, only a notional minimum cane price fixed

by GOI. In reality, each state announces a higher State Advised Price (SAP) which is the actual price paid to the sugarcane grower.

In Maharashtra, most sugar mills are in the cooperative sector. According to the model byelaws of sugar factories, the board of directors is to decide the cane price to be paid to the cultivators. However, those sugar factories which have not repaid their term loans and are yet to discharge the government guarantee or have still not repaid the government equity, have to get the cane price approved by the state government. The government has appointed a committee appointed by the chief minister (Minister's Committee) which takes a decision each year regarding the cane price. The state does not have the system of State Advised Price (SAP) as in other states, but the Minister's committee decides the first advance to be paid towards the cane price which is more or less equal to the SMP adjusted to average recovery of 11 percent for Maharashtra and the transport and harvesting charges paid by the factory. Depending upon the surplus generated, cooperative sugar factories have to pay one or more advances till final prices are determined. Normally, the mills are required to pay SMP as an initial advance price within 15 days of delivery; a second payment is made when the balance sheet of the mills permit and a small final payment is made some months later, following a state audit of the mill.

In practise, the sugar factories have been distributing all surpluses as cane price to avoid paying income tax and have not built any reserves (Godbole Committee, 1999). The present system of paying uniform cane price for all varieties of sugarcane, irrespective of their sucrose content is very faulty. There is no incentive for the farmers for growing better quality cane. This is perhaps the only industry where payment for raw material is made on weight, without any consideration for quality. This therefore appears to be a deficiency in pricing of sugarcane.

In Maharashtra, normally the crushing season lasts for 160 days. Crushing is normally undertaken between November and March. During the season 2000-01 576.49 lakh tonnes of sugarcane was crushed and 67.05 lakh tonnes of sugar was produced.

Zoning was introduced in the state of Maharashtra in 1984, mainly to prevent the cooperative sugar factories from incurring heavy losses. Under this order, every factory was given areas from which only that factory could draw cane, to the exclusion of all other factories. The main objective of introducing zoning was that there was a rapid growth of cooperative sugar factories in the state, and it was

apprehended that all the factories particularly the newly established factories in the state, may not be able to get enough sugarcane for their requirements. In the event of non-availability of sugarcane to meet the requirements of the sugar factories, the viability of a large number of sugar factories would be affected, leading to financial crisis for sugar factories. However, zoning was in force for 13 years (from 1984 to 1996) after which, the zoning order was amended and dilution of zoning was introduced.

As per the amendment, with the dilution of zoning, a member is bound to sell his cane proportionate to his shareholding, to the factory whose member he is and he will be free to supply excess cane, if any to any factory of his choice by an agreement or contract. The cane growers who are not the members of the cooperative society are free to supply their cane to any factory of their choice.

In Table 4.2 we have presented the Statutory Minimum Price for sugarcane and prices paid by sugar factories in Maharashtra.

Table 4.2 Sugarcane Prices in Maharashtra

Year	Statutory Minimum Price	Price: Rs per quintal
		Prices paid by sugar factories
1984-85	13.50	18-25
1985-86	14.0	13-32
1986-87	16.5	20-30
1987-88	18.0	23-30.20
1988-89	19.0	24.20-47.50
1989-90	20.0	25-62
1990-91	23.0	26-53
1991-92	24.0	29-52.50
1992-93	27.0	31-49.65
1993-94	32.0	36-61
1994-95	37.0	46-66
1995-96	42.5	45-46
1996-97	45.9	46-78.85
1997-98	48.45	52-83
1998-99	52.70	52.70
1999-2000	56.10	56.10
2000-01	59.50	59.50
2001-02	62.05	62.05
2002-03	69.50	69.50

Source: Reports of the Commission for Agriculture Costs and Prices, (various issues) & office of Sugar Federation, Mumbai.

It can be observed from Table 4.2 that with the exception of a few years, by and large factories pay more than Statutory Minimum Price. The price paid to the sugarcane grower is paid in two or three installments. The final price is arrived on the basis of the working results of the sugarcane factory. There are wide variations in

working results of factories and this results in different factories paying different prices. In 1997-98, for example, while the lowest price paid was Rs 52 per quintal, the highest price paid was as much as Rs 83 per quintal.

4.4 Marketing of Sugarcane by Cooperatives:

As noted earlier, in Maharashtra there are 160 installed sugar factories, out of which 147 are in the cooperative sector. However, all sugar factories may not be operating every year, due to reasons such as shortage in availability of cane, etc. In the year 2001-02, 135 out of the 160 factories were involved in crushing of cane.

In this section we have analysed the marketing costs of selected sugar cooperatives in Kolhapur district. As mentioned in chapter I, Kolhapur district was selected for our field survey and hence accordingly, data from the sugar factories in Kolhapur district was collected to understand the cost of marketing of these sugar mills. Further, in Annexure III we have indicated factory-wise accumulated profits or losses in the year 1998-99 to understand the overall performance of the working of sugar cooperatives in Maharashtra.

In Table 4.3 we have shown the cost of marketing of selected sugar cooperatives for the years 2000-01 and 2001-02.

It can be observed from the table that Shree Dutt sugar cooperative made losses in both years, while Jawahar cooperative made a loss of Rs 9.4 crores in 2001-02. Gadhinglaj sugar factory made profits but not of a sizable amount. In case of Shree Dutt sugar cooperative, high costs were incurred for harvest, transport & commission charges. Machinery repair charges, selling and distribution expenses and interest costs were also high. Jawhar factory which incurred losses in 2001-02 had high interest costs. The interest cost was also highest in case of Gadhinglaj factory which made negligible profits. Perhaps the sugar factories were holding unsold stocks and huge amounts were blocked in these funds which increased the interest costs of the sugar mills. In case of all the mills, the expenses on sugarcane purchases were 50 percent of the total expenses. The major receipts of these factories were from sale of sugar and a small portion of their receipts were from sale of by products.

The overall conclusion that emerges from Table 4.3 is that the marketing costs of selected sugar cooperatives in Kolhapur district were high leading them to run into losses.

Table 4.3 Cost of Marketing of Selected Sugar Cooperatives

(Rs crores)

Expenses	Shree Dutt (Tal. Shirol)		Jawahar (Tal. Hathakanagle)		Gadingalaj (Tal. Gadingalaj)	
	2000-01	2001-02	2000-01	2001-02	2000-01	2001-02
a. Cane Purchases (including stock)	90.13	114.09	63.35	86.60	36.26	35.84
b. Sugarcane purchase tax	1.88	2.43	1.56	2.03	0.95	1.02
c. Harvest, Transport & Commission changes	18.30	24.19	10.54	16.5	5.88	6.79
d. Cane Supply Expenses	3.20	3.77	0.48	2.16	0.13	0.26
e. Salary & Wages	12.67	13.32	7.27	8.99	7.39	7.60
f. Machinery repair & expenses	14.09	13.33	5.82	7.42	2.32	4.74
g. Process & Chemical expenses	1.48	1.84	1.44	1.63	0.78	2.29
h. Packing expenses	4.19	4.98	2.77	3.72	1.59	2.33
i. Selling & Distribution expenses	15.31	18.13	1.50	2.63	6.00	6.57
j. Administrative expenses	3.70	5.25	1.80	2.20	1.24	1.64
k. Interest	14.29	19.62	9.08	18.42	7.17	8.01
l. Depreciation	4.48	5.12	3.78	10.78	0.92	0.87
Total Expenses	183.38	226.07	109.73	163.08	70.63	77.96
Receipts						
a. Sale of Sugar	171.70	199.33	106.02	144.99	68.95	75.02
b. Sale of by products	4.76	7.73	2.32	6.17	1.13	2.14
Other income	2.52	7.73	1.39	2.51	0.98	1.22
Total income	178.98	214.79	109.73	153.67	71.06	78.38
Profit or Loss	-4.4	-11.28	—	-9.4	0.43	0.42

Source: Annual Reports of Sugar Cooperatives

Further, in Annexure III we have indicated district-wise, factory –wise, the accumulated profits or losses for the year 1998-99. The data shows that out of 138 factories, only 31 mills were making profits, while 107 mills were in losses. Further, while accumulated losses of 107 factories amounted to Rs 1031.56 crores, the accumulated profits of the 31 mills was only Rs 19.78 crores. In Kolhapur district out of the 15 sugar factories, 10 were in losses amounting to Rs 42 crores while the profits of the 5 mills was only Rs 1.08 crores. The situation was similar in Sangli district where the accumulated losses of sugar mills were Rs 52 crores. Thus, three-fourths of sugar mills in the state were incurring huge losses and accumulating heavy debts, adding to the already mounting fiscal burden in the state.

4.4.2 Sickness among Cooperative Sugar Factories:

In the initial years of Independence, the sugar factories that were set up, functioned efficiently and met with success. These factories were located mostly in

western Maharashtra where irrigation facilities and other complementary inputs were available. Since western Maharashtra had so many sugar factories, Northern Maharashtra, Vidarbha and Marathwada followed suit despite the fact that they were not gifted with the necessary factor endowments. The Godbole Committee (1999) noted that the most critical issue in the examination of applications for new factories was the assessment regarding availability of water and the area which is likely to be brought under sugarcane. However, certificates regarding present and future availability of water given by officers of irrigation department and groundwater survey and development agency were vague and misleading. This resulted in shortage of sugarcane for the factories and all sugar cooperatives located in these regions began incurring losses.

The normative costs adopted by financial institutions for sanction of loans were often outdated as actual costs turned out much higher. Since term loans were not available to meet this increased cost, the sugar factories often resorted to high cost short term funds. This in turn led to shortage of working capital margins along with time and cost overruns. The state government also made delays in releasing its share of equity capital and giving its guarantee for loans sanctioned by other institutional lenders. These factors led to a financial crisis among sugar factories and they defaulted in timely repayment of loans given by the government and financial institutions. They were unable to make payments to labour as salaries and wages and also failed to pay interest and arrears of past loans which were due for repayment.

The cooperative sugar factories were also distributing all surpluses as cane price to avoid paying income tax and therefore had not built up any reserves. Thus even one bad season could result in a sugar factory becoming sick as no buffer had been built. A number of factories were paying much higher prices than that warranted by their financial status. Cane prices were also paid by borrowing from banks or from diverting working capital, thus adding to financial liabilities.

Another item of expenditure pertained to transport and harvesting charges. A number of sugar factories gave large advances to transport operators who did not honour their commitments and which were not recovered. Also a large number of sugar mills have very low processing capacity, mainly due to a Government of India policy to give preference to granting licenses to mills with processing capacity below 2,500 metric tonnes per day. These small units however have high processing costs as

there are considerable economies of scale in sugar processing. This policy was however abolished in 1998.

All these factors contributed to the accumulated losses incurred by sugar cooperatives which are now in the red and reeling under heavy financial crisis. About 40 lakh tonnes of unsold sugar is presently lying in the godowns and this is likely to spell trouble as nearly Rs 5,200 crores of various banks at state and district level have been invested and this amount blocked would attract huge interest costs. In order to provide some relief to this crisis, the Union government has sanctioned ocean freight subsidy to sugar factories as it would make sugar prices internationally more competitive.

Also the sugar factories in the state, at present have the burden of short margin (the difference between the production cost and market price of sugar) to the tune of Rs 1578/- crores. The RBI and NABARD have shown willingness to convert the short-term margin into medium-term loans, provided the government gives a guarantee. The government has given a guarantee for Rs 1000 crores as in the absence of this guarantee, a number of sugar cooperatives will have to close down, while District Central Cooperative Banks will face a grave crisis. A number of sugar factories are also unable to pay the Statutory Minimum Price and as per the sugarcane control order, if factories do not pay SMP within 15 days, they will have to face legal action.

A recent status report prepared by the sugar commissioner, pointed out that the total negative net-worth of 52 financially weak sugar factories was Rs 1000 crores and the government's share capital in these factories was Rs 234 crores. This was in addition to short margin of Rs 571 crores and also government guarantee for loans amounting to Rs 621 crores.

Thus the overall working of the sugar cooperatives shows that they were facing severe financial crisis and are heavily dependant on the government for concessions and subsidies in order to survive.

4.4.3 Marketing of Jaggery (Gur) in Maharashtra:

It was noted earlier that Maharashtra is India's largest producer of sugar, while Uttar Pradesh is the largest producer of sugarcane. In Uttar Pradesh as much as 50 percent of the sugarcane production goes into the production of gur. In Maharashtra however, only 13 percent of the sugarcane production goes to the production of gur. Unlike in the case of sugar, there are no government controls on the minimum price at

which sugarcane can be sold to the gur and khandsari units. However, at times when the output of sugarcane in the country is low, the government can ban the production of gur for a specified period of time. Gur production belongs to the small scale, unorganised sector.

In Maharashtra, jaggery production is concentrated in a few districts and Kolhapur district has the major share (25 per cent) in jaggery production. However jaggery units in Kolhapur district face a number of problems despite their important role in generating employment in rural areas. While we have not conducted any study using primary data to study the economics of gur production , it may be useful to reveal the findings of other studies. A study by Kakade and Patil (2002) in Kolhapur district noted that farmers prefer to sell their sugarcane to sugar factories. However, farmers often divert their cane to gur production as sugar factories do not pick up their produce in time. Sometimes factories are faced with over supply and unable to crush the cane. At such times farmers divert their cane production to gur producing units or produce gur themselves. They also receive the price immediately but in case of sale to sugar factories, payment is made in three or four instalments. The main findings of the study are that when the farmer diverted his sugarcane to production of jaggery, his net returns were Rs 19120 per acre, where as when he sold his sugarcane to the factory his net returns per acre were Rs. 25320. He therefore earned 24 percent less when his cane was diverted to jaggery production. Another study on marketing of jaggery by Dandge and others (2002) in Kolhapur district also revealed that jaggery units are unviable. Sales take place in regulated markets through open auctions but traders are often in collusion and do not allow the price to go up. Often the price received by the farmer is equal to his cost of production of jaggery. The farmers however continue to produce gur even if it is not profitable as gur production is traditional in nature. Family labour is often used and production does not have a commercial oriented outlook. It is confined mostly to small and marginal farmers.

The main problems associated with production of jaggery is that the units are traditional with low capital intensity and these units are dependent on one main labourer known as the Gulvya (the traditional chief chemist). He occupies the key position in deciding the critical level of temperature of cane juice and is without much formal training . Apart from untrained man power, the production of jaggery is done under unhygenic conditions. There is also no standarsised method of production and there is also the possibility of some harmful components entering the final product as

chemicals are used to provide a golden yellow colour to the final produce. This can make the final product injurious to health. Gur also has a shorter shelf life and the average consumer prefers sugar. It is therefore necessary to modernize gur producing units and also standardize the procedure for producing gur.

Marketing of Sugarcane (A field survey):

In the previous section, we observed the marketing of sugarcane by cooperatives in the state. However, the study would be incomplete without a field survey, in order to understand if the farmers are satisfied with the functioning of cooperatives.

A field survey was conducted in Kolhapur district, which had highest area under sugarcane in the state. The talukas selected were Shirol and Gadhinglaj, both having different agro-climatic conditions but sugarcane was an important crop. In both the talukas there were no farmers in the size group above 4 hectares, cultivating sugarcane. In our sample, 39 farmers belonged to the size group-less than 1 hectare, 15 farmers belonged to the size group 1 to 1.99 hectares while only 6 farmers were in the size group-2 to 3.99 hectares.

The characteristics of the sample farmers, land details, cropping patterns, livestock animals and assets owned are shown from Table 4.4 to 4.8. From Table 4.4, it can be observed that the dominant caste among sugarcane growers was *Maratha*, especially in the first two size groups. The sugarcane growers however had a higher level of education and by and large were graduates. In some cases they even had professional degrees. The land details showed that their land holdings were mostly irrigated. Sugarcane is a very water-intensive crop and therefore availability of irrigation water is prerequisite to sugarcane cultivation. Accordingly sugarcane growers also owned tubewells.

Table 4.4 Characteristics Of Sample farmers

Size group	Age group	Avg. size of holding (ha)	Family members		Highest Education in the family
			Adult	Children	
Less than 1 ha	45	0.51	3	2	Graduation
1 to 1.99 ha	52	1.3	3	4	Graduation
2 to 3.99 ha	54.5	2.75	4	2	Graduation
Average	47.4	0.94	3	2	Graduation

Source : Field Survey.

Table 4.4* Farmers' Response Regarding Caste

Size group	Caste		
	Maratha	Jain	Lingayat
Less than 1 ha	39	-	-
1 to 1.99 ha	15	-	-
2 to 3.99 ha	-	3	3
Total	54	3	3

Source : Field Survey

Table 4.5 Land Details (Area in hectares)

Size Group	Irrigated	Unirrigated
Less than 1 ha	0.45 (97.8)	0.01(2.1)
1 to 1.99 ha	1.1(83.3)	0.22(16.7)
2 to 3.99 ha	1.7(66.4)	0.86 (33.6)
Average	0.77 (82.5)	0.17 (17.5)

Source: Field Survey Note; Figures in brackets are percentages to total area

Note: In case of entire holding, the land was wholly owned and neither leased in or leased out.

Table 4.6 Cropping pattern (Area in hectares, production in quintals)

Size Group	Sugarcane		Groundnut		Soyabean	
	Area	Prod	Area	Prod	Area	Prod
Less than 1 ha	0.35(63.3)	200	0.20(36.7)	1.4	-	--
1 to 1.99 ha	0.8(66.6)	800	0.20(16.6)	1.6	0.2(15)	2.0
2 to 3.99 ha	1.4(58.3)	1200	0.40(16.6)	3.2	0.6(25)	6.0
Average	0.65(67.1)	600	0.22(22.6)	1.5	0.1(10.3)	0.1

Source: Field Survey; Note: Figures in brackets are percentage to total area

Table 4.7 Livestock animals owned by Sample Farmers

Size Group	Milch	Draught	Young Stock	Total
Upto 1 ha	1	1	2	4
1 to 1.99 ha	1	1	1	3
2 to 3.99 ha	1	2	1	4
Average	1	1.2	1.2	3.4

Source: Field Survey

Table 4.8 Value of Agricultural Assets (Rs)

Size group	Tractor	Trolley	Bullock cart	Tubewell/ Pumpset	Others
Less than 1 ha	27179	7051	1013	7230	161
1 to 1.99 ha	26636	6667	334	7680	1634
2 to 3.99 ha	29167	9166	3833	48833	1180
Average	27250	7167	1125	11503	4288

Source: Field Survey.

Table 4.8* Yield per hectare (quintals) of Sugarcane of Sample farmers and its value (Rs)

Size group	Yield	Value
Less than 1 ha	570	39330
1 to 1.99 ha	1000	69000
2 to 3.99 ha	857	59133
Average	720	49680

Source: Field Survey

The cropping pattern of the sample farmers showed that they cultivated mostly sugarcane, groundnut and soyabean. Thus these farmers though small, were commercial oriented. They also owned milch and draught animals.

Thus after observing the characteristics of sample farmers, in the next section we observe the marketing problems, if any faced by these farmers.

4.4.3 Marketing Problems of Sample Farmers:

Since sugarcane is a cash crop, farmers do not retain for home consumption, but market the entire produce to the sugar mills. In fact the factories arrange for harvest and transport of the crop. The farmers were questioned whether they preferred to sell to sugar cooperative factories. Our findings are tabulated in Table 4.9

Table 4.9 Farmers' response about Marketing of Produce (Public vs Private Sugar Mills)

Size group	Do you find it advantageous to sell your produce to cooperative mills?		Reasons for preference of sale to cooperative mills
	Yes	No	
Less than 1 ha	39 (100)	-	Better price (100) quick disposal (90) honest weighment (95)
1 to 1.99 ha	15 (100)	-	Better price (100) quick disposal (80) honest weighment (85)
2 to 3.99 ha	6 (100)	-	Better price (100) quick disposal (80) honest weighment (85)
Total	60 (100)	-	

(figures relate to number of farmers)

Source: Field Survey; (figures in brackets are percentage responses)

It can be observed from Table 4.9 that all farmers in the sample in all size groups preferred to sell to cooperative societies. Farmers had an assured market as there were a number of sugar mills in the vicinity and hence timely and quick disposal of their produce was facilitated.

Attempts were also made to observe the marketing problems of the farmers in terms of transporting their produce, weighment of produce and payment for their cane. These observations are presented in Table 4.10A to 4.10 C.

Table 4.10 Marketing Problems**A. Farmers' response regarding transport problems**

(figures relate to number of farmers)

Size group	Are transport rates high?		Is transport available easily?		Loading and unloading is done	
	Yes	No	Yes	No	Timely	Untimely
Less than 1 ha	-	39 (100)	39 (100)	-	39 (100)	-
1 ha to 1.99ha	-	15 (100)	15 (100)	-	15 (100)	-
2 ha to 3.99ha	-	6 (100)	6 (100)	-	6 (100)	-
Total	-	60 (100)	60 (100)	-	60 (100)	-

Source: Field Survey; (figures in brackets are percentage responses)

B. Farmers' response regarding weighment of produce

(figures relate to number of farmers)

Size group	Is weighment done timely?		Is there arbitrary deduction from weight?	
	Yes	No	Yes	No
Upto 1 ha	39 (100)	-	39 (100)	-
1 to 1.99 ha	15 (100)	-	15 (100)	-
2 ha to 3.99 ha	6 (100)	-	6 (100)	-
Total	60 (100)	-	60 (100)	-

Source : Field Survey ; (figures in brackets are percentage responses)

C Farmers' response regarding payment of produce

(figures relate to number of farmers)

Size group	Is there timely payment of initial price fixed?		Is there timely payment of balance price?		In case of delay, by how much delay?	Is interest paid on delayed payments?
	Yes	No	Yes	No		
Upto 1 ha	39 (100)	-	-	39 (100)	365 days	No
1 to 1.99 ha	15 (100)	-	-	15 (100)	365 days	No
2 to 3.99 ha	6 (100)	-	-	6 (100)	365 days	No
Total	60 (100)	-	-	60 (100)		

Source: Field Survey; (figures in brackets are percentage responses)

From Table 4.10 (A to C), it can be observed that farmers had no problems relating to marketing and transport. In fact as noted earlier, the sugar cooperatives themselves arrange for harvesting and transporting the cane to the mills. This proves to be very beneficial to the producers. Regarding payment however, there were some delays. Payment is normally made to farmers in three installments. While the initial price fixed by the Minister's Committee is paid within 15 days after disposal of produce to the mill, balance payment is made depending on surplus generated by the mill and a small final payment is made after audit of the mill. However, the farmers often received the balance payment after a year and no interest was paid in case of delayed payments.

4.5 Farmers' response regarding price signals :

In case of sugarcane, prices are not determined by market forces but are administered and fixed by a committee. It is important for the farmer to have awareness about the price as it would guide him in the allocation of resources. We therefore collected information regarding the channels through which the farmers receive price signals and the findings are summarised in Table 4.11

Table 4.11 Farmers' response regarding price signals

Size Group	Through which channels do you receive price signals?				How does it affect your decision on cropping pattern?
	Radio	Newspaper	Neighbour	Sugar mill	
Less than 1 ha	28	10	15	36	Increase in area in case of higher price compared to previous year (39)
1 to 1.99 ha	13	12	12	15	Increase in area in case of higher price compared to previous year (15)
2 to 3.99 ha	2	4	2	5	Increase in area in case of higher price compared to previous year (6)
Total	43	26	29	56	

Source: Field Survey Note: figures in brackets refer to number of farmers

From Table 4.11, it can be observed that farmers received information on price signals through various media such as radio, newspaper and neighbours. A favourable price induced farmers to increase area. It was also observed in our earlier analysis that area under sugarcane is showing an increasing trend from 3.7 lakh hectares in TE 1990-91 to 5.4 lakh hectares in TE 1996-97. The area further increased to 7.89 lakh hectares in 2001-02. This indicates that farmers are allocating more area to sugarcane. Perhaps, the prices offered by sugar cooperatives were favourable and induced them to increase area under the crop.

However, increasing area under sugarcane may add to the problem of water scarcity and therefore increasing production through yield increase rather than area increase may be preferable. Thus adequate extension services and information on new technology is necessary to increase production. Farmers were thus questioned about their sources of information regarding technological changes. Their replies are tabulated in Table 4.12

Table 4.12 Farmers' response regarding information about technological changes

Size group	From whom do you receive information on technological changes?			
	Sugar mills	Block authorities	Village panchayat	Neighbours
Less than 1 ha	30	24	7	6
1 to 1.99 ha	13	12	8	6
2 to 3.99 ha	3	2	4	3
Total	46	38	19	15

Source: Field Survey

It can be observed from Table 4.12 that farmers received information on new technology from sugar mills, block authorities, etc. Vasantdada Sugar Institute (Pune) has been educating farmers on various developmental programmes such as varietal planning of sugarcane consistent with the type of soil and agro-climatic conditions, soil amendment, maturity-wise harvesting of sugarcane, seed nursery, ratoon management, irrigation, integrated pest and disease management. Even the sugar mills act as an intermediary between Vasantdada Sugar Institute and farmers and provide extension services to farmers regarding the varieties to grow. Accordingly, area under improved varieties such as CoC 671 and Co 86032 has been increasing and areas which were susceptible to diseases has come down in the recent past.

Price and technology are the key factors which influence the decisions of farmers regarding allocation of resources. The influence of price and technical change on farmer's decisions is summarised in Table 4.13

Table 4.13 Farmers' response regarding influence of price and technical change on farming decisions

Size group	How do you weigh the influence of price change and technical change on	
	Area allocation?	Input use?
Less than 1 ha	Increase area if price is favourable (36)	increase use of inputs(12)
1 to 1.99ha	Increase area if price is favourable (12)	increase use of inputs (11)
2 to 3.99 ha	Increase area if price is favourable (4)	increase use of inputs (4)
Total	Increase area if price is favourable(52)	increase use of inputs (27)

Source: Field Survey; Note; Figures in brackets refer to number of farmer's responses

The field survey showed that in case of favourable prices, farmers would allocate more area towards sugarcane and as mentioned earlier, the farmers had increased area under sugarcane. Farmers also stated that they increased their use of

inputs along with increase in area under sugarcane. However, while farmers may be switching over to improved varieties of sugarcane, it must be accompanied by more economical and better management of use of water resources. Better irrigation practises and a proper mix of fertilizers can raise total factor productivity of cane rather than overirrigation and too much fertilizer use. Hence rather than increase in use of inputs, a more judicious and scientific use of inputs may help to increase yield besides conserving scarce resources such as water.

None of the farmers in the sample had adopted any new enterprise or increased area under any one of the old enterprises based on price change or technological change.

4.6 Futures Market:

Under the present policy, sugar mills are obliged to deliver 10 percent of their produce as levy to the government for the public distribution system. Even with the rest of the sugar stock, which is sold in the open market, there are controls on sale and distribution. The Government of India controls the release of sugar by mills and assigns the quantity of free sale sugar that may be sold by each sugar factory on a quarterly basis. The main objective of such controls on releases and assignment of quantity is to keep a check on prices.

The Government of India is inclined to introduce futures trading in sugar and after futures trading becomes operational, the government would not prescribe quotas for free release and trade in sugar as also for the levy, as PDS supplies would be sustained through negotiated purchases from the factories (Economic Survey, 2001-02).

Since the government aims at completely decontrolling the sugar sector and introducing futures trading in sugar the farmers were questioned about their awareness on futures markets. Their replies are tabulated in Table 4.14

Table 4.14 Farmers' response about Futures Markets

(figures refer to number of farmers)

Size group	Do you know about futures market?	
	Yes	No
Less than 1 ha	-	39 (100)
1 to 1.99 ha	-	15 (100)
2 to 3.99 ha	-	6 (100)
Total	-	60 (100)

Source: Field Survey; (figures in brackets are percentage responses)

From Table 4.14, it can be clearly observed that in our sample, none of the farmers were aware of futures trading. Farmers thus still need to be educated on the economic benefits of futures contracts which perform two important functions of price discovery and price risk management. Futures trading helps to reduce the amplitude of price fluctuation, helps to balance supply and demand throughout the year and encourages competition and acts as a price barometer to farmers and other trade functionaries.

However, although the need for futures trading has been felt, and was in fact scheduled to commence in the year 2002, it has yet to take off. In the absence of futures markets, farmers are thus still unaware about the usefulness of such markets.

Chapter V

Marketing of Onions

5.1 Backdrop:

Onion is an important horticultural crop grown in India and used, both as vegetable and condiment. Nearly 10 percent of onion production in the world is from India. India is only next to China in production and area under onion cultivation. In India, onion is cultivated in a number of states, and among the states, the share of Maharashtra in area and production was highest till 1998-99. However, in 1999-2000, the area under onions in Karnataka was marginally higher than that of Maharashtra. The state of Maharashtra accounted for 28 percent of the onion production in the country in 1999-2000 (CMIE, Agriculture, 2001).

5.2 Onion Production Performance:

Onion is essentially a cool season crop and grows best under mild climate, without extreme heat or cold or excessive rainfall. It can grow in all types of soil. In Maharashtra, onion is cultivated in three seasons, namely kharif, late kharif and rabi. The storage quality for kharif and late kharif is poor due to high soil moisture and these bulbs normally sprout within five to six days of harvest. Further, curing and drying becomes difficult due to post monsoon rains. The produce of these seasons can therefore barely be stored for one month. However, in case of the rabi crop, dry days and low moisture in the soil induces dormancy in the bulbs. Curing is also done effectively and hence the produce can be stored for 4 to 6 months. Some of the popular varieties of onion grown are Agrifound Dark Red/Light Red, Phule Safed and Phule Suvarna. These varieties are good for storage as well as dehydration and export.

While Maharashtra is a major producer of onion, only five districts, namely Nasik, Pune, Ahmednagar, Solapur and Satara account for 80 percent of the area and production of onion in the state. In Table 5.1 we have presented the district-wise area, production and yield of onion in the state.

It can be observed from Table 5.1 that for TE 1998-99, the area under onion was 98,700 hectares, while production was 10.9 lakh tonnes. Nasik and Pune accounted for 56 percent of the area and 59 percent of the production of onion in the state. The yield of onion during this period was 11 tonnes per hectare.

Table 5.1: District-Wise Area, Production and Yield of Onion in Maharashtra

(TE 1998-99)

District	Area (00 hectares)	Production (00tonnes)	Yield (Tonnes/hec)
Nasik	311	3513	10.98
Dhule	40	345	8.64
Jalgaon	18.3	213	11.56
Ahmednagar	96	970	10
Pune	242	2976	12.4
Solapur	60.6	541	8.9
Satara	77.6	976	12.56
Aurangabad	18.3	190	9.9
Osmanabad	11	99.3	8.9
Buldhana	13.6	127	9.2
Amravati	17	196	11.5
Maharashtra	987	10934	11

Source: District Agricultural Statistical Information of Maharashtra, Part II, 1999.

As onion is grown in both kharif and rabi seasons, in Table 5.1* we have shown the area under kharif and rabi onion according to the divisions in Maharashtra.

Table 5.1* Area under Kharif and Rabi Onion (1997-98) Area in 00 hectares

Region	Kharif	Rabi	Total
Konkan Division	0	4	4
Nasik Division	227	99	326
Pune Division	199	283	482
Kolhapur Division	63	28	91
Aurangabad Division	23	14	37
Latur Division	11	10	21
Amravati Division	19	24	43
Nagpur Division	4	19	23
Maharashtra	546 (53.2%)	481 (46.8%)	1027

Source: Season and Crop Report. GoM. Note: As regards production and yield, the data for kharif and rabi season are not available separately.

It can be observed from Table 5.1* that for the state as a whole 53 percent of the area under onion was in the Kharif season, while 47 percent was in the rabi season. In Nasik region, the main onion belt of Maharashtra, 70 percent of the area was cultivated in the kharif season, while in Pune division which is also an important onion producing region, 59 percent onion is cultivated in the rabi season.

5.3 Marketing of Onions :

Marketing of onions takes place in regulated markets through auction method. The farmers bring their produce to the regulated markets and sell it to the wholesalers

through the commission agent. The produce is sold to the highest bidder. This system is advantageous to the farmers as they receive competitive prices and payment is made as soon as the auction is complete.

As observed in the earlier section, Nasik and Pune districts are the major producers of onions in Maharashtra. The marketing of onion was therefore studied in these two districts. The APMC at Lasalgaon in Niphad taluka in Nasik district and APMC at Pune, in Pune district were observed as major arrivals of onions are in these markets. In Table 5.2 we have indicated the arrival figures in both these APMCs.

Table 5.2 Arrivals of Onions (lakh quintals)

Year	Lasalgaon APMC	Pune APMC
1999-2000	26.29	40.2
2000-01	27.84	30.02
2001-02	26.65	24.89

Source: Lasalgaon and Pune APMC.

Both these markets together attract almost half the onion production in the state. The monthly arrivals in these markets are also presented in Figures I and II.

Figure I

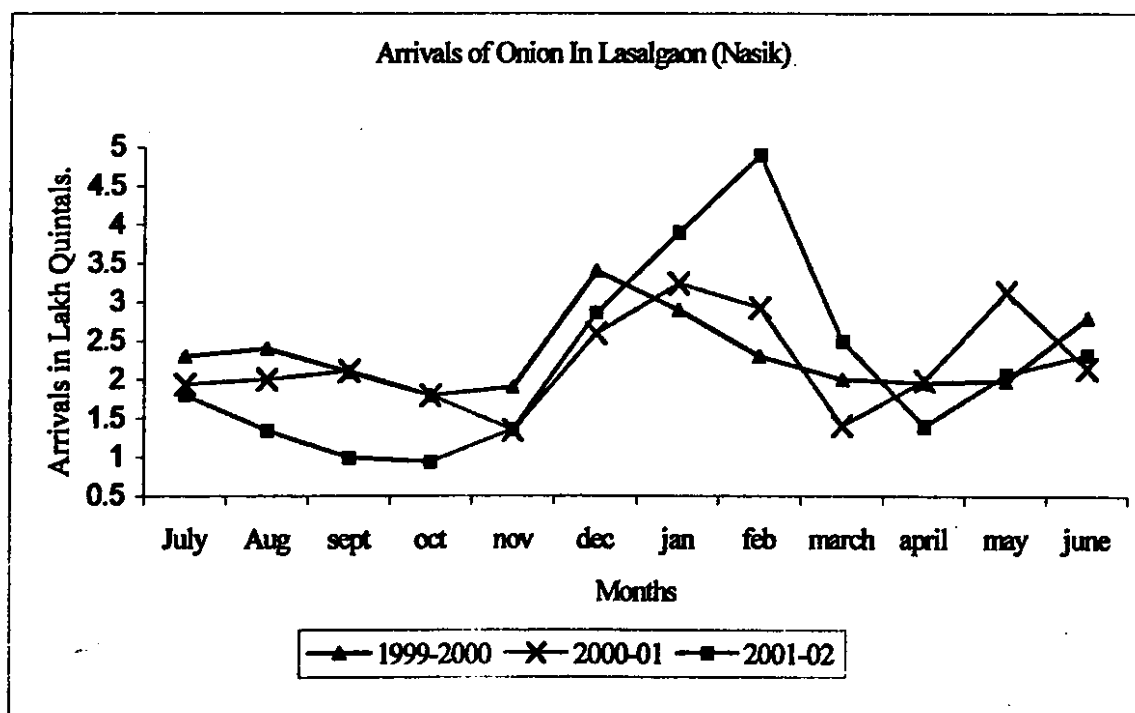
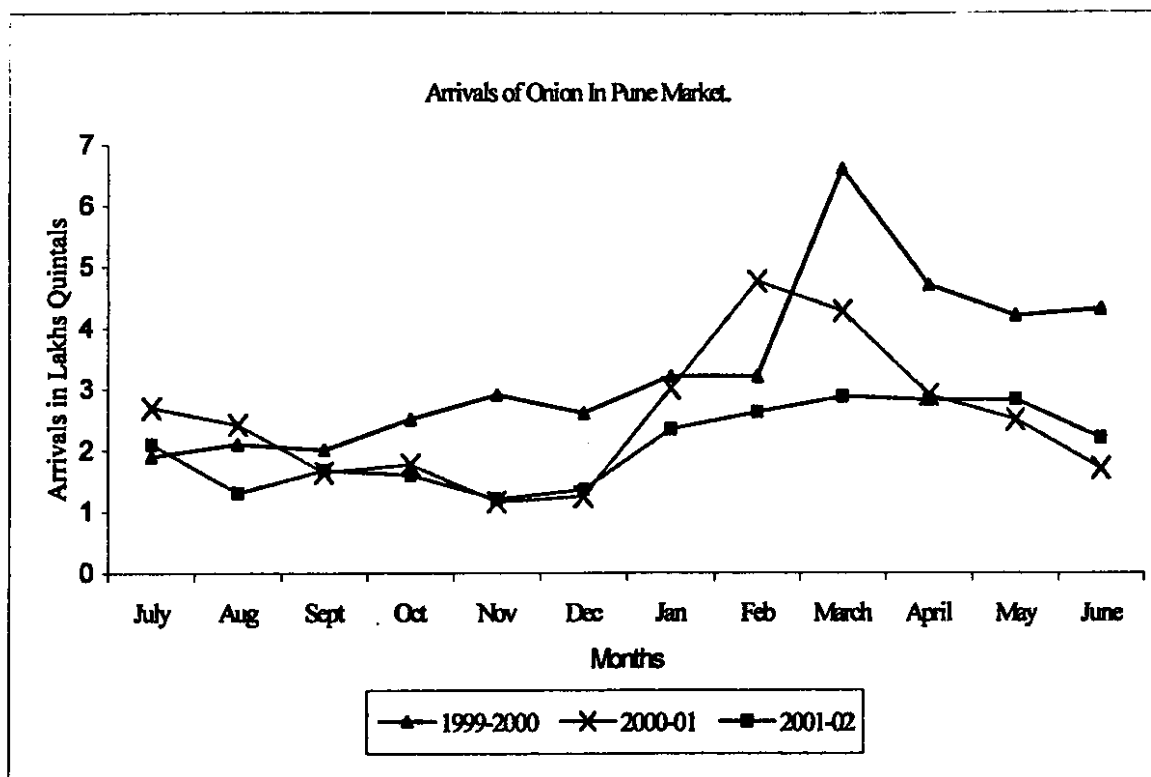


Figure II



From Figure I and Figure II it can be observed that arrivals were more during the rabi harvest. In Lasalgaon market the arrivals were more in January and February, whereas in Pune market the arrivals began increasing in February and March.

5.3.1 Marketing Channel, Price Spread and Marketing Costs in Onion Marketing:

It has been observed that in Maharashtra, Lasalgaon and Pune are the major markets where large volumes of onions arrive and are traded. Therefore a survey was conducted in these two APMCs regarding the marketing channels, price spread and marketing costs of onions. In both these markets the marketing channel that was observed was:

Farmer → Commission Agent → Wholesaler → Retailer → Ultimate Consumer.

In Table 5.3 we have shown the price spread and marketing costs in the marketing of onions in Lasalgaon and Pune market.

The farmer sold his produce to a wholesaler through a commission agent. The wholesaler in the APMC was normally a representative of a wholesaler in a terminal market. The wholesaler in the terminal market then sold to the retailer, who further sold it to ultimate consumers.

The price received by the farmer is the weighted average price received by the farmer during the season 2001-02 (the arrival figures in each month were used as weights). The data on marketing costs were collected from the respective APMCs. Information was also collected from the farmers, commission agents and wholesalers who participated in the auctions in the APMCs.

Table 5.3 Price Spread and Marketing Costs for Onion in 2001-02

	(Rs per quintal)	
(APMC)	Lasalgaon	Pune
I Price received by farmer	364	332
II Total Marketing costs of farmer	40.96	80.82
(a) transport to APMC	1.50	15
(b) hamali	2.15	2.40
(c) unloading	1.05	2.40
(d) weighing	1.70	1.10
(e) commission	14.56	19.92
(f) gunny bags	-	20
(g) storage	20	20
Net price received by farmer	323.04	251.2
III Marketing Costs and margins of wholesaler	283.82	213.48
(a) market fee	3.82	3.48
(b) gunny bags	20	-
(c) storage	40	40
(d) transport to terminal market	200	150
(e) wholesaler's margin	20	20
Purchase price of wholesaler plus marketing costs & margins	647.82	545.48
IV (a) Retailer's margin	64.78	54.5
(b) sale price of retailer	712.6	599.72
V Share of farmer (%) in retailer's price	45.33	41.88
VI Marketing Costs as % of retailer's price	40.67	42.42
VII Marketing margins as % of retailer's price	14	15.7

Source: Field Survey

It can be observed from Table 5.3 that in case of Lasalgaon market, the farmer received 45.33 percent of the retailer's price while for Pune market the corresponding figure was 41.88 per cent. It can be further observed that in Pune market the

marketing costs borne by the farmers were much higher than in Lasalgaon. This is due to a number of factors. Firstly, in Lasalgaon, farmers bring their produce from nearby areas and hence transport cost to APMC is low. In Pune however, the produce comes from distant places and hence farmers have to bear higher marketing costs. Also, in Pune the farmers bring their produce in gunny bags for which they have to bear a cost of Rs 10/ per bag of 50 kg. whereas in Lasalgaon the produce is brought loose and farmers do not bear the cost of gunny bags. It is the wholesaler who fills the produce in gunny bags and then transports it to terminal markets. Finally, the commission charged by commission agents in Pune is higher than that in Lasalgaon. While the commission in Pune is 6 percent of the price received by farmer, the corresponding rate in Lasalgaon is 4 percent. All these factors have resulted in farmers in Pune having to bear higher marketing costs than those in Lasalgaon.

However, in case of Lasalgaon, the marketing costs of wholesalers was more than that in Pune. This was because, as noted earlier, the wholesalers had to bear the cost of gunny bags. Transport cost to terminal market was also higher. From Lasalgaon market, a large part of the produce gets transported to distant markets such as Haryana, whereas from Pune a large part of the produce goes to Kerala. The representative of the wholesaler in Haryana or Kerala participates in the auctions in the regulated markets and transports the produce to the main wholesaler who in turn sells to the retailer. Since the onions are transported to distant places, accordingly the transport cost is also higher. The marketing costs and margins as a percentage of retail price was 40.67 percent and 14 percent respectively in Lasalgaon while the corresponding figures for Pune were 42.42 percent and 15.7 percent.

The overall conclusions from Table 5.3 reveal that the share of the farmer in the retail price was less than half the retail price, the balance being accounted by marketing costs and margins.

Further, the APMCs also maintain records on the minimum and maximum price that prevailed during each month. Using this data, the net returns to the farmer per quintal, after considering marketing costs and cost of production, were calculated for the years, 2000, 2001 and 2002. This exercise is presented in Annexure IV and IV. A number of observations are revealed from the data in Annexure IV and V. In case of every month, there is wide variation between the minimum and maximum price that prevailed during the month. It can be observed that minimum prices are very low in Lasalgaon market as compared to Pune market. This can perhaps be due to low

quality onion arriving in Lasalgaon which drives the price to such low levels. Onion, especially the kharif season crop has low shelf life and suffers from major storage losses. These losses include rotting or decay, sprouting and psychological loss in weight. Splitting of bulbs, discoloration, shrinkage and descaling account for qualitative and quantitative losses to a considerable extent. Therefore, if poor quality produce arrives in the market, prices are likely to be very low and returns to farmers were found to be negative. However, when maximum prices for the month are considered, in case of both the markets, the returns though fluctuating are found to be positive.

The maximum prices prevailing during each month for 2000, 2001 and 2002 are also presented in graphs Figure III (Lasalgaon) and Figure IV(Pune). It can be observed that in both the markets, the prices show an upward trend from the month of June and continue to rise up to November, after which a decline is observed. Normally, in Maharashtra, onion is stored from June to November as there is hardly any harvest at this time. The late kharif is harvested between November and December, while rabi onion is harvested between February and March. Thus with these arrivals the price begins to decline as observed in the graphs Figure III and Figure IV.

Figure III

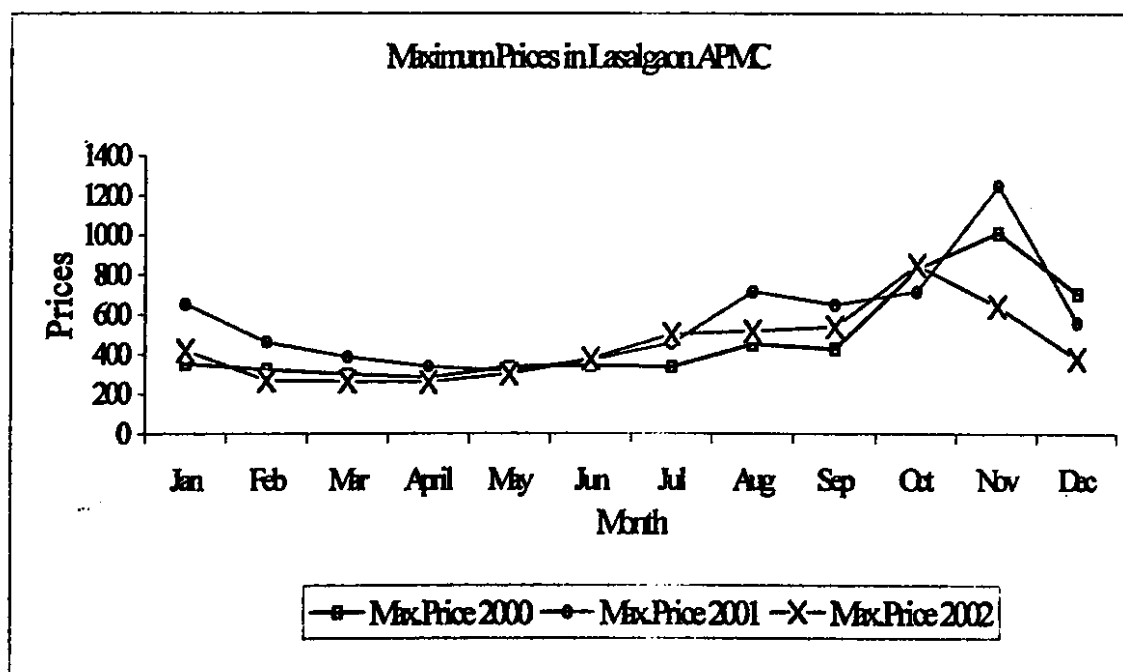
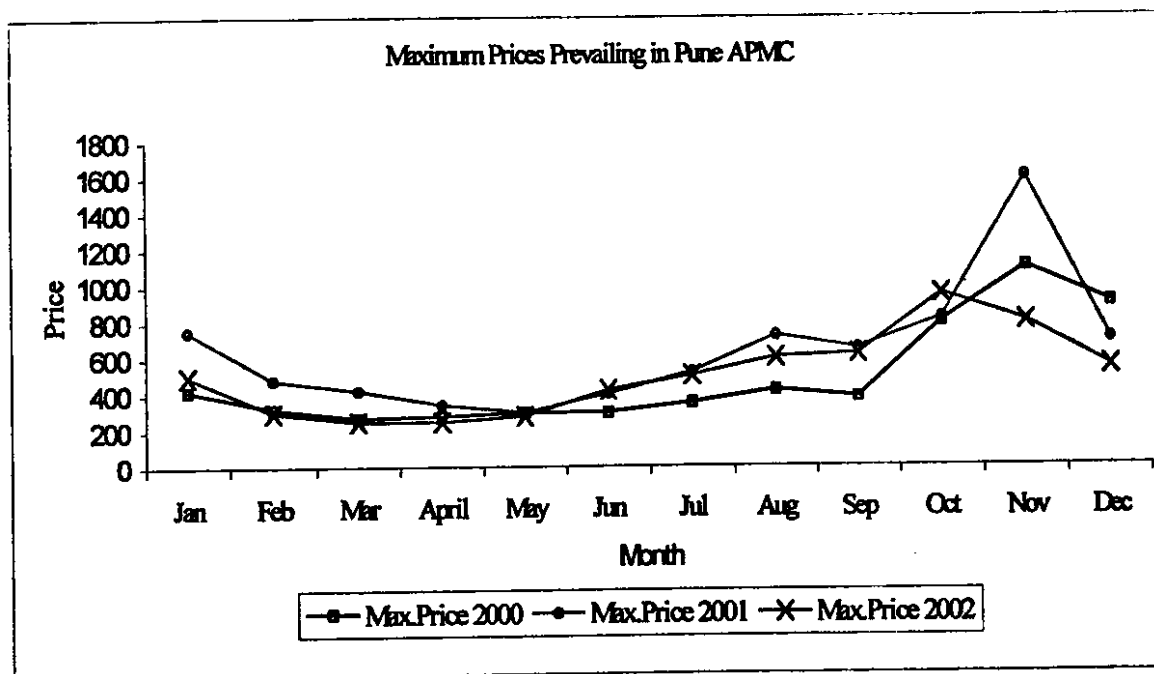


Figure IV



It may also be important to note the findings of a study (Kulkarni and Basargekar,1997) on factors influencing onion prices in India. The authors calculated the seasonal indices of prices by the normal procedure of calculating the ratios of actual prices with their corresponding (13 month) moving average and averaging these ratios for each month. The seasonal indices for Pune market and wholesale prices of onions in India were computed. The seasonal indices are shown in Table 5.3*.

Table 5.3* Seasonal Indices of Prices in Pune and India

Month	Pune Market	India (Wholesale Price Index)
January	100.96	108.54
February	72.14	89.99
March	58.75	82.40
April	54.56	75.91
May	59.91	71.67
June	86.22	77.67
July	99.34	89.72
August	113.84	99.84
September	128.14	111.63
October	145.06	125.54
November	151.80	138.31
December	129.20	128.35

Source: Kulkarni & Basargekar,(1997)

From Table 5.3*, the presence of sharp seasonality in onion prices can be observed. In the series of wholesale price indices, the lowest prices prevail in May,

when the seasonal price index touches 71.67. Then the prices start increasing, reaching their peak in November, when the index touches 138.31. After November, the prices again decline till May. The difference between the highest and lowest indices is around 66 points, and the peak prices are higher by 93 percent than the lowest prices.

Table 5.3* also shows that the seasonality in Pune prices is more than that in wholesale price indices. Here the lowest prices are in April, when the seasonal index is 54.56. The prices then continuously increase to reach the high of 151.80 in November. The difference between the highest and lowest indices is around 97 points, and the peak prices are higher by 178 per cent than the lowest prices.

A major part of the produce is in the rabi season which is harvested in April-May and this perhaps explains the trough of prices in April-May. In Pune, there is also a late kharif which is harvested in the month of February. This explains the trough in prices in the month of April.

The data collected on prices prevailing in Lasalgaon market and Pune market for three years, viz., 2000,2001 and 2002 and represented in Figure III and Figure IV also indicate that prices were lowest in the month of April.

Further, the study by Kulkarni and Basargekar also collected data on arrivals of onions in Pune market and examined for seasonality. The seasonal indices of arrivals are shown in Table 5.3**.

Table 5.3 Seasonality in arrivals in Pune market**

Month	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Arrivals	100	124	185.5	148.5	132.4	112.8	90.11	56.39	45.85	65.60	66.10	72.38

Source: Kulkarni and Basargekar.

The seasonal indices of arrivals moved in the opposite direction of prices. The peak arrivals are in March and April and the lowest arrivals are from October to December. (This was also observed in Figure I and II). The peak arrivals are higher than the low arrivals by 305 percent. The study by Kulkarni and Basargekar noted that monthly prices are associated with monthly arrivals and confirmed their findings with a regression analysis. It was observed that seasonal price index is associated significantly with arrivals in both current month and previous month. Both these associations were found to be negative, and the regression equation with these two as independent variables explains as much as 89 percent of variation in the seasonal prices.

As seasonal price variations are significant, storage of onions assume importance and must attract the attention of policy makers. Farmers must also be educated on selection of appropriate variety, agronomy and post harvest handling which affect the storability of onion. The state agricultural universities must provide extension services to farmers on method of cultivation, demonstration on agronomic practises, harvesting and post harvest methods. Varieties such as Agrifound Light Red are better for storage. Scientific agronomic practises are necessary and excessive nitrogen during harvest time leads to increased levels of fungal and bacterial rots as well as promotion of early sprouting. Yields are also maximised if the bulbs are left on the field until all the leaves have completely dried. Immediately after harvest, drying of bulbs in small heaps along with tops is essential for closing of neck so that entry of pathogens can be prevented. Before storage it is necessary to ensure that onion bulbs are of good quality and are completely dried. Radiation processing of food is one of the latest methods for preservation. Discussions by government officials regarding storage measures revealed that three irradiation centres are proposed to be set up in the state at a cost of Rs 4.5 crores, out of which Rs 3 crores will be funded by the Ministry of Food Processing Industries and balance by Government of Maharashtra. The state requires a storage capacity of at least 50 per cent of the production and thus construction of onion storage structures is essential.

A blue print to develop an Agri-Export Zone for onions in five districts, namely, Nasik, Ahmednagar, Pune, Satara and Solapur has been prepared by MSAMB. The facilities provided by these zones are to improve production infra structure, provide demonstration and extension services, post harvest management, set up grading and packing centers, irradiation centres and processing units. The estimated cost of the project is Rs 147 crores with Rs 70 crores to be made available through government schemes while the balance would be from private sector and cooperatives. Setting up these zones is likely to greatly benefit the farmers .

5.4 Marketing Problems of Onion Farmers:

In the previous section, we observed the marketing of onions in regulated markets, the price received by farmers, the marketing costs and margins. However, the study on onion marketing would only be complete by interviewing the farmers regarding their marketing problems. Accordingly, a field survey was conducted to gain further insights into the problem of marketing.

The district of Nasik was selected for the field survey because, as noted earlier, Nasik is the major producer of onion in the state. The talukas selected were Niphad and Chandwad, where onion is predominantly cultivated. In our sample, 25 farmers belonged to less than 1 hectare category, 20 farmers belonged to 1 hectare to 1.99 hectare category, 10 farmers belonged to 2 to 3.99 hectare category while 5 belonged to 4 to 5.99 hectare category. There were no farmers owning more than 6 hectares who cultivated onions.

The characteristics of sample farmers, land details, cropping pattern, animals owned by sample farmers and utilization of their produce is indicated in Table 5.4 to 5.8.

Table 5.4 Characteristics of Sample Farmers

Size group	Age Group (years)	Caste	Avg. Size of holding (ha)	Family members		Highest Education in the family
				Adult	Children	
Less than 1 ha	45.3	Maratha	0.72	4	3	10 th Std.
1 ha to 1.99 ha	53.4	Maratha	1.5	4	4	10 th Std.
2 ha to 3.99 ha	51.3	Maratha	2.8	4	4	12 th Std.
4 ha to 5.99 ha	33.2	Maratha	4.5	6	6	12 th Std.
Average	47.8	Maratha	1.65	4	4	10 th Std.

Source : Field Survey.

Table 5.5 Land Details (Area in hectares)

Size group	Irrigated	Unirrigated
Less than 1 ha	0.63 (87.5)	0.09 (12.5)
1 ha to 1.99 ha	1.06 (70.6)	0.44 (29.4)
2 ha to 3.99 ha	1.6 (57.14)	1.2 (42.86)
4 ha to 5.99 ha	2.6(57.8)	1.9 (42.2)
Average	1.05 (75.6)	0.60 (24.4)

Source : Field Survey.

Note: In case of entire holding, the land was wholly owned and neither leased in or leased out.

Table 5.6 Cropping pattern (Area in hectare: production in quintals)

Size group	Bajra		Onion (Kharif)		Onion (Rabi)	
	Area	Prod	Area	Prod	Area	Prod
Upto 1 ha	0.3 (40.5)	4	0.2 (27.03)	45	0.24 (32.47)	35
1 ha to 1.99 ha	0.7 (51.85)	10	0.4 (29.6)	80	0.25 (18.55)	40
2 ha to 3.99 ha	1.0 (45.45)	16	0.8 (36.36)	150	0.4 (18.2)	80
4 ha to 5.99 ha	1.6 (40)	26	2.04 (51)	180	0.36 (9)	75
Average	0.74 (44.8)	11	0.51 (31)	90	0.41 (24.2)	80

Source : Field Survey; Note: figures in brackets are percentage to total area

Table 5.7 Animals owned by Sample Farmers

Size group	Milch	Draught	Young Stock	Total
Less than 1 ha	1	2	1	4
1 ha to 1.99 ha	1	2	1	4
2 ha to 3.99 ha	2	2	1	5
4 ha to 5.99 ha	2	2	1	5
Average	1.2	2	1	1

Source : Field Survey.

Table 5.8 Utilization of Produce (Quintals)**(a) Bajra**

Size group	Home Consumption	Animal Feed	seed	Paid as wages	Quantity Marketed
Less than 1 ha	1	--	--	0.5	2.5
1 ha to 1.99 ha	2	--	--	1	7.00
2 ha to 3.99 ha	2	--	--	1	10.00
4 ha to 5.99 ha	2	--	--	2	22.00
Average	1.7	--	--	0.75	6.87

Source : Field Survey.

(b) Onion

Size group	Home Consumption	Animal Feed	seed	Paid as wages	Quantity Marketed	Weighted Price per quintal
Upto 1 ha	1	--	--	2	77	336
1 ha to 1.99 ha	2	--	--	2	136	338
2 ha to 3.99 ha	2	--	--	4	224	345
4 ha to 5.99 ha	2	--	--	4	249	348
Average	1.7	--	--	2.7	135.5	340

Source: Field Survey.

(c) Value of Assets (Rs)

Size group	Tractor	Trolley	Bullock cart	Tube well/Pumpset	others
Less than 1 ha	10000	1600	5760	15840	354
1 ha to 1.99 ha	23000	4000	8160	22000	656
2 ha to 3.99 ha	61200	19000	13700	28100	2970
4 ha to 5.99 ha	100000	23000	15800	39700	4720
Average	19342	7083	8720	15325	1255

Source: Field Survey

The caste of onion cultivators was *Maratha* in all size groups, while most cultivators had high school education. The land details also showed that farmers had irrigation facilities and both kharif and rabi onion were cultivated. Bajra was also grown and both onion as well as bajra were used for home consumption as well as for the market.

5.4.1 Marketing Problems of Sample farmers:

As mentioned earlier, onion crop is sold through auction method in regulated markets. An attempt was therefore made to observe if the auctions were conducted efficiently and the problems, if any faced while marketing their produce. The

marketing problems regarding transport, space in collection centre, auctions, collusion amongst traders, weighment and payment for produce are presented in Table 5.9 (A) to (G).

Table 5.9 Farmers' response regarding marketing problems:

(A) Farmers' response regarding transport Problems:

(Figures refer to number of farmers)

Size group	Are transport rates high?		Is transport available easily?		Loading and unloading is done timely?	
	Yes	No	Yes	No	Yes	No
Less than 1 ha	25 (100)	-	25 (100)	-	25 (100)	-
1 ha to 1.99 ha	20 (100)	-	20 (100)	-	20 (100)	-
2 ha to 3.99 ha	10 (100)	-	10 (100)	-	10 (100)	-
4 ha to 5.99 ha	5 (100)	-	5 (100)	-	5 (100)	-
Total	60 (100)	-	60 (100)	-	60 (100)	-

Source: Field Survey; (figures in brackets are percentage responses)

(B) Farmers' response regarding space in collection center

(Figures relate to number of farmers)

Size group	Enough space to exhibit the produce.		Space to park vehicle or animal cart.		Staying arrangement if produce is not sold on the same day.	
	Yes	No	Yes	No	Yes	No
Less than 1 ha	25 (100)	-	25 (100)	-	Yes	-
1 ha to 1.99 ha	20 (100)	-	20 (100)	-	Yes	-
2 ha to 3.99 ha	10 (100)	-	10 (100)	-	Yes	-
4 ha to 5.99 ha	5 (100)	-	5 (100)	-	Yes	-
Total	60 (100)	-	60 (100)	-		

Source : Field Survey (figures in brackets are percentage responses)

(C) Farmers' response regarding auction

(figures relate to number of farmers)

Size group	Timely		Is there arbitrary grading.		Was some quantity of your produce taken as sample.	
	Yes	No	Yes	No	Yes	No
Less than 1 ha	25 (100)	-	-	25 (100)	2 (8)	23 (92)
1 ha to 1.99 ha	20 (100)	-	-	20 (100)	4 (2)	16 (80)
2 ha to 3.99 ha	10 (100)	-	-	10(100)	2 (20)	8 (80)
4 ha to 5.99 ha	5 (100)	-	-	5 (100)	1 (20)	4 (80)
Total	60 (100)	-	-	60 (100)	9 (15)	51 (85)

Source: Field Survey; (figures in brackets are percentage responses)

(D) Farmers' response regarding weighment of Produce

(Figures relate to number of farmers)

Size group	Is weighment done timely?		Is there arbitrary deduction from weight?	
	Yes	No	Yes	No
Less than 1 ha	25 (100)	-	-	25 (100)
1 ha to 1.99 ha	20 (100)	-	-	20 (100)
2 ha to 3.99 ha	10 (100)	-	-	10 (100)
4 ha to 5.99 ha	5 (100)	-	-	5 (100)
Total	60 (100)	-	-	60 (100)

Source: Field Survey; (figures in brackets are percentage responses)

(E) Farmers' response regarding payment for produce :

(figures relate to number of farmers)

Size group	Is there timely payment of price?	
	Yes	No

Less than 1 ha	25(100)	-
1 ha to 1.99 ha	20 (100)	-
2 ha to 3.99 ha	10 (100)	-
4 ha to 5.99 ha	5 9(100)	-
Total	60 (100)	-

Source: Field Survey; (figures in brackets are percentage responses)

(F) Farmers' response regarding collusion

(figures relate to number of farmers)

Size group	Do you think there is collusion between the officials of the purchasing Agency and Commission Agent about							
	Price?		Grading?		Weighment?		Payment?	
	Yes	No	Yes	No	Yes	No	Yes	No
Less than 1 ha	5(20)	20(80)	-	25 (100)	-	25(100)	-	25(100)
1 ha to 1.99 ha	7(35)	13(65)	-	20 (100)	-	20(100)	-	20(100)
2 ha to 3.99 ha	3(30)	7 (70)	-	15 (100)	-	15(100)	-	15(100)
4 ha to 5.99 ha	1(20)	4 (80)	-	10 (100)	-	10(100)	-	10(100)
Total	16(27)	44(73)	-	60 (100)	-	60(100)	-	60(100)

Source: Field Survey; (figures in brackets are percentage responses)

(G) Farmers' response regarding destruction of Crop

(figures relate to number of farmers)

Size group	Have you ever destroyed your onion crop due to low price?			
	Yes (number of farmers)	No (number of farmers)	Quantity destroyed? (quintals)	Year?
Less than 1 ha	2 (8)	23 (92)	50	1999
1 to 1.99 ha	1 (5)	19 (95)	35	2000
2 to 3.99 ha	1 (10)	9 (90)	200	1999
4 to 5.99 ha	2 (40)	3 (60)	300	1999
Total	6 (10)	44 (90)	90.83	

Source: Field Survey; (figures in brackets are percentage responses)

All farmers in the sample noted that although transport is easily available and loading and unloading is done timely, the transport charges were high. There were no problems regarding space in the collection centre and farmers had enough space to exhibit their produce.

Auctions were also done on the same day and there was no arbitrary grading of produce. However, some farmers complained that part of their produce was taken as sample. Farmers were satisfied with weighment of produce as it was done timely and payment was also made on the same day.

Although onion is an important crop in Maharashtra, the main constraint to onion cultivation is that it is perishable and during glut conditions prices crash to such low levels that farmers had to destroy the crop. The crop contains 90 percent water and is subject to attack by a large number of pathogens, which cause a huge loss to the commodity. In our survey, the farmers were thus questioned about destruction of their

crop due to low price. In the sample, 6 farmers had destroyed their crop due to low prices. Infra structural facilities are also not easily available to store the produce. As noted earlier the government has introduced a Minimum Intervention scheme for horticultural crops, when large quantity of onions are bought by the state to prevent the farmers from making distress sales. In the year 1999-2000, the production of onion was highest in the state at 13.85 lakh tons. With exports restricted to a mere 2 lakh tons during the same year, there was a significant drop in prices of onions in the state. During this season, some farmers had destroyed their crop.

5. 5 Price Signals:

In case of onions prices are determined by market forces and hence it is very important for farmers to have awareness about prices prevailing in the regulated markets. Prices play a very important role in guiding the farmers on allocation of resources. For example, in 1999-2000, the state experienced a record production of 13.85 lakh tons of onion production and prices reached low levels. Accordingly, the area under onion which was 72110 hectares in 1999-2000 declined by 8.5 percent in the subsequent year. Thus information about prices enables farmers to allocate his cropping pattern. We therefore collected information regarding the channels through which farmers receive price signals and the findings are summarised in Table 5.10

Table 5.10 Farmers' response regarding price signals

Size group	Through which signals do you receive price signals?				How does it affect your decision on cropping pattern?
	Radio	Newspaper	Neighbour	APMC	
Less than 1 ha	20	8	5	13	Reduce area in case of price fall(25)
1 to 1.99 ha	12	7	7	12	Reduce area in case of price fall(20)
2 to 3.99 ha	7	3	8	6	Reduce area in case of price fall(10)
4 to 5.99 ha	3	2	3	4	Reduce area in case of price fall(5)
Total	42	20	23	35	Reduce area in case of price fall(60)

Source: Field survey Note: Figures in brackets also relate to number of responses.

From Table 5.10, it can be observed that farmers received price signals from various media such as newspapers, radios and even the notice boards of the APMC.

Since onion is a highly perishable crop, subject to severe storage losses, it is necessary that farmers have awareness on technological changes so that they can switch over from traditional varieties having low productivity and low shelf life to those having higher yield and longer shelf life. Also farmers must have education on post-harvest infra structure so that they can avoid storage losses and avoid creating glut in the market. Farmers were thus questioned about their sources of information on technological changes and their response is tabulated in Table 5.11

Table 5.11 Information about technological changes

Size group	From whom do you receive information on technological changes?		
	Block authorities	Village panchayats	Neighbours
Less than 1 ha	20	23	15
1 to 1.99 ha	12	15	7
2 to 3.99 ha	6	7	4
4 to 5.99 ha	4	3	3
Total	42	48	29

Source: Field Survey; figures relate to number of farmers' responses

It can be observed that farmers received information on technological changes from Block authorities, village panchayats and neighbours. In order to spread better varieties, National Horticulture Research and Development Foundation has been set up with Head office in Nasik. This foundation has been taking trials of different varieties and have suggested Agrifound Light Red and Agrifound Dark Red varieties. The foundation also has networking with leading farmers, State Agricultural Universities and NGOs including MSAMB. Besides development of varieties, a package of practises including agro-techniques, storage, management of insect and pests, and other diseases have been standardized by Mahatama Phule Krishi Vidyapeeth, Rahuri. Farmers having knowledge on these practises can therefore cultivate better varieties and also avoid post-harvest losses.

Table 5.12 Farmers' response regarding influence of price and technical Change on farming decisions:

Size group	How do you weigh the influence of price and technical change on	
	Area allocation?	Input use?
Less than 1 ha	Increase area if price is favourable (23)	Increase use of inputs (22)
1 to 1.99 ha	Increase area if price is favourable (16)	Increase use of inputs (12)
2 to 3.99 ha	Increase area if price is favourable (7)	Increase use of inputs (6)
4 to 5.99 ha	Increase area if price is favourable (4)	Increase use of inputs (4)
Total	Increase area if price is favourable (50)	Increase use of inputs (44)

Source : Field Survey; Note: figures relate to number of farmers' responses

Since price and technology, both play a role in influencing farmer's decision on cropping pattern, their influence on resource allocation was observed. This influence is summarised in Table 5.12

The field survey showed that farmers would increase area under cultivation of onions, in case prices were favourable. Conversely, any fall in prices induced them to decrease area under onion cultivation.

None of the farmers in the sample had adopted any new enterprise or increased area under any one of the old enterprises based on price change or technological change.

5.5 Futures Markets:

It was observed in an earlier section that onion prices are subject to price volatility. Price volatility creates uncertainty and risks which can threaten agricultural performance, and reduce the income of farmers. To cope with price uncertainty, the government introduced a number of policy measures such as state intervention in marketing and accordingly the government mops up the supplies of agricultural produce offered for sale in case of crash in prices. In case of major agricultural commodities, intervention is through implementation of minimum support prices, whereas in case of horticultural crops it is through minimum intervention scheme. These instruments however increase the fiscal burden of the state and the government is progressively aiming at relinquishing these supports. The alternative strategy to protect farmers from price risk is introducing futures markets. The government is gradually bringing more and more commodities under futures trading which would serve as a risk management tool and improve the performance of agricultural markets. Thus since futures trading is making inroads in agricultural marketing and is likely to be an important mechanism against price risk, the farmers were questioned on their awareness on futures markets. The replies of the sample farmers are tabulated in Table 5.13.

Table 5.13 Farmers response regarding awareness of Futures Market
(figures relate to number of farmers)

Size group	Do you know about futures markets?	
	Yes	No
Less than 1 ha	-	25 (100)
1 to 1.99 ha	-	20 (100)
2 to 3.99 ha	-	10 (100)
4 to 5.99 ha	-	5 (100)
Total	-	60 (100)

Source: Field Survey; (figures in brackets are percentage responses)

It can be observed from Table 5.13 that farmers did not have any awareness on futures trading. Although India has a long history of commodity futures market, the Government of India through the Forward Markets Commission, directly intervened extensively and selectively to restrict access to futures markets. However India's commodity exchanges are now likely to expand their operations and cover a large number of commodities. Since the scope for futures trading is likely to increase, farmers must have awareness on futures trading. However, onion marketing is still not eligible for futures trading and there is still state intervention in onion trade with respect to external markets, in the sense that while imports of onions are under open

general license, exports are against quotas declared by the government from time to time.

5.6 State Intervention in Onion Marketing:

India is a traditional exporter of onion. As far back as 1951-52, the country exported more than 5000 tons of onion per annum. In the 1960s, the exports almost doubled and in 1980s it jumped further manifold touching a high of 2.74 lakh tons. It touched a new peak during 1996-97, with exports of about 5.13 lakh tons valued at Rs 331 crores.

The trade policy of the government with respect to onions is however restricted. Until 1997 all onion exports from the country were canalized through the National Agricultural Cooperative Marketing Federation (NAFED). Since then the GOI has also allowed MSAMB, Gujarat Agro-Industries Corporation, Andhra Pradesh Markfed as canalizing agencies to carry out exports according to quotas released by the government.

The records of the state department of Horticulture maintain that 65 percent of exports of onions are from Maharashtra. In Table 5.14, we have presented onion exports from India.

Table 5.14 Onion Exports from India

Year	1999-2000	2000-01	2001-02
Quantity (tons)	2,00,000	3,00,000	5,00,000

Source: MSAMB, Pune.

The volume of exports of onion from India has increased in the recent past. Since the export is restricted through a system of quotas released by GOI from time to time and controlled through canalizing agencies, exports have not reached their full potential. Presently the major markets for Indian onion is limited to SAARC region and limited quantities are sold to Far East and Middle East.

Overall it appears that although there is a significant quantum of world trade in onion and substantial production in the country, especially in the state of Maharashtra, more exports are possible, provided the government gives up its restrictive export policy and of course meets export quality standards. Indian export prices are also highly competitive in international markets. If and when the government announces decontrol, a spurt in exports are likely to take place, which will bring more stability to depressed domestic markets.

Chapter VI

Conclusions and Policy Implications

6.1 Backdrop:

Agricultural marketing deals with a number of activities involved in moving agricultural commodities from the point of production to the point of consumption i.e. from the farm to the ultimate consumer. It includes all the activities involved in the creation of time, place, form and possession utility. Marketing of agricultural products assumes added importance with commercialisation and diversification of agriculture. Thus marketing is complementary to production and is an essential element in agricultural development. However, in developing countries like India where there are a large number of farmers who have small quantities of produce to sell, agricultural markets are characterised by imperfections and distortions leading to marketing inefficiencies and producers being exploited by middlemen. This necessitates the need for a marketing policy in order to correct imperfections and provide necessary infra structure both physical and institutional, for improvements in marketing.

The problems associated with agricultural marketing were traced as early as 1928, when the report of the Royal Commission on Agriculture was published and which highlighted the defects and malpractices associated with marketing. The most common method of sale was to a village trader to whom the cultivator had financial obligation. The cultivators did not have information about rates prevailing in primary and terminal markets and sold at rates lower than warranted by primary or terminal market conditions. Scales and weights were manipulated against the cultivator and large quantities of the seller's produce was taken as sample, for which he was not paid, even when no sale was effected.

Further, the farmers had low stocking capacity and hence were forced to sell their produce immediately after harvest creating a glut in the market and fall in prices. Other factors responsible for cultivators being exploited by middlemen were their low level of literacy and lack of proper transport facilities between the point of production and local markets.

In view of the existing market imperfections and to prevent exploitation of producers by middlemen, from time to time a number of market reforms have been

introduced. In fact soon after independence, the Planning Commission laid stress on market regulation and accordingly, all states began enacting market legislation.

An important feature of regulated markets was that the system of sale was designed to be open and through auction method. Thus competitive bidding for every lot sold, could enable the producer to obtain the best possible price. Also with market regulation, various market charges were fixed, correct weighment of the produce was assured and arrangement was made for the settlement of disputes. Grading of agricultural produce and efforts to improve transport and storage facilities were also undertaken. All market functionaries like traders, commission agents, weighment, etc., had to hold licenses of the Agricultural Produce Market Committee, to carry out business.

While the system of market regulation was designed to do away with malpractices in agricultural marketing, a number of inquiries on market regulation showed that the intended regulation of markets had its limitations and at times proved ineffective. The market functionaries, accustomed to unrestricted freedom, could not reconcile to the spirit of the market regulation act and tried to counteract its repercussions on the strength of their collective action, power and action. There was collusion amongst traders and the market committees were for all practical purposes dominated by traders' interests. There was lack of proper arbitrage operations among markets, perhaps due to improper and inadequate information about terminal market conditions. Also the proportion of village sales was so large that it made the operation of the Regulated Markets Act ineffective in providing fair price to the grower.

Regulation of markets with its special features such as competitive bidding for every lot sold, use of standard weights and measures, grading of produce, market news service, abolition of unwarranted market charges and licensing of market functionaries, still had its limitations. The understanding and close personal relations among the traders had given them a monopoly power over the market. In this situation, the classic solution of competition by means of auction sales could not be made to work.

Thus along with market regulation, other reform measures such as partial or complete state intervention in marketing was introduced. Cooperative marketing of agricultural produce was also encouraged so that private trade could face competition. These institutions aimed at improving the economic conditions of the cultivators and played a major role in agricultural marketing.

6.2 Objectives of the Study:

Despite market legislation, market imperfections continued to persist and hence state intervention with respect to several crops, was introduced in various forms and degrees. An attempt is therefore made in this report to study the role of state in agricultural marketing, the extent to which it has been successful and beneficial to producers and at what cost. The study relates to the state of Maharashtra, and three crops, viz., cotton, sugarcane and onion have been selected as the state intervenes in the marketing of these crops.

The broad objectives of our study are:

- 1] To study the prevailing marketing system of cotton, sugarcane and onion;
- 2] To study the role and critically evaluate the performance of government agencies in the marketing of the selected agricultural commodities ;
- 3] To study marketing problems faced by farmers in case of sales to government agencies or in regulated markets.
- 4] To examine the performance of futures markets in the selected agricultural commodities and the farmers' awareness about the same.
- 5] To suggest measures to improve market efficiency.

6.3 Methodology :

The study is based on secondary and primary data. Secondary data was collected from the office of the Maharashtra State Cooperative Cotton Grower's Marketing Federation, (MSCCGMF)Mumbai, to study marketing of cotton and from the office of Commissioner of Sugar to study marketing of sugarcane. The annual reports of some sugar factories were also analysed. In case of onion, visits to the regulated markets in Lasalgaon (Nasik district) and Pune (Pune district) were made, auctions were observed and marketing costs and margins were noted. Published sources of data such as Season and Crop Reports(Government of Maharashtra, Maharashtra State, various issues) were also used.

Further, in order to study marketing problems of farmers, a field survey was made and one district (having highest area under the concerned crop) was selected. Further, two talukas from each district and three villages from each taluka were selected. Finally, 10 farmers from each village in relation to probability proportional to their operational area area were selected by stratifying the farmers into five size groups- less than 1 hectare, 1.0 hectare to 1.99 hectares, 2.0 to 3.99 hectares, 4.0 to 5.99

hectares and above 6.0 hectares. Thus 30 farmers from each taluka and 60 farmers from each district were selected. The districts selected were Yeotmal for cotton, Kolhapur for sugarcane and Nasik for onion.

6.4 Structure of Marketing of Agricultural Commodities in Maharashtra:

Regulated Markets :

Trade in most agricultural commodities is carried out through regulated markets in Maharashtra, as in other states. The government has enacted legislation for the establishment of agricultural markets entitled “ The Maharashtra Produce Marketing (Regulation) Act,” 1963, with amendments from time to time.

Under this act, the government has set up regulated markets in different areas of the state to manage wholesale trade of agricultural produce. Trade is conducted through the auction method and day-to-day functions of the market are entrusted to the Agricultural Produce Market Committee (APMC) constituted under the supervision of a state level Agricultural Marketing Board i.e. Maharashtra State Agricultural Marketing Board (MSAMB). The APMC act requires that all notified agricultural produce, bought or sold within the market area must pass through the market yard or sub-yard managed by the APMC. All functionaries like traders, commission agents, weighmen and loading workers must hold licenses of the APMC to carry on their business.

However, despite trade in agricultural commodities mostly taking place in regulated markets, there are selected crops, viz., cotton and sugarcane where the state plays a major role in marketing. The marketing structure of these crops therefore differs from that of other crops.

As is well known, in case of major agricultural commodities, the GOI operates a Minimum Support Price Scheme. These support prices serve as a long term guarantee to the producers that any glut in the market which may be caused by excess production will not be able to depress their incomes to unduly low levels. Once the minimum support price is announced for a crop, it is implied that the government is committed to purchase, at the announced support price, unlimited quantities of the crop concerned, irrespective of the size of the harvest and the level of market price. Thus state intervention in case of most agricultural commodities takes place normally, only when prices crash below support level and government agencies intervene and mop up the produce offered for sale at support prices. The situation in Maharashtra

for cotton and sugarcane is however different and in case of cotton there is total state intervention with respect to marketing while in case of sugarcane sales are made mostly to sugar cooperatives which are largely under the control of the government.

State Intervention in Cotton:

From the 1972-73 cotton season, a decision was made by the Maharashtra state government to enter the cotton market in the state through its agency, the Maharashtra State Cooperative Cotton Growers' Marketing Federation (MSCCGMF) as a monopolist, banning all private traders and fixing the price of cotton to be paid to the producers. The scheme of monopoly marketing was introduced in Maharashtra and the main purpose of this scheme was to assure the grower a fair and remunerative return by way of (i) a guaranteed price at the time of sale (ii) sharing with the farmer a part of any excess price received from sale of cotton by the federation after deducting the marketing costs.

The purpose behind conceiving this scheme was that if all marketing functions such as assembling, grading, pooling, processing, storage, finance, insurance, sale, transportation, standardisation and export are performed by the federation on behalf of the growers, it would result in a better price received by growers and also prevent them from exploitation by private trade.

Cooperative Sugar Factories in Maharashtra:

Maharashtra has been a pioneering state with respect to setting up of cooperative sugar factories (CSFs) and the first such factory (Pravara Cooperative sugar factory) was set up in 1948. This was the first cooperative sugar factory, not only in Maharashtra, but in whole of India. The successful establishment and operation of this factory, initiated a trend in cooperative development with rapid multiplication of cooperative sugar factories in the state. There are 160 installed sugar factories in Maharashtra. Out of these 160 installed sugar factories in Maharashtra, 147 factories are in the cooperative sector and 13 in the private sector. The number of private sugar factories in the state have withered away and it is a Government of Maharashtra (GOM) policy that all mills should be cooperatively owned. Besides, these factories which are in operation, there are 57 factories which are under erection.

The CSFs are involved in scheduling of planting, harvesting, transport and financing of the sugar crop. They purchase cane supplied by farmers and process it into sugar.

The establishment of these factories has been largely funded directly and indirectly by the GOM. Usually, the farmer members only have to provide about 10 percent of the investment costs. About 30 percent is provided by GOM as equity contribution, while the remainder is financed as loans (eg. NCDC, IFCI, IDBI) and is guaranteed by state government. All the mills that have been installed are small by international standards partly to an earlier GOI policy to give preference to granting licenses to mills with processing capacity below 2,500 tonnes per day. The GOI licensing policy was abolished in 1998.

The government has appointed a committee headed by the chief minister which takes decision each year on the cane price. The state does not have a system of State Advised Price (SAP) as in other states, but the Minister's committee decides the first advance to be paid towards the cane price which is more or less equal to Statutory Minimum Price (SMP) adjusted to average recovery of 11 percent for Maharashtra and transport and harvest charges paid by the factory. Depending upon the surplus generated, cooperative sugar factories have to pay one or more advances till final prices are paid.

Sugar is a commodity which is covered under Essential Commodities Act (1955). The marketing of sugar is dualistic in nature. Sugar is split into levy and free market sugar and a great control is exercised on both markets. Currently 10 percent of total production of each sugar factory is procured as levy sugar at notified prices for distribution through Public Distribution system(PDS).

The government in the near future is likely to completely decontrol the sugar industry, subject to futures trading becoming fully operational. After futures trading comes into force, there will be no need for the government to prescribe quotas for free release and trade in sugar as also for the levy as PDS supplies are to be sustained through negotiated purchases from the government.

Marketing of Onions:

Unlike cotton and sugarcane, where marketing is controlled by the government, the marketing of onions is through regulated markets. The intervention by the government takes place only when prices fall to very low levels and farmers are forced to make distress sales. In such cases, the government intervenes through its Market Intervention Scheme which applies to horticultural crops. This scheme is launched only in the year when the price of a horticultural crop crashes to unduly low

levels. Thus it is different from the minimum support scheme of the GOI, when support prices for major agricultural commodities are announced every season and the farmers always have the option of selling to the government agency at support price.

Thus in the case of internal trade in onions, while marketing is done in regulated markets under the supervision of the APMCs, external trade has some restrictions imposed by the government. Exports of onions are not under Open General License (OGL), but can be exported only against quotas released by the government. Out of the total quota released for export, NAFED and MSAMB have a share of 35 percent each, and 30 percent is given to the export corporations of other states.

Thus state intervention in onion marketing is mainly in external markets as exports are not free, but on the basis of quotas announced by the government.

6.4 Major Findings of the Study:

As mentioned earlier, our study deals with secondary and primary data. The following are the main findings:

6.4.1 State Intervention in Cotton Marketing:

The Monopoly Procurement Scheme of cotton in Maharashtra is in operation since the last three decades. Its performance during the first two decades i.e. from the period 1972-73 to 1993-94 showed that it made losses in 8 out of 22 years. The major losses were in 198-85 and 1985-86, when the scheme made losses of Rs 77 crores and Rs 308 crores respectively. There was a bumper crop and the prices in all primary markets began to crash. The Monopoly scheme was under strain as it had paid unduly high guaranteed prices to the farmers, but incurred high marketing costs and realized low sale prices. To make good these losses a sum of Rs 331 crores had to be transferred from the state exchequer to the federation for its survival. The Price Fluctuation Fund which was devised essentially to ensure payment of guaranteed prices in years of losses was completely wiped out and the state had to come to the rescue of the growers. The financial difficulties of the scheme were aggravated because there was inflow of cotton in 1985-86 of about 10 lakh bales from border states which is against the spirit of the act. As guaranteed prices in Maharashtra were far higher than ruling prices in border states which had touched support level, there was illegal inflow of cotton into the state and the scheme, besides subsidising Maharashtra farmers also subsidised those in adjoining states.

Due to heavy losses incurred by the scheme in 1984-85 and 1985-86, the policy of fixing guaranteed prices at support level from the 1986-87 to 1993-94 season was implemented. As prices remained above support level, the scheme made profits during this period. However, from the 1993-94 season, besides paying guaranteed prices at support level, also paid an advance additional price to growers as ruling prices were higher than support level. The scheme however was making continuous losses since 1993-94 and marketing costs as a percentage of gross total receipts of the Federation which was 12.6 percent in 1993-94 increased to 21.6 percent in 1999-2000. Interest cost formed a major component of marketing costs as the federation was always holding large stocks of cotton and the interest burden which was Rs 17.94/- crores in 1993-94 increased over the years and amounted to Rs 324/- crores in 1999-2000.

The marketing of cotton by the federation also suffered from severe malpractices. There was improper grading and inferior quality cotton was graded as superior quality cotton. Thus the federation while making payment had to pay for high quality cotton but at time of sales to mills, the price realized was that for inferior quality. This practise added to the losses of the federation.

Currently, the federation is making losses to the tune of Rs 3982.28 crores. Also there is no evidence that the federation was supplying scientifically graded quality cotton to the mills.

The overall marketing operations of the Federation showed that it was paying unsustainable guaranteed prices to the growers, incurring huge marketing costs, holding large stocks due to slow sales and grading was not up to the mark. The area under cotton however increased from 26.5 lakh hectares in TE ending 1990-91 to almost 30 lakh hectares in TE ending 1996-97. However, inefficient marketing and government subventions is hardly a way to induce farmers to increase area under the crop.

The field survey however showed that farmers in the sample preferred to sell to state agencies because they received better prices, had an assured market and there was honest weighing. However, the farmers had to face certain marketing problems in case of sales to the Federation. In case the sale was not made on the same day, farmers did not get staying arrangement. Sometimes, farmers had to wait for 6 days to tender their produce. Improper and arbitrary grading was also a prominent feature of the Monopoly Procurement scheme and farmer's produce was often upgraded. There

were also problems relating to payment of price to the farmers. Payment was made in installments and while guaranteed price was paid at the time of tender, the balance installments were delayed as the Federation was facing financial crisis.

Futures trading in cotton was resumed in 1998 after 32 years. The trading in cotton futures is conducted in the designated hall of Cotton Green, Sewri, Mumbai, and is through open outcry system. However, futures trading has so far remained on a low key due to certain impediments and hurdles. Our field survey showed that there is lack of awareness among farmers on futures trading and they are not conversant with either the utility of futures markets, nor the trading techniques. The Monopoly Procurement scheme is itself an impediment to the success of futures. This is because futures trading requires large players in the market. However, in Maharashtra, farmers are compelled to sell their cotton to the Federation and cannot participate in futures markets. Also, they are assured of guaranteed price so they do not feel the need for futures as they do not face price uncertainty. Again, a number of mills buy directly from the federation and therefore do not enter futures markets. The Maharashtra Federation has its own bureaucratic setup regarding sales and does not function in futures markets. Thus complete monopoly marketing also hinders the popularity of futures marketing.

6.4.2 Marketing of sugarcane by cooperative sugar factories:

The establishment of sugar mills has been largely funded directly and indirectly by GOM. The financial involvement of the state government in the project cost of the cooperative sugar factories in the state has been by way of (i) contribution to their equity (share capital), (ii) loans extended to them from the state exchequer, (iii) default guarantee for all loans raised by them from banks and financial institutions, and (iv) deferral of purchase tax.

The Godbole Committee Report on Cooperative Sugar factories in Maharashtra (1999), noted that the financial institutions were of the view that for the last 45 years, the state government played a very important role as promoter of cooperatives in the state. In addition, the state government has also been regulating the sugar factories on all vital matters which have a close bearing on development, regulation and viability of the sugar factories in the state.

Maharashtra has 160 sugar cooperatives out of which 147 are in the cooperative sector. However, all factories may not be operating every year, due to

various reasons such as shortage in availability of cane. The marketing operations of three cooperative sugar factories in Kolhapur district for two seasons, viz., 1999-2000 and 2000-01 indicated that these factories were incurring losses due to their high marketing costs. In case of all the mills, the expenses on sugarcane purchases were 50 percent of the total expenses while the balance was on marketing costs. The data on the financial performance of 138 sugar cooperatives in the year 1998-99 also showed a dismal picture. Out of 138 factories, only 31 mills were making profits, while 107 were making losses. Further, while accumulated losses of 107 factories amounted to Rs 1031 crores, the accumulated profits of the 31 mills was only Rs 19.78 crores. In Kolhapur district, out of the 15 sugar factories, 10 were in losses amounting to Rs 42 crores while the profits of the 5 mills was only Rs 1.08 crores. The situation was similar in Sangli district where the accumulated losses of sugar mills was Rs 52 crores. Thus three-fourth of sugar mills in the state were incurring huge losses and accumulating heavy debts, adding to the already mounting fiscal burden in the state.

Several factors were responsible for these losses. The normative costs adopted by financial institutions for sanction of loans was often outdated as actual costs turned out to be much higher. Since term loans were not available to meet this increased cost, sugar factories often resorted to high cost short term funds. The cooperative sugar factories were also distributing all surpluses as cane price to avoid paying income tax and therefore had not built up any reserves. Thus even one bad season could result in a sugar factory becoming sick as no buffer had been built. A number of factories were paying much higher prices than that warranted by their financial status. Further, a number of factories gave huge advances to transport operators who did not honour their commitments and which were not recovered.

All these factors contributed to losses incurred by sugar factories which are now facing severe financial crisis. The sugar factories are also facing the burden of short margin (the difference between the production cost and market price of sugar) to the tune of Rs 1578 crores. The RBI and NABARD have shown willingness to convert this short margin to medium-term loans provided the government gives guarantee. The government of course rescued the cooperative mills by giving guarantee for Rs 1000 crores.

The field level survey in Kolhapur district to study the marketing problems, if any, faced by farmers indicated that farmers preferred to sell to cooperative societies as they had an assured market due to the prevalence of a number of sugar mills in the

vicinity. Quick and timely disposal of their produce was thus facilitated. Sugar Cooperatives themselves arranged to harvest and transport cane to the mills. Payment to farmers was sometimes delayed and some of the sugar factories are facing severe financial crisis and are not even in a position to pay SMP to the farmers. They may have to face legal action in case payment of SMP is delayed.

Farmers allocated more area towards sugarcane in case of favourable prices. They were also shifting to varieties which are less susceptible to diseases.

Farmers lacked awareness about futures trading and although the need for futures trading has been felt and government is on the verge of decontrolling the sugar sector, futures trading has to yet take off. In the absence of futures markets, farmers are still unaware about the usefulness of such markets.

6.4.3 Marketing of Onions:

Marketing of onions which was studied in two major onion markets viz., Lasalgaon and Pune revealed that the most common marketing channel was:

Farmer → Commission agent → wholesaler → retailer → ultimate consumer

The study on marketing costs and margins indicated that in Lasalgaon market, the farmer received 45.33 per cent of the retailer's sale price while for Pune market, the corresponding figure was 41.88 percent. The marketing costs borne by farmers were higher in Pune than Lasalgaon. This is because in Pune, the farmers brought the produce from long distances in gunny bags which cost Rs 20/- per quintal, while in Lasalgaon market the produce was brought loose from nearby areas. Also the commission charged by commission agents in Pune was higher @ 6 percent of the sale price whereas in Lasalgaon the rate was 4 percent of sale price.

The produce from Pune was transported to distant markets in south India such as Kerala while that from Nasik it was transported to Haryana. The produce was also transported to metropolitan cities such as Mumbai.

The marketing costs and margins as a percentage of retail price was 40.67 percent and 14 percent respectively in Lasalgaon while the corresponding figures for Pune were 42.42 percent and 15.7 percent. The overall conclusions reveal that the share of the farmer in the retail price was less than half the retail price, the balance being accounted by marketing costs and margins.

The field survey to observe marketing problems of farmers indicated that farmers did not face major problems in marketing their produce. Soon after the

auction was over, they received payment for produce. The main problem which the farmers faced was the fluctuations in prices and low prices when there was glut in the market. There were even instances, when farmers destroyed the crop due to very low prices. This happened in the year 1999-2000, when production peaked at 13.85 lakh tons.

Onion is also very perishable, especially the kharif crop, and farmers often incur huge storage losses.

Since onion is a sensitive commodity, exports are still controlled and are made on the basis of quotas fixed by the government. The farmers are therefore not able to take advantage of the country's competitive prices in the international markets.

Thus while state intervention in onion marketing is minimal in internal trade, external trade is characterised by restrictive policies.

6.5 Policy Implications:

The major findings of our study on marketing of cotton, sugarcane and onion lead us to make the following recommendations for policy:

1] **Cotton** is an important commercial crop in Maharashtra and the state has highest area under cotton in the country. However, the performance of the state with respect to yield is very poor. This is mainly because the crop is rainfed and only 3 percent of the area under cotton is irrigated. Besides, the crop is highly susceptible to pests which further reduces the yield. Attempts have been made to improve yield since the early seventies when programmes such as Intensive Cotton Development Programmes (ICDP) were launched. Recently, a fresh thrust to cotton research and development has been given, by the GOI, which launched a Technology Mission on Cotton (TMC) in 2000. The purpose of this mission is to bring the entire gamut of research, technology transfer, marketing and processing of cotton under one roof. The mission aims at increasing yield, improving the quality of cotton particularly in respect of trash contamination and reducing the cost of cultivation. Since increasing yield and supplying the mills with high quality cotton will be beneficial for the cotton producers as well as the textile industry, it is necessary that the state of Maharashtra should take full advantage of the Technology Mission on Cotton, so that farmers receive adequate extension services, ginning and pressing factories are upgraded and mills receive quality cotton without trash contamination.

2] The Monopoly marketing scheme of the GOM, indicated that the scheme made losses to the tune of Rs 4000 crores and incurred heavy marketing costs. These losses are made good by the state government. The performance of the scheme is not justified on rational economic grounds and it needs to be abrogated. The concept of monopoly runs counter to a market economy and with the opening up of the Indian market in an era of liberalisation, a monopoly marketing scheme is certainly out of place.

Abandoning the scheme would in no way disprotect the cotton growers. This is because the Cotton Corporation of India (CCI) plays the role of performing price support operations in the event of prices going below support levels. At present, the CCI operates in all markets in the country (except Maharashtra) when the need for support is felt. Thus the government has already set up a support mechanism to protect the farmers from distress sales.

While doing away with the scheme would aggravate the financial burden on the government exchequer, this may be a cheaper one-time option, considering that running the scheme in its present form would mean large annual recurring deficits which again would strain the government.

Again, in case of closure of this scheme, the problem may arise regarding the employees of the federation. In any case, the economy is going through structural adjustments with a large number of industrial units closing down. Also a large number of public and private sector units are undergoing large scale retrenchments and offering voluntary retirement schemes. The Federation can follow suit. The Maharashtra Federation has at present 7000 employees to operate the Monopoly scheme, out of which 2000 employees are regular while 5000 employees are seasonal. The total salary bill is Rs 75 crores per annum or roughly Rs 6 crores per month. Out of the total monthly salary bill, one-third is paid to regular employees while two-third is paid to seasonal employees. In view of the high administrative costs, besides marketing costs, the closed monopoly has proved to be very costly and the "monopoly" character of the scheme must be given up. Instead, the federation must compete with private traders as this may help to discipline the market and ensure better prices to producers.

3] Cotton is a crop characterised by frequent and sudden volatility in prices. State intervention while providing support to farmers suffered from severe limitations. Price volatility can therefore be managed by futures trading in cotton. Futures trading

in cotton which was suspended in 1966 and revived in 1998 has been universally recognized as an effective modern tool for risk management and price discovery. However, futures trading is still in an infant stage and the new generation of persons functioning in physical markets are not conversant with either the utility of futures markets, nor the trading techniques. The traders find that the rules and regulations laid down by the Forward Markets Commission regarding margins, netting, deposits, day-to-day clearing, sales tax, excise duty, octroi and other measures are stringent and need to be rationalised. Even the operation of the Monopoly Procurement scheme of cotton is an impediment to successful futures as futures trading requires large players. Maharashtra farmers are compelled to sell to the Federation and mills also buy directly from the Federation and hence participation of these potential players in futures markets is withdrawn.

Thus due to a number of hurdles, trading in cotton futures has been virtually negligible since inception. Members must therefore gain experience on the modus operandi of trading in these contracts and some of the procedures need to be rationalised. It is therefore necessary to create an environment conducive to futures trading and Indian futures markets which are operating under highly restrictive policies must be encouraged to eliminate price volatility.

4] As in the case of cotton, the yield of sugarcane in Maharashtra, which is showing a negative growth rate in the last decade, is a cause for concern. The increase in sugarcane production is mainly due to increase in area. The crop gets infested by White Woolly Sugarcane Aphid which is a common pest and farmers are unable to combat this pest which lowers their yield. While research is being undertaken to determine the right pesticide to spray, further efforts as well as extension services are needed to fight this pest.

5] Sugarcane is a water intensive crop and increasing acreage under this crop will lead to further mining of water resources and even threaten the sustainable use of ground water in the state. Barely 15 percent of gross cropped area in Maharashtra is irrigated, while entire area under sugarcane is irrigated and yield growth rates are declining. Policy must therefore encourage the need to enhance irrigated area under other crops also by restricting and controlling the irrigation water use under sugarcane.

6] The functioning of sugar cooperatives in Maharashtra indicates that they are facing severe financial crisis. The GOM has helped to promote rural development in the state

by promoting the sugar sector through large financial assistance for establishing sugar mills. Many sugar mills assisted transformation of rural economies and diversified their activities into food processing, co-generation of power, paper and alcohol manufacturing, and even educational institutions. However, despite their noteworthy contribution, today a large number of sugar factories are sick and are unable to repay their loans to financial institutions for which the government has given guarantee. This is therefore becoming a major threat to the government's fiscal health and the situation is likely to worsen, especially if the sugar mills have to compete with cheaper imports. The GOM must therefore discontinue support to sugar mills, in view of the fiscal burden that it is facing and discourage the establishment of new sugar factories. Attempts must be made to increase yield and develop varieties with more sucrose content. At the same time, agricultural extension services must be strengthened so as to encourage more farmers to use water saving technologies such as drip irrigation.

7] Sugarcane can also be diverted to produce jaggery. India accounts for 70 percent of world production of jaggery and Kolhapur Gur market is the most important market for jaggery. The gur from this district is also in great demand. However, jaggery is produced under severe unhygienic conditions and lack of quality standards have become setbacks for promoting jaggery exports. Thus in order to promote export earnings from jaggery it is necessary to upgrade technology and introduce modern methods of processing. The product should be standardised and quality specifications should be maintained. The government and private sector should therefore be encouraged to make investments in this direction.

8] The sugar sector is highly restricted with controls and although the government is making serious attempts to decontrol, it has to yet take off. Forward trading is likely to be introduced, but will not gain momentum with the monthly release mechanism of the government. In forward trading, mills can plan production, sales, inventory and cashflow, the institutional buyers can plan purchases, stocks and cashflow and traders will carry inventory. With forward sales the price risk that is undertaken by buyers and sellers can be hedged and this will therefore reduce the need for state intervention.

9] **Onion**, is an important horticultural crop in Maharashtra but the major problem facing onion growers are poor storage capacity, leading to qualitative and quantitative losses and also causing price fluctuations. Storage losses comprise of moisture loss,

shrinkage, decay and sprouting. In case of glut in the market and improper storage facilities, prices crash and in certain seasons, farmers are even forced to destroy the crop. Therefore, increasing the shelf life of onions assumes great importance and government investment in this direction must be channelized. Normally, onion should be stored in scientifically constructed onion storage chawls. However, a large number of farmers do not have access to such storage arrangements and are therefore forced to dispose off their stocks during peak period. Onion growers in Maharashtra do not have scientific knowledge on pre and post harvest management practises for onion storage and often keep it in the open. This results in sun scalding, the outer skin becomes brittle and breaks and inner scales get damaged. Therefore, very often it is the traders who benefit from the off seasonal rise in prices as they have proper storage facilities. Farmers, should also be encouraged to cultivate varieties which have good keeping quality for 4 to 6 months.

10] Radiation processing of food is one of the latest technologies developed for preservation and increase of shelf life. This procedure involves the exposure of food to short wave energy to achieve specific purposes, such as extension of shelf life, insect dis-infection, elimination of pathogens etc. This process therefore helps to reduce storage losses, eliminates food-borne diseases and also helps to maintain international standards. A study conducted by Bhaba Atomic Research Centre observed the benefits obtained through irradiation processing and noted that 20 percent of onion loss is averted through sprout inhibition (by radiation) and for every tonne of onion stored there is a net gain of Rs 502/-. Farmers must be therefore given practical demonstration on food irradiation processing and government must also encourage the setting up of such plants. Use of technology will benefit farmers and traders and avoid distress sales. Quality retention of irradiated onions will also result in improved consumer confidence and satisfaction. It may also attract a higher price in the export market.

11] Although onion processing is not yet initiated in a big way, dehydration of onion is another method of converting perishable onion in the form of non perishable dehydrated flakes or powder. In western countries, onion is commonly used in the form of powder or flakes and thus processing onions may fetch good returns in international markets. In the domestic markets also, they are in demand by the defense services and also used in instant foods. Thus processing of onions must also be

encouraged especially since dehydrated onion flakes are light and easy to transport and also have a long storage life.

12] Our study on marketing of onions observed that farmers received less than half the retail price, the balance being accounted by marketing costs and margins. Therefore, attempts must be made to increase the share of the farmer in the terminal price and also reduce the length of the marketing channel. Cooperative marketing must be encouraged so that farmers can benefit from scale economies and direct marketing must be strengthened. Marketing the produce directly to buyers or processors will increase the share of farmers in the ultimate consumer's rupee as the role of the commission agent would cease to exist. This may require an amendment in the APMC act and the state of Karnataka has already taken the lead by amending its act to allow the National Dairy Development Board to set up wholesale fruit and vegetable markets.

13] Our field survey showed that pledge financing was not popular with farmers. Pledge financing enables the usage of inventories of graded produce as collateral for accessing credit from the organized credit market, thus enabling farmers to take advantage of favourable prices and also hold inventory of graded produce. Hence warehousing corporations must play a leading role to encourage pledge financing which will greatly benefit farmers.

14] Onion prices show an upward trend whenever there is a fall in production, leading to a public outcry. Thus onion being a very sensitive commodity, the government makes attempts to prevent this rise in price. This has led the government to maintain a very restrictive export policy and the exports of onions are not under OGL but on the basis of quotas released by government. The country however has a huge export potential as exports of onions are mainly confined to the SAARC countries with marginal exports to Middle East and Far East. India's presence in Europe, America and South Africa is negligible. Europe is the single largest importing block, accounting for nearly one-third of world imports. Hence, potential for exports does exist and the government must therefore give up its restricted trade policy so that the untapped export potential can be tapped.

15]. Policy makers in the country have tried to cope up with price volatility in agricultural marketing by resorting to pervasive government controls on private sector activities and state intervention. Government intervention in agricultural markets is however augmenting the fiscal crisis in the state. Therefore these instruments are

progressively and selectively being relinquished by the government . The alternative strategy to manage price uncertainty and risk management is the introduction of futures trading. Indian futures markets, however, have been operating under highly restrictive policies, providing them limited opportunities to contribute in any significant way. Commodity futures trading, unlike their counterparts in the securities market, suffer from the limitations imposed by the physical market. The physical markets of commodities still encounter a lot of obstacles in the shape of various government controls and regulations, minimum support prices, movement restrictions, monopoly procurement and unorganised ways of marketing. There are a number of logistical problems relating to movement and delivery of products, issues relating to bias in tax structure and the absence of negotiable warehouse receipts. It is therefore necessary to treat futures trading as a major thrust area to provide the much needed risk management functions for commodities. While the government is making a move in this direction, all major impediments that come in the way of proper functioning of futures trading must be removed so that trading in futures will be successful.

Annexure I

Share of Value of cotton in Gross State Domestic Product from Agriculture (Rs. Crores Current Prices)

Year	GSDP(Maharashtra) (1)	Value of Cotton (2)	2 as a % of 1
1993-94	20265	1105	5.4
1994-95	22701	1054	4.6
1995-96	25261	2466	9.8
1996-97	31838	3007	9.4
1997-98	27265	1848	6.8
1998-99	32355	2423	7.5
1999-2000	33820	3664	10.8

Source: Maharashtra Federation and Economic Survey of Maharashtra (Various issues)

Annexure II

SCHEDULE FOR PROCESSING UNIT

Saw Ginning and Pressing Factory, Babhulgaon (Yeotmal)

Sr. No.	Particulars	1998-99	1999-2000	2000-01
1	Raw Cotton Processed (Qtl)	79469	106257	103164
2	No. of F.P. Bales Pressed	13307	17697	17194
3	Weight. of Lint obtained	24896	34437	33287
4	Ginning & Pressing Income (Rs.)	8256387	9989004	10062442
5	Other Income (Rs.)	79593	962777	
	Total Income (Rs.)	8335980	10951781	10062442
5A	Expenditure (Rs.)			
1	Store Purchase	635016	800967	1123568
2	Repair & Maintenance	386670	354414	274220
3	Electricity Charges	1710197	1772111	2078850
4	Labour Charges	881203	1026105	1084549
5	Technical Salary	276007	292855	331342
6	Transporting, Reheaping & Other Charges	135238	95076	214326
	Total A	4024331	4341528	5106855
6B	Revenue Expenditure (Rs.)			
1	Staff Salary	439164	288443	337103
2	Insurance Charges	106285	107043	148006
3	Other Adm. Charges	142410	185642	167212
	Total B	687859	581128	652321
7C				
1	Interest (Rs.)	787308	468924	-
2	Depreciation (Rs.)	1033518	881921	763772
8	Total C	1820826	1350845	763772
	Total A + B + C	6533016	6370139	6522948
9	Profit / Loss (Rs.)	+1042824	+4963665	+3548262

Source: Gining and Pressing Factory

Annexure III
Accumulated Profit or Loss of Sugar Factories in Maharashtra (1998-99)

(Rs. Lakhs)

Sr. No.	District		Name of the Sugar Factory	Crushing Capacity	Accumulated profit	Accumulated Loss
1	Kolhapur	1	Bhogwati	4000	--	977.56
		2	Ajara	2500	43.49	--
		3	Ch. Rajaram	2200	--	187.75
		4	Ch. Shahu	2500	33.79	--
		5	Datta Arsule Porle	2500	--	545.41
		6	Datta Shirol	5000	--	99.3
		7	Daulat	3500	--	620.68
		8	Doodhganga Vedganga	3500	--	386.06
		9	Gadhinglaj	2000	--	302.04
		10	Jawahar	3500	--	63.87
		11	Kumbhi Kasari	3000	7.18	--
		12	Panchganga	5000	--	640.95
		13	Warna	4000	--	377.25
		14	Bhudargad		8.49	--
		15	Vasantrao Naik		8.99	--
2	Sangli	16	Hu. Kisan Ahir	1250	--	200.52
		17	Mahakali	1250	4.78	--
		18	Jat Taluka	2500	--	63.72
		19	Manganga	1250	--	2270.57
		20	R.B.Patil	4000	23.24	--
		21	Sonhira	2500	--	--
		22	Mohanrao Shinde	--	6.76	--
		23	Tasgaon	1750	--	2221.45
		24	Vasantdada	5000	29.41	--
		25	Vishwas Shirala	1250	--	469.49
3	Satara	26	Yashwant Khanapur	1250	--	1934.97
		27	Ajinkyatara	2500	8.95	--
		28	B. Desai Patan	1250	1.05	--
		29	Jarandeshwar	2500	--	685.1
		30	Satara Bhuiji	4000	37.79	--
		31	Krushna	5000	3.04	--
		32	New Phaltan	1300	Pvt	Pvt
		33	Sahyadri	5000	50.86	--
4	Pune	34	Shiram Phaltan	2000	--	759.82
		35	Bhima Patas	5000	--	106.13
		36	Ch. Bhavaninagar	2500	--	13.17
		37	Ghodganga	2500	--	290.99
		38	Indapur	2500	13.3	--
		39	Malegao	2500	--	36.22
		40	Raigadh	1250	1310.08	--
		41	Sant Tukaram	2500	--	195.62
		42	Someshwar	2500	--	17.6
		43	Vighnagar	2500	--	42.86
		44	Yashwant Theur	3500	--	48.07
5	Solapur	45	Adinath	2500	4.5	--
		46	Bhogawati	1250	--	977.56
		47	Bhima Takli	2500	--	360.23
		48	Chandrabhaga	2500	--	309.58

Contd...

Sr. No.	District		Name of the Sugar Factory	Crushing Capacity	Accumulated profit	Accumulated Loss
		49	Indira	2500	--	49.95
		50	Pandurang	2500	2.45	--
		51	Siddheshwar	3000	3.83	--
		52	Saswad Mali (Pvt)	2500	--	--
		53	Sant Damaji	2500	19.8	--
		54	Shankar	2500	--	158.33
		55	Sahakar Maharshi	4500	21.33	--
		56	Vittahl	3500	--	13.49
		57	Loknete B. Patil		5.47	--
6	A'Nagar	58	Agsti	2500	--	41.33
		59	Ashok	2600	--	534.1
		60	Dyaneshwar	3000	0.28	--
		61	Ganesh	1750	--	733.1
		62	Jagdamba	800	--	716.07
		63	Kedareshwar	2500	--	218.92
		64	Pravara	4000	4.18	--
		65	Kopargaon	3000	--	265.05
		66	Mula	2500	37.74	--
		67	Parner	1250	--	1095.25
		68	Rahuri	4250	--	274.44
		69	Sangamner	3500	6.17	--
		70	Sanjeevani	2500	35	--
		71	Shrigonda	3500	--	43.14
		72	Vruddheshwar	2500	--	24.11
7	Nasik	73	Girna	1500	--	2711.58
		74	K.K.Wagh	1250	--	1158.6
		75	Kadwa	1250	--	132.64
		76	Nashik Palse	1250	--	29.1
		77	Nifad	3500	0.63	--
		78	Rawalgaon (Pvt.)	2000	--	--
		79	Vasantdada (Kalvan)	2500	--	257.5
8	Dhule	80	Panzarakan	1250	--	3035.06
		81	Sanjay	1250	--	853.76
		82	Shindkheda	2500	--	871.5
		83	Shirpur	2500	--	1416.8
		84	Satpuda Tapi	5000	--	10201.73
		85	Pushadanteshwar	2500	--	239.46
9	Jalgaon	86	Belganga	2500	--	2181.21
		87	Chopda	2500	--	1931.34
		88	Madhukar	2500	--	38.59
		89	Sant Muktabai	2500	--	108.4
		90	Vasant Kasoda	1250	--	3597.98
10	AurangaBad	91	Devgiri	2500	--	2089.99
		92	Gangapur	2000	--	1420.77
		93	Kannad	2500	--	2282.54
		94	Siddheshwar	2000	--	474.31
		95	Sant Eknath	1250	--	455.42
		96	Vinayak	1250	--	2620.51
11	Jalna	97	Bageshwari	2500	--	2084.91
		98	Jalna	1250	--	1730.69

Contd...

Sr. No.	District		Name of the Sugar Factory	Crushing Capacity	Accumulated profit	Accumulated Loss
		99	Samarth	2500	--	1207.71
		100	Renuka		4.98	--
12	Beed	101	Ambejogai	2500	--	--
		102	Baidyanath	2500	--	161.37
		103	Gajanan	1250	--	2556.23
		104	JaiBhavani	2500	--	38.75
		105	Kada	1250	--	2409.26
		106	Majalgaon	2500	--	113.27
13	Parbhani	107	Godavari Dudhana	1250	--	1939.49
		108	Narsingh	2500	--	2023.02
14	Hingoli	109	Marathwada	1250	--	1977.25
		110	Purna	2500	--	1464.28
		111	B.Hanuman	2500	--	189.82
15	Nanded	112	Bahurao Chavan	2500	--	528.19
		113	Godavari Manar	2500	--	3388.24
		114	H.J.Patil	2500	--	1420.56
		115	Jai Ambika	2500	--	--
		116	Kalambar	1250	--	2490.85
		117	Shankar	1250	--	1026.04
16	Usmanabad	118	Terna	3500	--	158.85
		119	Tulja Bhavani	1250	--	1270.8
		120	Narsingh	--	--	10.46
		121	Dr.B.Ambedkar	--	35.41	--
		122	Shivshakti	--	12.99	--
17	Latur	123	Jai Jawan Jai Kisan	1250	--	139.08
		124	Manjara	2500	--	20.32
		125	Shet Killari	1250	--	846.03
		126	Shivajirao Patil Nilangekar	2500	185.76	--
18	Buldhana	127	Jijamata	1250	--	3440.97
19	Akola	128	Akola Jilha	2500	--	2196.06
20	Washim	129	Balaji	1250	--	861.9
21	Amravati	130	Kondeshwar	2500	--	589.82
		131	Shet Dha. Railway	1250	--	635.55
22	Yawatmal	132	Jaikisan	2500	--	3894.14
		133	Pushpawati	2500	--	--
		134	Shankar	2500	--	2828.24
		135	Vasant Pusad	2500	--	453.29
23	Wardha	136	Mahatma	1250	--	1211.78
		137	Late B. Deshamukh	2500	--	386.8
24	Ngpur	138	Shriram	1250	--	3062.45
25	Bhandara	139	Vainganga	1250	--	2170.45
	Total				1978.72	103156.25

Source: Commissioner of Sugar, Pune

Annexure IV
Net Returns to Onion Farmers: Market Lasalgaon

Price/cost/net return: Rs. per quintal

Month/Year 2000	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of prod (A2+FL) + Mktg. cost	Net returns in per Quintal
Jan	100	14.45	135.33	(-) 35.33	350	24.45	145.33	204.67
Feb	50	12.45	133.33	(-) 83.30	321	23.25	144.13	176.87
Mar	51	12.49	133.37	(-) 82.37	300	22.45	143.33	156.67
April	30	11.65	132.53	(-) 102.53	281	21.65	142.53	138.47
May	30	11.65	132.53	(-) 102.53	335	23.85	144.73	190.27
Jun	30	11.65	132.53	(-) 102.53	345	24.25	145.13	199.87
Jul	31	11.65	132.53	(-) 102.53	336	23.85	144.73	191.27
Aug	40	12.05	132.93	(-) 92.93	451	28.49	149.37	301.63
Sep	50	12.45	133.33	(-) 83.33	426	27.49	148.37	277.63
Oct	68	13.15	134.03	(-) 66.03	830	43.65	164.53	665.47
Nov	151	16.85	137.73	(+) 13.27	1011	50.85	171.73	839.27
Dec	151	16.49	137.37	(+) 13.63	705	38.65	159.53	545.47

Month/Year 2001	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of pro (A2+FL) + Mktg. cost	Net returns in per Quintal
Jan	101	14.49	135.37	(-) 34.37	653	36.55	157.43	495.57
Feb	102	14.50	135.38	(-) 33.38	461	28.85	149.73	311.27
Mar	106	14.65	135.53	(-) 29.53	385	25.85	146.73	238.27
April	50	12.55	133.43	(-) 83.43	335	23.85	144.73	190.27
May	31	11.65	132.53	(-) 101.53	314	22.95	143.83	170.17
Jun	41	12.05	132.93	(-) 91.93	369	25.15	146.03	222.97
Jul	111	14.85	135.73	(-) 24.73	454	28.65	149.53	304.47
Aug	112	14.93	135.81	(-) 23.81	715	39.05	159.93	555.07
Sep	101	14.49	135.37	(-) 34.37	649	36.45	157.33	491.67
Oct	100	14.45	135.33	(-) 35.33	716	39.05	159.93	556.07
Nov	101	14.45	135.33	(-) 34.33	1251	60.49	181.37	1069.63
Dec	101	14.45	135.33	(-) 34.33	560	32.85	153.73	406.27

Contd...

Month/Year 2002	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of pro (A2+FL) + Mktg. cost	Net returns in per Quintal
Jan	51	12.49	133.37	(-) 82.37	418	27.15	148.03	269.97
Feb	51	12.49	133.37	(-) 82.37	266	21.05	141.93	124.07
Mar	31	11.65	132.53	(-) 101.53	261	20.85	141.73	119.27
April	21	11.29	132.17	(-) 111.17	257	20.65	141.53	115.47
May	21	11.29	132.17	(-) 111.17	300	22.45	143.33	156.67
Jun	27	11.53	132.41	(-) 105.41	375	25.45	146.33	228.67
Jul	51	12.49	133.37	(-) 82.37	501	30.45	151.33	349.67
Aug	78	13.57	134.45	(-) 56.45	516	31.05	151.93	364.07
Sep	60	12.85	133.73	(-) 73.73	539	32.05	152.93	386.07
Oct	91	14.05	134.93	(-) 43.93	851	44.49	165.37	685.63
Nov	119	15.15	136.03	(-) 17.03	642	36.13	157.01	484.99
Dec	36	11.85	132.73	(-) 96.73	378	25.57	146.45	231.55

Annexure V
Net Returns to Onion Farmers: Market Pune

Price/cost/net return : Rs. per quintal

Month/Year 2000	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of pro (A2+FL) + Mktg. cost	Net returns in per Quintal
Jan	180	65.6	228.6	(-) 48.6	420	80	243	177
Feb	200	66.8	229.8	(-) 29.8	320	74	237	83
Mar	200	66.8	229.8	(-) 29.8	270	71	234	36
April	100	60.8	223.8	(-) 123.8	280	71.6	234.6	45.4
May	120	62	225	(-) 105	300	72.8	235.8	64.2
Jun	220	68	231	(-) 11	300	72.8	235.8	64.2
Jul	250	69.8	232.8	17.2	350	75.8	238.8	111.2
Aug	250	69.8	232.8	17.2	420	80.0	243	177
Sep	300	72.8	235.8	64.2	380	77.6	240.6	139.4
Oct	320	74	237	83	800	102.8	265.8	534.2
Nov	600	90.8	253.8	346.2	1100	120.8	283.8	816.2
Dec	600	90.8	253.8	346.2	900	108.8	271.8	628.2

Month/Year 2001	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of pro (A2+FL) + Mktg cost	Net returns in per Quintal
Jan	400	78.8	241.8	158.2	750	99.8	262.8	487.2
Feb	280	71.6	234.6	45.4	480	83.6	246.6	233.4
Mar	260	70.4	233.4	36.6	420	80.0	243	177
April	240	69.2	232.2	7.8	340	75.2	238.2	101.8
May	200	66.8	229.8	(-) 29.8	300	72.8	235.8	64.2
Jun	300	72.8	235.8	64.2	400	78.8	241.8	158.2
Jul	320	74.0	237.0	83	520	86.0	249.0	271
Aug	460	82.4	245.4	214.6	720	98.0	261	459
Sep	400	78.8	241.8	158.2	650	93.8	256.8	556.2
Oct	400	78.8	241.8	158.2	820	104	267	553.
Nov	600	90.8	253.8	346.2	1600	150.8	313.8	1286.2
Dec	350	75.8	238.8	111.2	700	96.8	259.8	440.2

Contd...

Month/Year 2002	Minimum Price	Marketing cost incurred by farmer	Marketing cost incurred by farmer + COP	Net returns in per Quintal	Maximum Price	Marketing cost incurred by farmer	Cost of prod (A2+FL) + Mktg cost	Net returns per Quintal
Jan	200	66.8	229.8	(-) 29.8	500	99.8	262.8	237.2
Feb	150	63.8	226.8	(-) 76.8	300	83.6	246.6	53.4
Mar	120	62	225	(-) 105	250	80	243	7.0
April	180	65.6	228.6	(-) 48.6	250	75.2	238.2	11.8
May	170	65	228	(-) 58	280	72.8	235.8	44.2
Jun	250	69.8	232.8	17.2	420	78.8	241.8	178.2
Jul	350	75.8	238.8	111.2	500	86	249	251
Aug	450	81.8	326	124	600	98	261	339
Sep	500	84.8	247.8	252.2	620	93.8	256.8	363.2
Oct	400	78.8	241.8	158.2	950	104	267	683
Nov	300	72.8	235.8	64.2	800	150.8	313.8	486.2
Dec	150	63.8	226.8	(-) 76.8	550	96.8	259.8	290.2

Source : MSAMB and Annual Reports Of National Horticultural Research and Development Foundation, Nasik

References:

- Acharya, S.S. and Agarwal N.L., "*Agricultural Marketing in India* (Third edition)", Oxford and IBH Publishing Co., New Delhi, 1998.
- Acharya, S.S. and Agarwal N.L., "*Agricultural Prices-analysis and policy*", Oxford and IBH Publishing Co., New Delhi, 1994.
- Dandge, R.G. et al, The Marketing of Jaggery: A case study of Shahu Market, Kolhapur, in *Proceeding of the National Seminar on Jaggery Marketing in India*, Dept. of Economics, Shivaji University, Sponsored by Maharashtra State Agricultural Marketing Board and Indian Society of Agricultural Marketing, Nagpur, 23rd-24th March, 2002.
- Godbole Madhav, *Report of the Committee on Co-operative Sugar Factories in Maharashtra*, March 1999.
- Government of India, Economic Survey, 2001-2002 and 2002-2003.
- Government of India, (Ministry of Agriculture), *Report of The Expert Committee On Strengthening and developing of Agricultural Marketing*, June 2001.
- Government of India, (Ministry of Consumer Affairs, Food and Public Distribution), *International Conference of Commodity Future and Derivatives Trading*, 2002.
- Gulati, Ashok and Sangeeta Shroff, *Economic Reforms and Agricultural Parastatals : The Case Of Cotton Corporation of India and the Maharashtra Federation, in Institutions, Incentives and Economic Reforms* (edited by Satu Kahkonen and Anthony Lanyi), Sage Publications, 2000.
- Jugale, V.B., *Sugarcane Pricing, Policy, Procedure and Operations*, Atlantic Publishers and Distributors, 2000.
- Kahlon, A.S. and George M.V, *Agricultural Marketing and Price Policies*, Allied Publishers Private Ltd., 1985.
- Kakade, V.B. and Patil, J.F, Economics of Jaggery Making in *Proceeding of the National Seminar on Jaggery Marketing in India*, Dept. of Economics, Shivaji University, Sponsored by Maharashtra State Agricultural Marketing Board and indian Society of Agricultural Marketing, Nagpur, 23rd-24th March, 2002.
- Kulkarni, A.P. and Basargikar, *Factors Influencing Onion Prices In India*, Journals of India School of Political Economy, July-Sep 1997.
- Maharashtra, Directorate of Economics and Statistics, *Economic Survey of Maharashtra*, 2000-2001, Mumbai.
- Maharashtra State Agricultural Marketing Board, *National Seminar On Onion Storage*, 1998.
- Maharashtra State Agricultural Marketing Board, *Agri-Export Zone for Onion in Maharashtra State*, 2002.
- National Horticultural Research and Development Foundation, *Annual Report*, 1999-2000.
- Royal Commission On Agriculture in India, Bombay : Government Central Press, 1928

- Sanstha, R.G. *Report on Cotton Monopoly Procurement Scheme of Cotton* (Unpublished Report), 2001.
- Sawant, S.D.& others, *Agricultural Development in Maharashtra, Problem and Prospects*, (NABARD), Occassional Paper-7, Mumbai-1999.
- Singhal, A.K. *Marketing Of Rapeseed - Mustard in Uttar Pradesh*, (Unpublished Ph.D. thesis), Pune, Gokhale Institute of Politics and Economics, 1984.
- Vaikunta Mehta National Institute of Co-operative Management, *Seminar On Sickness In Co-operative Sugar Industry*, 2001.
- Vasantdada Sugar Institute, *Performance of Sugar Factories in Maharashtra*, 2001-2002.
- Wadhwa, D.C., *Zoning For Sugar Co-operatives, Note of Dissent*, Economic and Political Weekly, June 2000.
- World Bank, *India Sugar Industry, Priorities for Reform*, 1997.
- World Bank, *Managing Price Risks in India's Liberalized Agriculture : Can Futures Market Help?* Allied Publishers, 1999.

Appendix 1.1

Comments

Comments on the Study Entitled "Building up of an Efficient Marketing System to Obviate the Need for a Large Scale State Intervention in Maharashtra", by Sangeeta Shroff, AER Centre, Gokhale Institute of Politics and Economics, Pune

**J.P. Singh
Agricultural Economics Research Centre
University of Delhi
Delhi - 110 007**

This is a fairly well written study on the marketing of cotton, sugarcane and onion in Maharashtra State. The state intervention in the marketing of these commodities is of varying degrees, ranging from allotting export quota in the case of onion to monopoly procurement in the case of cotton. The author's attempt of highlighting the processes and problems of marketing of these commodities is commendable, particularly by using secondary data for the purpose and by utilizing available information from relevant sources for describing the marketing procedure of these crops. But sufficient information on marketing of these commodities seem to have not been collected to present facts on disposal pattern of these commodities in different months and price variations, if any, across them. But, whatever information from farmers' survey are presented in the study, sample averages for them are not presented, which should be done in revised draft. Further, while presenting farmers' opinion on an issue, the number of farmers giving a particular reply in each size group should be presented in tabular form. This will help in ranking the importance of a reply/reason given by farmers on a question. The following general observations may also look into.

- (1) In the last paragraph on page 3, it is mentioned that cooperative marketing societies often act as commission agents. If it is so, the names of the commodities for which they act as commission agents in Maharashtra should be specified.
- (2) The objectives of the study mentioned on page 6 do not specify whether the role of private agencies/traders would also be examined with a view to comparing their performance with public agencies in the marketing of a commodity. It should be mentioned, as it has been done in the case of onion.
- (3) The figures for Ratnagiri district, Maharashtra and also for some other districts in Tale 2.3 needs to be checked. Similarly the figures for Mumbai in Table 2.5.
- (4) At present sugar mills are required to deliver 15 per cent of their produce as levy to the government. This is mentioned on page 21 of the report. Subsequently, the figure has become 10 per cent, as on page 60 and page 82. This may be corrected.

With these general comments, we give below our specific comments on the marketing of individual selected commodities. Our effort here is mainly to highlight drawbacks so that the study could be improved.

State Intervention in Cotton Marketing

- (1) It is not clear from the write up on page 27 as to how the guaranteed price is fixed under the monopoly procurement scheme.
- (2) The author talks about guaranteed price in Maharashtra, support price and ruling market prices in border States. She should present time series of these prices, if possible, since the inception of the monopoly procurement scheme so that the difference among them could be easily discerned.
- (3) It is mentioned on page 29 that from 1993-94 season, apart from paying guaranteed price at support level, the scheme paid an advance additional price to growers. It needs to be specified as to what was the basis of fixing an advance additional price for cotton and what was its level in different years. Similarly final price derived in different years should also be presented. Secondly, what was the rationale of fixing it so high as to result in the scheme incurring huge losses year after year? Further, if the monopoly procurement scheme is making continuous losses and the marketing cost of the Federation is rising fast, why should advance additional price be paid to growers and why not attempt be made to reduce the cost of marketing of the Federation? If there were attempts in these directions, they should be specified.
- (4) In Table 3.5 to 3.9, sample averages should be presented on all the aspects having numbers. Wherever, figures are presented in range, their averages may also be presented. The classification of farmers by caste across size groups should indicate the distribution of number of farmers of a caste in different size groups. Table 3.6 should also contain percentage of irrigated area to total area by size groups. If the figures in these tables are in terms of per farm, it should be mentioned so. Cropping pattern of sample farmers in terms of percentage of gross cropped area under individual crops should be presented.
- (5) Distribution of assets by farm size groups be presented along with their average values per farm.
- (6) In Table 3.13 to 3.15, it would be better if number of farmers giving specific reply by size groups is mentioned.
- (7) The prices received by sample farmers for different varieties of cotton in reference year may be presented.
- (8) The price spread of important varieties of cotton may be presented. Since the main objective of the monopoly scheme is to raise the share of farmers in terminal price, the share of sample farmers in terminal price may be worked out.
- (9) The pattern of disposal of cotton in different months by sample farmers should be presented. This would give an idea about the peak marketing period of cotton.
- (10) The author has not come out with any suggestion to make futures trading in cotton more successful. Would it require abandoning of monopoly procurement?
- (11) In case the scheme of monopoly procurement is abrogated, two things would happen – (i) market mechanism will operate, prices will fall and the government will not incur losses due to cotton procurement, and (ii) private trade in cotton will

come up. But, since the network of private trade in cotton has been completely dismantled due to operation of monopoly scheme in Maharashtra during the last three decades, one would be tempted to know how difficult would it be and how much time will it take to recreate a network of private trade in cotton? These issues are quite important in view of the author's suggestion of abrogation of monopoly procurement scheme and making the Federation to compete with the private traders.

Marketing of Sugarcane through Cooperatives

The author should also do analysis of marketing of sugarcane to private mills, particularly prices paid by these mills to farmers and how do they compare with the prices paid by cooperative mills. If certain quantity of cane was converted into Gur, economics of Gur production and marketing should also be examined. These would provide policy implications for drawing conclusions regarding development of alternative system of marketing for sugarcane with reduced role of the State. My specific comments on the draft of this Chapter are as follows:

- (1) From the sentence in paragraph 3 on page 44 reading as "there was negligible increase in yield, which increased from 81 lakh tonnes in 1990-91 to 82 lakh tonnes in TE 1996-97", the word lakh be deleted from both the places. Secondly, what reason could be attributed to sharp decline in yield of sugarcane in Kolhapur district from 92 tonnes to 82 tonnes in Table 4.1 and also in some other districts, while some other districts showed some increase in it. It is not correct to mention on page 90 that the yield of sugarcane in Maharashtra is showing a negative growth rate during the last decade.
- (2) In Table 4.2, price data for more recent years may be presented.
- (3) The amount of losses incurred by the majority of sugar factories is many times higher than the amount of profits obtained by remaining of them in Maharashtra State (Annexure III). On the other hand, the prices of cane paid by sugar factories are considerably higher than statutory minimum price (SMP) (Table 4.2). We expect that both these prices are for the same level of recovery. As per the method of payment of cane price, the first advance to be paid towards the cane price is more or less equal to the SMP, a second payment is made when the balance sheet of mills permit and a small final payment is made following the state audit of the mill. As per the procedure adopted for the payment of cane price, it is difficult to visualize a possibility of loss in sugar factories. But since it is happening, the reasons for the same should be explained. Why should three-fourths of sugar mills of the State be running in loss and why should the State be bearing these losses silently without taking measures to reduce them? In this context, it would be revealing to analyze the performance 15 sugar mills of Kalhapur district with a view to understanding why 10 mills are running in loss and 5 mills are making profits. A serious analysis of these two categories of mills would provide some ideas about what should be done to convert the loss making mills into profit making ones. This may further provide clues regarding alternative marketing system with reduced involvement of the state.

- (4) The data presented in Table 4.3 on cost of marketing of selected sugar cooperatives need to be examined more critically and certain anomalies need to be properly explained. The data presented in the table are for two consecutive years, viz. 2000-01 and 2001-2002. It needs to be explained as to why the cost jumps so sharply between these two years in the case of interest in Shree Dutt Mill, interest and depreciation in Jawahar Mill, and process and chemical expenses in Gadingalaj Mill. Apart from these, certain costs being higher, as mentioned in paragraph 3 on page 50, need also to be explained. Could there be a way to reduce these costs of sugar mills?
- (5) As regards presentation of the field survey results, the suggestions given in the case of cotton may be followed for sugarcane also.
- (6) The pattern of sale of sugarcane by farmers in different months may be presented along with average prices received by them by farm size groups. Similarly, arrival pattern of sugarcane at selected mills by weeks/months along with the span of crushing season should be presented. If possible, variation in recovery by months may also be presented.
- (7) Yield of sugarcane and its value per hectare by farm size groups should be presented in the report to show farmers' performance by size groups.
- (8) In the case of existing situation, the farmers are assured of reasonable prices of their cane, but the state bears losses incurred by cooperative sugar mills, which are much larger in number than justified on the basis of cane availability. It also appears that in the present scenario, there is no possibility of private sector establishing new sugar mills or taking over the loss making cooperative mills, unless there is greater flexibility for fixing cane prices and closing down of some less efficient mills to increase cane availability. Under these circumstances, what alternative system of marketing of sugarcane would the author suggest to reduce state intervention?

Marketing of Onion

- (1) In Table 5.1, district-wise area, production and yield of onion are presented. If these figures are presented season-wise, they would provide better understanding about importance of the crop in different seasons.
- (2) It is mentioned on page 65 that the rate of commission is higher in Pune than in Lasalgaon market. Why is it so, if the rate is fixed by the Marketing Board of the State.
- (3) In Table 5.3, it seems that retailers do not bear any cost. Normally, they should also bear transport cost, unless wholesalers provide it or it is included in retailer's margin. This may be clarified.
- (4) In Annexure IV and Annexure V, net returns to onion farmers have been worked out by taking monthly minimum and maximum prices. This raises many questions. Firstly, whether it is possible to work out weighted average prices for individual seasons by taking quantity marketed as weight. Secondly, the minimum and maximum prices in a month may be for different varieties of onion, whose cost of

production per quintal may be different. Thirdly, prices of individual months differ widely among the years, but cost of production does not seem to vary much. This implies that the price variations among the months/years are not due to variation in output. Then, what are the factors that are responsible for price variations? These issues need to be resolved. Also, the source of cost of production data may be mentioned.

- (5) The returns worked out on the basis of maximum and minimum prices do not lead to any firm conclusion. Therefore, these should be worked out on weighted average prices. In fact, the study was required to collect data on quantity marketed and price received by farmers. If it was done, then there should be no difficulty in working out average prices for different months and farm size groups.
- (6) Quantity marketed and price obtained in different months may be presented in tabular form.
- (7) Regarding presentation of field survey results, the suggestions given in the case of cotton may be followed for onion also.
- (8) In the case of onion, the author recognizes poor storage facilities as a major drawback in its marketing chain. The method of storage has also been recognized as equally important. What could be done to create additional storage facilities in both public and private sector, and what steps should be taken to educate farmers and traders in scientific storage methods in different seasons need to be discussed.

In the end, I would like to emphasise that in keeping with the title of the study, the author should attempt to draw conclusions and make suggestions for developing an efficient marketing system with reduced state intervention and higher role of market mechanism. The system to be developed should be such that the losses borne by the state are reduced, but the farmers do not suffer financial losses and disincentives.

Appendix 1.2

Action Taken

General Observations:

(1) Being an introductory chapter, it was a general discussion on cooperative marketing societies and did not particularly relate to the state of Maharashtra. However, in Maharashtra a number of Farmers' co-operative societies are engaged in marketing of grapes, pomegranates and vegetables.

(2) There were limitations in examining the role of private traders in Maharashtra in case of cotton and sugarcane. Under the Maharashtra Raw Cotton Act, 1971, private trade in cotton was banned and only the agent of the state government could carry on business in raw cotton. Thus since private trade was not allowed to purchase raw cotton from farmers in Maharashtra, we could not compare the operations of public agencies with private traders. In the case of sugarcane, there are 160 installed sugar factories out of which 147 are in the cooperative sector, directly or indirectly supported by the Government of Maharashtra. The number of private mills has almost withered away as it was a government policy that all mills should be privately owned. In Kolhapur district where the field survey was undertaken, there were no private sector sugar mills. A few mills, in other districts when contacted, declared that they had not undertaken crushing operations recently. Some private mills were not given license to crush as they had not contributed to the Cane Development fund. Hence, as no information on functioning on private sector mills was available, the comparison between public and private sector could not be made.

(3) Figures in Table 2.3 and 2.5 for all districts have been checked. Necessary corrections have been made.

(4) The sugar mills are now required to deliver 10 percent of their produce as levy sugar and accordingly the correction has been made.

State Intervention in Cotton Marketing:

(1) The method of fixation of guaranteed price is discussed in Section 3.3.1, p 26.

(2) The time series data on guaranteed price in Maharashtra, support price and ruling market prices in border states are presented in Table 3.1* p27 and Table 3.2** p 29.

(3) Due to heavy losses incurred by the scheme in 1984-85 and 1985-86, the scheme began to fix the guaranteed price at support level. But as ruling market prices were much higher than support prices, the scheme began paying advance additional price to growers. These advance additional prices were fixed by observing the open market prices in the neighbouring markets of border states so that prices received by farmers in Maharashtra were more or less at par with their counterparts in border markets. Losses incurred by the scheme were mainly due to huge unsold stocks which attracted

huge interest costs. There was also corruption in grading and low quality cotton was sold as superior quality.

- (4) Changes made in Table 3.5 to 3.9.
- (5) Distribution of assets and their value are shown in Table 3.9*, p34.
- (6) Changes made in Table 3.13 to 3.15, p 40-41.
- (7) On tendering their produce, all farmers receive the same price which is the guaranteed price plus the advance additional price. This is indicated in Table 3.2**
- (8) The scheme accounts are not yet closed for the reference year of our study which is 2001-02 and hence the final price has not yet been worked out. Therefore the price spread for sample farmers in the reference year could not be worked out. However, in Table 3.2 on marketing of cotton by the Maharashtra Federation during the period 1993-94 to 1999-2000, for which all scheme accounts were available, we have calculated the farmers' share in terminal price.
- (9) The peak marketing season for cotton is December-January when 60 per cent of the produce is marketed. The marketing season commences in November when 15 per cent of the produce is tendered while 25 per cent is sold in February-March.
- (10) Monopoly Procurement is an impediment to the successful functioning of futures. As farmers are compelled to sell to the Federation, they cannot participate in futures which requires large players. Farmers are also not faced with price uncertainty. Thus if the scheme is abolished, growers will be faced with price uncertainty and may enter futures markets.
- (11) It may not take much time for private trade to enter, once the scheme is abrogated. In fact from the current season, i.e. 2003-04, certain clauses in the act have been relaxed and private trade is also allowed to purchase raw cotton from the growers. Accordingly, private traders have already started operating in the markets. The agent of the government has to however always be present in the market.

Marketing of Sugarcane through Cooperatives:

There were no private mills in Kolhapur district where field survey was conducted. Mills in other districts when contacted were unable to furnish accounts as they had not recently crushed cane. The cooperative sector controls 95 percent of the sugar industry in Maharashtra. Regarding economics of gur production and marketing, due to time constraint it may be unable to do a field survey. However, with the help of current literature available we tried to study economics of gur in Maharashtra. This is discussed from p53 to 55.

- (1) The sugarcane crop gets infested with white wooly sugarcane aphid which is a common pest and farmers are unable to combat this pest which lowers its yield. The yield of sugarcane is -1.4 percent per annum during the period 1980-81 to 1989-90 (statistically significant at 1 per cent); 0.7 percent from 1990-91 to 2000-01 (not significant) and -0.58 percent during the period 1980-81 to 2000-01 (not significant).
- (2) Price data has been updated till the year 2002-03 (p49).
- (3) Sickness among sugar cooperatives has been discussed in Section 4.4.2 (p51 to 53). Due to time constraints, at present it may not be possible to undertake a detailed analysis on 15 sugar mills in Kolhapur.
- (4) Perhaps due to huge unsold stocks the interest costs of the sugar mills went up. Also the mill defaulted in timely repayment of loans given by the government and financial institutions which increased their interest costs.
- (5) Appropriate changes made.
- (6) The entire sugarcane produced (table 4.6) was marketed by sample farmers. Since most of the farmers in the sample had farm size less than 2 hectares, the quantity marketed was not throughout the season. The peak sales of sugarcane were in the month of January. For the state as a whole the crushing season lasted for 135 days with a recovery of 11.62 percent.
- (7) Yield of sugarcane and its value per hectare by farm size groups is shown in Table 4.8* (p57)
- (8) The government had a preference for granting licenses to mills with a processing capacity less than 2500 tonnes of sugarcane crushed per day (tcd) whereas international standards are at about 7000 tcd. The preference given to small mills is one of the main reasons for high processing costs as economies of scale in processing cannot be realized. There is need for replacement of obsolete technologies, those of small size and low capacity plants by advanced technologies and higher capacity units offering economies of scale. Diversification to production of ethanol, renewable power generation from gasification of bagasse etc. will be useful to the sugar industry.

The sugar sector in the state is highly politicised and immediately cannot be freed from the crutches of the government. In fact, to overcome the economic crisis arising out of excess stocks of sugar, the government has set up a sugar export cell for facilitating an export target of ten lakh tonnes of sugar. The government has again offered financial assistance and exemption in the form of purchase tax to facilitate exports of sugar.

However, in the near future, as a part of the process of economic reforms, there is likely to be complete decontrol of the sugar sector. The sugar mills in order to be competitive will have to go in for measures such as reduction in cost of production and transportation, better utilisation of stored materials and cut in salary and wages. Till now sugar cooperatives have hardly worked on purely commercial basis but along political and local interests. Sick units that are unlikely to be revived must be liquidated and as

part of fiscal consolidation, government must stop extending financial support to sugar mills. Also state intervention to cope up with price volatility has proved to be fiscally very costly and hence introduction of futures trading as an alternative strategy to deal with price uncertainty will be a welcome step.

Marketing of Onions

- (1) See Table 5.1* (p64)
- (2) The Marketing Board only fixes the market fee. All other marketing charges are fixed by the Board of Directors of the respective market committees.
- (3) When the produce moves from wholesaler to retailer, the transport cost is included in the retailer's margin.
- (4) In Table 5.3, the price received by the farmer is the weighted average price (quantity marketed as weights). Cost of production for onion was obtained from the National Horticultural Research and Development Foundation (Nasik) and is not available for different varieties of onion but only of the most common variety. Seasonality exists in onion prices and is discussed in pages 70-72.
- (5) In Table 5.3, the price received by the farmer is the weighted average price and we concluded that in case of Lasalgaon market, the farmer received 45.33 per cent of the retailer's price while in Pune market the corresponding share was 41.88 per cent.
- (6) See Table 5.8 (b)
- (7) Appropriate changes made.
- (8) See page 72.

Keeping with the title of the study, gradual withdrawal of state intervention in marketing, promotion of exports and futures trading as an alternative strategy to manage price uncertainty will go a long way in benefiting farmers and at the same time minimise intervention by the government.