

# **ECONOMICS OF JAGGERY (GUR) MARKETING IN LATUR DISTRICT**

**BY**

**JADHAV YASHWANT LIMBRAJ**

*B Sc. (Agri.)*

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**DISSERTATION**

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**PARBHANI, 431 402 ( Maharashtra ) INDIA**

**1999**



*Affectionately Dedicated To My  
Beloved Parents And  
Late Grandmother*

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*I, hereby, declare that this dissertation or  
part thereof has not been previously  
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Place : Parbhani

Date : 29 / 06 / 1999



**( Yashwant L. Jadhav )**


Dr. S. P. Kalyankar  
M.Sc. (Agri.) Ph.D.  
Dy. Director Research,  
(Economics)  
Marathwada Agricultural University,  
Parbhani - 431 402.

## CERTIFICATE-I

Shri. Jadhav Yashwant Limbraj has satisfactorily prosecuted his course credits and research for a period of not less than four semesters and that the dissertation entitled "ECONOMICS OF JAGGERY (GUR) MARKETING IN LATUR DISTRICT" submitted by him is the result of original research work and is of sufficiently high standard to warrant its presentation to the examination. I also certify that the dissertation or part thereof has not been previously submitted by him for a degree of any University.

Place : Parbhani.

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(S. P. Kalyankar)  
Research Guide

# CERTIFICATE-II

This is to certify that the dissertation entitled "ECONOMICS OF JAGGERY (GUR) MARKETING IN LATUR DISTRICT" submitted by Mr. Jadhav Y. L. to Marathwada Agricultural University, Parbhani in partial fulfilment of the requirements for the degree of 'MASTER OF SCIENCE' (Agriculture) in subject of Agricultural Economics and Statistics has been approved by the student's advisory committee after viva-voce examination in collaboration with External Examiner.

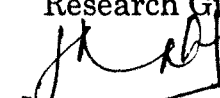


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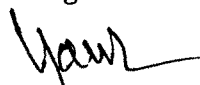
(Dr. S. P. Kalyankar)  
Research Guide

Advisory committee :



(Dr. H. N. Patil)

Head,  
Dept. of Agri. Econ. & Stat.



(Dr. N. D. Pawar)  
Associate Professor,  
Dept. of Agri. Econ. & Stat.



(Dr. B. R. Pawar)  
Assistant Professor,  
Dept. of Agri. Econ. & Stat.



Associate Dean and Principal,  
College of Agriculture,  
M.A.U., Parbhani. (M.S.)



(Prof. P. R. Waghmare)  
Associate Professor,  
Dept. of Agri. Econ. & Stat.

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Place : Parbhani.

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# **Introduction**

## Chapter I

# Introduction

Sugarcane is one of the most important cash crops in India, which forms the base for sugar, gur and other related agro-based industries.

The National Council of Applied Economic Research has defined agro-based industries as those which use either agricultural raw materials or make more things that farmers need for their agricultural needs. Agro-industries include the industries which leads to better processing, conservation of agricultural commodities and ensure high returns on processed goods. Gur industries are using sugarcane as <sup>a basic in</sup> inputs in Maharashtra.

Traditional gur industries and khandsari units are labour intensive and provides self employment in rural areas. It provides the employment to near about 2.5 million small farmers in the country. Gur and khandsari industry occupies a prominent place in Indian sugar economy. It consumes near about 50-60 percent of total sugarcane grown in India. Jaggery (Gur) industry has been considered as small scale and cottage industry. All India statistics show that, in last three decades annual production of jaggery ranges between 5-7 million tonnes.<sup>1</sup>

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1) Teggi M.Y. et al (1996) 'marketing of jaggery in Ghatprabha Command area of Karnataka : Bihar Journal of Agril. Marketing IV (1) : 51. 55

In India, the per capita consumption of the sugar, gur and khandsari was 23.9 kg during 1995-96. Out of which sugar consumption was around 14.5 kg and gur and khandsari consumption was 9.4 kg per capita per year.<sup>2</sup> During 1960-61 the sugar consumption was 4.8 kg and gur consumption was 15.2 kg per capita per annum. During last 25 years, the per capita consumption of sugar increased linearly where as growth in consumption of gur & khandsari declined sharply. During 1995-96 the all India production of gur and khandsari was 8497 thousand M.T. Uttar Pradesh and Tamil Nadu were the two states which contributes the extent of 70-75 percent of the total production of gur in country.<sup>3</sup>

Due to protection and progress of sugar industries, there was a ban on the production of jaggery and khandsari units within the jurisdiction of sugar factory till recent years. However, due to increase in area of sugarcane in Maharashtra State and due to inabilities of sugar factories to crush the entire sugarcane, the ban policy was given a rethought. During 1996-97, the area under sugarcane in Maharashtra State was 516 thousand hactares and 41805 thousand tonnes of production. The average productivity of the sugarcane was 80.90 tonnes/ha. Due to the mismanagement of sugar factory the farmers are going once again for the preparation of jaggery.

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2) Anonymous (1998) "Per capita consumption of gur, sugar and Khandasari," Co-operative Sugar, 29 (12) : 881.

3) Sudam Singh (1995) "Techology for quality gur production and its storage," : Bhartiya sugar August 1995 : 59-62.

Latur is one of the most popular markets for jaggery in the State and also outside of the State. The area under sugarcane is 1 percent to the net sown area under other crops. There are 3 sugar factories in the district. The number of jaggery producing units observed in the district is 1666.

Latur gur market ranks second in terms of arrival of jaggery per year in Maharashtra State. The share of gur (jaggery) in the total arrival in the A.P.M.C. Latur is 25 percent and <sup>has</sup> also the significant share in the total income of A.P.M.C. Latur.

Large quantity of jaggery manufactured in the district is exported (distributed) to as many districts of the State as well as outside the state. Gujrat, Orissa, West Bengal, Bihar, M.P. are the major jaggery consuming states. Near about 25 percent of the jaggery is sent to Gujrat State.

According to National Commission on Agriculture, Agricultural Marketing is a process which starts with a decision to produce suitable farm commodity and it involved all the aspect of market system both functional and institutional.

Marketing of jaggery assumes <sup>a</sup> great significance from producer as well as consumer point of view. Agricultural marketing system has an important role to play in predominantly agrarian economy. Inadequate infrastructure and unpredictable prices are considered to hamper accelerated agricultural development.

Sometimes jaggery producers are in lack of contact with proper marketing channel and consequently don't get the fair prices for the produce which they obtain after taking it to market on putting a lot of labour and adequate capital. Similarly, good packing also helps in fetching good prices.

Marketing of agricultural produce in our country has remained defective and associated with various malpractices. The existing trade is characterised by high transport cost, lack of grading facility, a large no. of middlemen and also time consuming. Indian farmers are still bad marketer not only due to their ignorance towards modern marketing methods but also for the peculiar structure of marketing over which they have no control.

An efficient marketing system pays profits to the producer and safe guards interest of consumer as well. The marketing system of agricultural produce however, is not as efficient as it should be in perishables.

Eventhough the prices of farm products are determined by consumers demand, farm supply could not be adjusted immediately to demand conditions. The jaggery prices tend to fluctuates more, mainly due to inelasticity of demand, seasonal and instable supply. Such wide fluctuation gives rise to uncertainty and inhibit investment in agriculture.

The variability in the market arrivals there fore is responsible for explaining price fluctuations.

Marketing of sugarcane does not involve any complicated process of marketing and it is directly transferred from the producer to the sugar factory for processing but the marketing of its product i.e. gur, is complicated one involving a long marketing channel and number of middlemen. Keeping in view to identify the scope for improvement, the present study is undertaken. Specific objectives of the study are :

**Objectives :**

- i) To analyse the relationship between prices and arrivals.
- ii) To identify the marketing channels in the marketing of jaggery.
- iii) To analyse the price spread in marketing of jaggery.
- iv) To analyse marketing systems of jaggery and to workout the producers share in consumers rupee, and
- v) To study the different storage methods, packaging and grading pattern of jaggery.

**Scope of Study :**

The study will be useful to the producer in many ways. Producer can be educated regarding channel of distribution which is more beneficial to them. Similarly, he can decide and adopt more profitable technique of marketing viz. grading, better packaging and

storage methods could be known for getting better prices. It can help in the adoption of appropriate measures to increase the efficiency of marketing system for different growers.

The study also reveal roles played by intermediaries in marketing of jaggery.

Analysis of marketing structure may also show some ways and means of improving marketing efficiency both technical and economic for the benefits of all concerned in marketing.

The results of this study would be useful for planners and policy makers in formulating marketing and pricing policies.

The findings of price studies are useful in solving the current production and marketing problems. The peak periods of arrivals and relationship of arrivals and price would guide the producer to decide the proper time of sale and plan of production accordingly in the study area.

#### **Limitations of the Study :**

The study is carried out during a short period of time and limited area of the particular agroclimatic situation. Hence the generalisation of the result is not advisable. However, the results are applicable for the similar area and markets in the region. The necessary primary data regarding production of sugarcane and

jaggery was collected from respondents based on their recall memory by interview method and has inherent limitations.

**Plan of thesis :**

The thesis is presented in six chapters.

The first chapter bring about the importance of sugarcane and gur in Indian economy, beside objective of study and limitations of the study.

In second chapter literature pertinent to the present study is reviewed

Third chapter deals with the methodology adopted in the study.

The fourth chapter represent an account of Agroclimatic and edient features of the district selected for the study and the general information about the gur market Latur.

In the fifth chapter, the results of the present study are presented and discussed.

Summary and conclusions drawn from the study are presented in the sixth chapter.

# **Review of Literature**

## Chapter - II

# Review of Literature

The specific object of this chapter is to review the previous work carried out in relation to the present study. This will help to provide a guideline for proper planning of the results in relation to the facts already established in some aspects of marketing.

### **2.1 Relationship between prices and arrivals :**

Teggi, et al (1996) studied the relationship between prices and arrivals of jaggery. The study revealed that there was significant seasonal pattern between prices and arrivals of jaggery in Jamkhandi market.

The price indices were gradually higher during the months in which the indices of arrivals were low. Thus the study showed an inverse relationship between prices and arrivals of jaggery in Mahalingpur market.

Babar, and Lohar, (1994) studied the trends in arrivals and prices of jaggery in Sangli Regulated Market of Maharashtra. The arrivals and prices of jaggery showed an increasing trend over a period of 12 years. The study further revealed that seasonal indices of

arrivals were more higher during the months of August to January and the indices of prices were higher during the months of October, August and September respectively.

Shinde, (1994) an attempt has been made to study the trends of arrivals and prices of bajra, tur, jowar. Three year data on arrivals and prices were obtained for 1990, 1991, 1992. The weighted average for arrival and prices were calculated and significance was tested by computing the correlation. It clearly indicate that when prices are maximum, the arrivals are lowest. The study emphasis need for stabilizing the prices during the peak harvesting period by providing storage facility.

Nawadkar, et al (1993) studied arrivals and prices of selected commodities at Gultekdi Regulated Market (Pune) for the period of 1983-84 to 1990-91 by using data from annual reports of the market committee. An increase in trend observed for the average price of all cereals during the period. A large change was noted in arrivals of tomato and onion.

Rao, (1993) studied the market arrivals and price movement in the market. For this, he conducted study on market have a negative impact on price and were in line with economic theory. They examine the relationship between prices and arrivals in the market.

Kalyankar, and Rajmane, (1987) studied marketing of potato in Jalna district of Maharashtra State and observed that the arrivals were concentrated in few months and showed inverse relationship with prices. Study on the arrivals and prices of potato in Jalna market for 1973-82 showed that March was the peak month of arrival while minimum arrivals were recorded in November. Seasonal indices for price showed that rise in off season price over immediate post harvest price appeared to about 39 percent.

Pawar, and Babar, (1984) studied the price supply relationship of imp vegetables in wholesale market at Pune. They observed that the coefficient of variation in monthly arrival ranged between 24.38 per cent to 136.24 per cent and that of price 23.11 per cent to 55.19 per cent among all vegetables. The prices of all the vegetables in different seasons indicated inverse relationship with arrivals in the market. Study also revealed that the variation in arrivals have captured upto 20 to 40 per cent for different vegetables.

Janardan, (1982) made an attempt to examine the extent and nature of fluctuations in arrivals. For this data on monthly market arrivals and prices of turmeric in Nizamabad were collected for 10 years from 1971-81. The relationship was studied by method of coefficient of corelation. The results showed that there were

no correlations between prices and arrivals for most of the years. The coefficient of variation in respect of price was very less when compared to that of arrivals.

Kalyankar, et al (1981) found that the seasonal variation in weekly prices of banana were much greater during June to December than that of January to May and fourth week of July, October, November, February, May and June in Nanded market. Arrivals and prices were negatively related and relationship between prices and arrivals was statistically significant. There were negative relationship between prices and arrival in banana.

Kalyankar, and Patil, (1979) in their study on seasonality in arrivals and prices of gram in Parbhani market concluded that fluctuation in arrivals of gram during various months of year. It should be noted that the bulk of marketable surplus was disposed of in the post harvest season. Prices were more as less stable with increasing trend prices slumped during high arrival and were high when arrival decreased.

Suryaprakash, and Venkatraman, (1979) observed that prices of potato were relatively low when the arrivals were high and they were low when arrivals decreased. But the seasonal fluctuation were more in arrivals than prices. An analysis of effect of various

components of time series on the prices of potato indicated that seasonal component as constructed to the trend and cyclical variation contributed more to total variation. The seasonal indices effect however, was more in case of arrivals than that of prices.

Balkrishnan, and Puhazhendi, (1978) undertook a study for examining the trend in the market arrival of potato over year. As they observed that arrivals widely fluctuated from 1.45 lakh tons to 2.43 lakh tons. The variation being due to seasonal variation in production. In three of 10 years, arrivals were large than the average. The overall trends in arrivals appears to be linear and rising.

Sharma, and Nandal, (1971) conducted study on structure of arrivals and prices of gram in Hissar district by fitting the linear trend for price and arrivals of two markets and showed that price trends were upward in both the markets however, arrivals did not show any apparent trend which might be general rise in prices failure of supply side to keep with increased demand for human consumption and animal feed shift in area in favour of more profitable crop.

Shrivastava, and Chaudhari, (1972) studied the correlation of supply and price of maize and chillies in Kulu market the correlation coefficient for supply and price of maize was statically in

significant and trends to destracts from the well established economic low supply. The supply behaviour sometime is peculiar and doesnot show well establish<sup>ed</sup> relationship with price. The possitive corelation coefficient between the supply doesnot increase with increase in prices.

Mehta, and Gupta, (1970) studied the seasonal price fluctuations in gur markets of Punjab. A data from three markets in Punjab State were used to examine the extent and nature of seasonal fluctuation in gur prices during the period from 1960-61 to 1969-70. The findings revealed that it was very difficult to specify with certainty any particular low price or light price period for the Punjab as a whole. The periods differ from market to market certain months showed sharp deviation from the periods, there were very high fluctuations in the price of gur over the years of study. It appears that no regular trend in the gur price was noted in Punjab. The study eventhough important from the view point of the present study could not cover the other important aspects such as price function of gur, supply price relationship in its analysis.

## **2.2 Marketing Channels :**

Singh, and Rajkishor, (1998) studied the disposal pattern of gur in district Sitapur (Uttar Pradesh). They observed the major channel in the marketing of jaggery is producer-wholesaler-retailer

consumer & 24.35 percent of marketable surplus disposed through this channel.

Ravikumar, and Raju, (1996) studied the marketing of jaggery (gur) in Anakapallae market of jaggery in Vishakha patanam district of Andhra Pradesh and observed that marketing of jaggery involves number of market middlemen or functionaries. Marketing of jaggery is complicated one due to the large number of middlemen involved in the marketing.

They observed the channels identified in marketing of jaggery in Anakapallae regulated market as follow:

Producer-local importer-commission agent-exporter-local wholesaler-retailer-consumer.

Teggi, et al (1996) studied the marketing of jaggery in Ghatprabha command area of Karnataka State. The field of study was selected which is Bijapur district.

They reported that marketing of jaggery is similar to other agricultural manufactured commodities. The producer immediately after the manufacturing jaggery brought to market either due to need of funds lack of storage facilities.

In the present study the three major channels observed in marketing of jaggery were -

- i) Channel-I : Producer- Commission agent - Wholesaler- Retailer- Consumer.
- ii) Channel-II : Producer - Wholesaler-Retailer-Consumer.
- iii) Channel-II : Producer - Retailer - Consumer.

Among, all these 3 marketing channels of jaggery IIInd channel was most profitable and most of quantity was marketed through this channel in the study area (55.90).

Archana, et al (1995) studied the costs and margins over time in marketing of gur (jaggery) during the period of 1980-81 to 1991-92 and observed that the most popular channel in the marketing of jaggery is producer-primary wholesaler-secondary wholesaler-retailer - consumer. This channel is better for about 80 percent of producer into market. They also revealed that decrease in the margin of primary wholesaler, secondary wholesaler and retailer by 0.90 percent, 0.53 percent and 0.29 percent respectively during the year 1990-91 over 1980-81 which indicates improvement in present marketing system and impact of technology measures on margins of intermediaries.

Hariharan and Rajgopalan (1995) in their paper studied the system of marketing of vegetable, In the Trichirapalli market the distribution of vegetables to consumer they are -

Channel - I : Farmer - Commission agent - Wholesaler retailer -  
Consumer.

Channel - II : Farmer - Preharvest contractor agent Commission agent  
- Retailer - Consumer.

Channel - III : Producer - Commission agent - Retailer - Consumer.

From above 3 channels, the channel-III is observed as the  
most popular.

Napure and Verma (1994) in the present study they  
observed that the two main channels are present and these are

Channel - I : Producer - Retailer - Consumer.

Channel - II : Producer - Commission agent - Retailer - Consumer.

Bhat, et al (1986) found following marketing channels of  
apple

- 1) Grower - Preharvest contractor-Commission agent- Wholesaler-  
Retailer - Consumer.
- 2) Grower - Commission agent- Wholesaler- Retailer - Consumer.
- 3) Grower - Forwarding agent - Commission agent - Wholesaler -  
Retailer - Consumer.
- 4) Grower - Co-op. marketing society - Commission agent -  
Wholesaler - Retailer - Consumer.
- 5) Grower of J & K and H.P.M.C. - Wholesaler - Consumer.

6) Grower - Consumer.

Padmanabhan, (1991) studied performance of efficiency of jaggery marketing and the scope for Co-op. marketing in North Arcot district. He observed the 3 main marketing channel in jaggery marketing as follows:

- 1) Producer - Commission agent cum wholesaler - Retailer - Consumer
- 2) Producer - Wholesaler - Retailer - Consumer
- 3) Producer - Wholesaler - Consumer

He observed that channel-III brought largest share of consumers rupee to the producer seller because no charge was collected from producer and it eliminate the malpractices. However he found that channels-III was the channel which attracted the least supply from the farmers.

Thoral, (1986) observed that the mango growers followed various channels of trade to sell their produce as follows:

- 1) Producer - Consumer
- 2) Producer - Commission agent - Consumer
- 3) Producer - Canning industry
- 4) Producer - Preharvest contractors - Consumer

Anonymous, (1984) In Thane and Raigad district, two common practices of watermelon marketing were found on farm namely direct sell to consumers and producer to retailer.

Anandkumar, and Samba Murthy, (1982) studied the 'Role of middlemen In agricultural marketing - an empirical assesment'. The study evaluated the existing sales pattern, the performance of producer-sellers as regards to mode of sale. The physical land financial facilities provided by commission agent and services rendered by commission agent to farmers of Peta village. The present study revealed that inspite of the number of inherent defects, the farmers were selling their produce through commission agents. Majority of respondents expressed that the commission agent were not providing adequate physical and financial facilites to farmers.

### **2.3 Price spread in marketing of jaggery :**

Singh, and Rajkishore, (1998) studied the disposal pattern and marketing of gur in Sitapur district (U.P.) and revealed that the price spread in the marketing of jaggery in Sitapur district is 37.32 per cent.

Ravikumar, and Raju, (1996) studied marketing of jaggery in Anakapallae market of Vishakhapatam district in Andhra Pradesh they revealed that price spread in marketing of jaggery (gur)

was 17.66 per cent out of which exporters margin is 6.78 percent, local wholesalers margin is 0.97 percent and retailers margin is 9.91 percent.

Teggi, et al (1996) studied marketing of jaggery (gur) in Ghatprabha command area of Karnataka and observed that average price received by producer in Mudhal market was Rs. 986.11 Rs./qt. and consumers price was 1139.44 Rs./qt. The total price spread in the marketing of jaggery was Rs. 153.31 per quintal in Mudhal market.

in Jamkhandi market, the net price received by producer was Rs. 985.10 /qt. and price of jaggery for consumer was Rs. 1107 /qt. The price spread in Jamkhandi market was Rs. 122.69 /qt. in the marketing of jaggery.

Kalyankar, and Rajmane, (1987) studied the marketing of potato in Jalna district of Maharashtra State for 1973.82 and showed that the 34.29 per cent of the amount paid by consumer was spread over marketing agencies i.e. Rs. 57.59 in Rs. 167.99 paid by consumer per quintal.

Jagdish, Lal (1989) studied the price spread of gur and Kandsari in central U.P. (and identified price spread of gur in central U.P.) and identified 3 important channels through which products were marketed from sugarcane grower to consumer. He observed that

gur producer wholesaler and retailer together appropriated about 17, 23 and 28 per cent. He revealed that the price spread at different market can be minimised by restricting the number of intermediaries.

Krishnaih, J. and Subba Rama Raju, (1989) studied price spread in marketing of jaggery at Anakapallae jaggery market in Andhra Pradesh. They identified two major channels of marketing one being producer - commission agent - retailer - consumer and other was producer - wholesaler cum retailer - consumer. They further observed that 75 percent of marketable jaggery was handled through channel I. In Ist channel the net share of producer was 71.73 per cent and net margin of commission agent was 9.06 per cent, margin of retailer was 8.66 per cent and price spread was 28.5 per cent in channel-II. Net share and producer was 80.06 percent. Margin of wholesaler cum retailer was 10.86 per cent and price spread was 19.93 per cent.

Tayde, and Patil, (1981) in their study on price spread in marketing of vegetable in 'Mahatma Phule Market Pune'. They revealed that during the peak period of arrivals of vegetables, the wholesale and retail prices were much lower. Per quintal cost of marketing was maximum in Garlic (Rs. 22.10) followed by Green Chilli (Rs. 20.67), Potato (Rs. 10.88), Onion (Rs. 1.95). They further revealed that the retailers margin was high in all the vegetable. The retailers

share was in between 30-60 per cent. While the price spread in the market was 3 to 68 per cent. Retailers receive 10% share of consumers price.

Suryaprakash, et al (1979) in a study on comparative price spread of selected commodities in Karnataka State observed that the price spread was the highest (21.73 per cent) in the channel of sale through, village merchant - commission agent - traders. While it was lowest (5.23 per cent) in the channel of sale through traders.

Shah, (1965) (A) proposed 2 methods of calculating price spread, (a) following any specific consignment through marketing system and then assembling cost involved at each stages time log method and (B) combining price at different levels of market at some point in the time concurrent method and deriving gross net margins.

Pawar, and Patil, (1974) studied on price spread in marketing of important fruits in Mumbai market. They revealed that margin of the wholesaler was around 5 per cent of the consumers rupee in all fruits. The share of marketing cost paid by producer for different marketing services involved in moving the fruits from farm to market ranged between 5-19 per cent of consumers rupee in case of different fruits. While retailers were found most real beneficial in the

fruit trade, they could get high margin to the extent of 19.42 per cent of consumers price.

Sayanna, (1949) studied the price spread in marketing of agricultural produce and observed that price spread was the margin between actual cost and production and in retail price of consumers foods. Further he revealed that chain of middlemen were wider in respect of processed and manufactured goods as compared to other foodstuff and raw materials.

#### **2.4 Producers share in consumers rupee :**

Singh, and Rajkishore, (1998) studied the disposal pattern and marketing of gur in Sitapur district (U.P.) and revealed that the producer's share in consumers rupee in the marketing of jaggery (gur) in Khairabad gur Mandi came to 62.68 per cent.

Ravikumar, and Raju, (1996) studied marketing of jaggery in Anakapallae market in Vishakhapatnam district and observed that the producers share in consumers rupee was 82.34 per cent, in the marketing of jaggery.

Teggi, et al (1996) studied marketing of jaggery in Ghatprabha command area of Karnataka State and they revealed that the producers share in consumers rupee in the marketing of jaggery was 86.55 per cent.

Rohl, and Singh, (1990) studied marketing of jaggery in Muzaffarnagar regulated market in U.P. the studied that producers share in consumers rupee was 66.96 per cent in channel-I and 73 per cent in channel-II because the producer himself processed his produce into jaggery where as in channel-I producer processed his produce in jaggery manufacturing chills.

Kalyankar, and Rajmane, (1987) studied the marketing of potato in Jalna district of Maharashtra State and observed that the producers share in consumers rupee was 65.71 per cent, i.e. Rs. 110.40 in Rs. 167.99 paid by consumer per quintal.

Patil, (1986) reported that producers share in consumers rupee in Alpanso mango was the highest (82.80 per cent) in direct sale to consumer followed by sale through co-operative (72.80 per cent) through commission agent (30.20 per cent) through post harvest contractors (17.80 per cent).

Raju, et al (1985) studied the share of groundnut growers in consumers rupee in Saurashtra region of Gujrat State.

They used concurrent method to estimate marketing cost, margins and price spread. The result of study indicate that in the selected regulated market by Gujrat, the share of farmer in consumers rupee varried from 72 to 81 per cent. Among different channels,

millers, obtained the higher margin 4 to 8 per cent followed by wholesaler and traders (2 - 4 per cent) and retailers ( 1- 4 per cent).

Hugey, and Hiremath, (1984) they studied the comparative economics of vegetable production sequences around the Pune city. They estimated that per quintal cost of marketing for the vegetables selected for the study ranged from Rs. 17.35 to 32.67. It was relatively high in Bhendi and Tomato. The producers share in consumers rupee was about 43 - 59 per cent. The retailer has high margin of 31 - 41 per cent of consumers price.

Shrivastava, (1984) reported that share of the producer and retailer were directly affected by consumers price. In such a dynamic set up of vegetable marketing, the producers share in consumers rupee was inversely proportional to consumers price. The benefit derived from an increase in the consumers price didnot get to the producer instead it has absorbed by retailers.

Naidu, and Reddy, (1981) found that the producers share in consumers rupee was about 87.72 per cent in case of jaggery marketing at Anakapallae regulated market. The other important costs were wholesalers margin (5.82 per cent) followed by breakage (2.71 per cent) and commission agents margin 2.64 per cent.

Gupta, and Ram, (1979) made an enquiry into behaviour of market margin and cost of vegetables in Delhi market with a view to estimate price spread and role of location on the retailers margin and to measure effect of variation in consumers price. Analysis revealed that producers received very low (38 per cent) share in consumers rupee. where as the retailers margin and marketing costs are substantial.

Jaddish Lal, (1979) studied the producers share in consumers rupee of jaggery and revealed that the producers share in consumers rupee was 71 per cent. Thus he proved that validity of the hypothesis that the producer's share in consumers rupee will be higher when the channel between producer and consumer is smaller.

Garg, and Mishra, (1976) they revealed that per quintal marketing margin of retailer was Rs. 10.77, Rs. 10.60, Rs. 7.68 and Rs. 6.54 in case of Toroi, Kaddu, Parwar and Tinda & Lauki respectively. The producers share in consumers rupee varied from 4.26 per cent to 72.70 per cent. The percentage of marketing cost worked out to about 30 per cent except in case of Kaddu and Parwar which were 36 per cent and 33 per cent respectively.

Kumbhar, and Dhongade, (1976) in their study on marketing of apples in Maharashtra found that producers share in

consumers rupee reasonably high which was 59.66 per cent, 59.60 per cent and 55.92 per cent in case of Kashmir delicious, Kulu delicious and Simla delicious respectively. Retailers share varied from 16.32 per cent to 44.70 per cent.

Singh, and Singh, (1975) found that larger the number of intermediaries the lesser will be the producers share in consumers rupee. Also different intermediaries have different effects on the distribution of shares of producers and consumers in the post harvest contractor was estimated. The producers was benefited when the wholesaler was eliminated too. The benefits percolated on retailer.

Agarwal, (1949) studied the price spread in marketing of agricultural produce and revealed that producers share in consumers rupee depend upon the number of factors such as transportation, specialization of produce, number of market middlemen, state regulation of market turnover and finally value of produce.

## **2.5 Storage, Grading and Packaging :**

Dubey Varmeshwar, (1989) put forth the facts about gur grading in U.P. There is no criteria enforced which can be used to control the quality of jaggery in market. Sometimes liquified gur or unpleasent smell is consumed by economically poor people. Liking of gur varies from people to people. Some work on grading of gur is done

is part. It was therefore grading of gur manufactured in different part of U. P. where the U. P. Council of Sugarcane Research, Shahajahanpur has find out standared method by gur analysis on the basis of

- i) Physical text : viz, colour, texture, taste hardness and flavour.
- ii) The also noted that under Agricultural Marketing Advisor's Scheme, five grades of gur were fixed i.e. 1) Extra special 2) Special, 3) A - 1, 4) A-2 and 5) B.

Subramanyam, and Vaidyanathan, (1964) revealed that there are many losses in storage in ordinary godown as compared to modern godowns. Gur stored in imporved godowns provides with dampproof flooring contravances for preventing moisture absorption and exhaust fans has kept for quality keeping during storage. Loss in polarisation and gap in reducing sugar and moisture, the major factor of deterioration of gur during storage have been kept at a minimum in improved godown. Loss in gur weight stored in improved godown is also very much less as compared to loss in ordinary godown.

By utilizing the improved godown for large scale storage for gur a financial advantage of Rs. 4900/- per year has been indicated. From the cost of improved godown of Rs. 12000/- and capable of storage 100 tonnes of gur.

If it is possible to store the entire quantity in improved godown the loss of nearly 1.25 crores of rupees could be avoided. It is not possible for individual producer to have such improved godown. It may be feasible to have a large number of such godowns constructed on co-operative basis of rented as godown in Godawari district of Andhra Pradesh.

Sing, and Lal, (1995) studied the various methods of gur storage and the deterioration of gur in the various states of India [U.P., Bengal, Bihar, Assam, Bombay, (Maharashtra) Punjab]. and observed that deterioration of gur is mainly due to the storage of which (deterioration of gur) is depends upon - 1) Composition of product 2) Atmospheric pressure and place of storage. 3) Form and shape of product. He found that on average the methods of gur storage in India are unsatisfactory. Where by not only quality but quantity of gur also, on an average there are about 10 per cent losses (45 lakh tonnes of gur) in storage amounting 90 crores of rupees per year.

Rao, and Rao, (1959) he observed that losses of jaggery as high as 50-60 of weight of jaggery are due to uncommon handling under the exposed conditions encountered in course of storage and transport during wet weather period. He observed the following deteriorations.

- I) Physical II) Chemical III) Biological, IV) Microbiological
- I) Physical : i) Darkening of colour. ii) Loss of weight and shape iii) Liquification, iv) Taste is adversely affected.
- II) Chemical : i) Change in chemical composition like inversion  
ii) Discolouration
- III) Biological : Damage from insects, pest like ants.
- IV) Microbiological : Fermentation, yeast moulds are microbiological spoilage.

Factors associated with deterioration of jaggery are :

- i) Moisture in atmosphere, ii) Temperature of atmosphere,  
iii) Wind, iv) Composition of jaggery - (a) equilibrium humidity, (b) hygroscopic content of jaggery, (c) pore space, (d) P<sup>H</sup> value, (e) food for microbes, (f) surface area of jaggery moulds, (g) sanitation, (h) handling in storage and transport.

They also give the possible solutions for problems of deterioration as follows :

- 1) Conditioning the humidity of storage atmosphere in jaggery godowns.
- 2) Raising temperature of godowns.
- 3) Extraction of water vapours from godowns.
- 4) Use of water vapours resistant packages.
- 5) Use of fungisitic and fungicidal agents.

# **Methodology**

## Chapter - III

# Methodology

### **General :**

In order to prepare a base and sound criteria for selecting the areas of study and the jaggery to be included there in for deeper analysis a bird's eye view of the agricultural profile of the district was taken into consideration.

The investigation in the economics starts with selection of appropriate number of respondents, preparation of schedule, selection of proper tools of analysis, the collection of data. The methodology normally depends upon the objective of the study. The methodology used for present study is given below.

### **3.1 Basic Approach of Study :**

The basic approach of this study is to investigate into the economic aspect of marketing of jaggery (gur) in the Latur market. The study covers the marketing aspects viz. prices and arrivals of jaggery, market functionaries, market margins and cost involved, intermediaries involved in the marketing channel. This would be useful to draw important conclusions regarding the relationship between prices and arrivals of jaggery, producers share in consumer's rupee, price spread in marketing of jaggery in the market.

### **3.2 Selection of Area :**

In Latur district, Latur tahsil was selected purposively as an area under sugarcane is maximum and jaggery production units are more in Latur tahsil.

### **3.3 Selection of Market :**

The aspects of the present study were to study the relationship between prices and arrivals, to study the marketing channels and marketing cost, marketing margin, price spread and producer's share in consumer's rupee in the marketing of jaggery in Latur market. Taking into consideration the time and convenience of data collection and data availability, Latur market was selected.

### **3.4 Selection of Producers :**

The main object of selecting producer, seller was primarily to know item wise cost incurred by these producer for jaggery and secondly to know the channels of distribution through which producer sells produce. In all 90 producers were selected randomly from different villages around Latur.

### **3.5 Selection of Exporter Cum Wholesaler :**

In Latur market it was observed that total 26 exporter cum wholesaler were working in the market who pays the licence fees to the A.P.M.C. out of which, 20 exporter cum wholesalers were selected randomly.

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### **3.6 Selection of Retailers :**

In Latur, all categories of people with different paying capacity have different consumer preference. In view of this, a sample of 60 retailers was selected randomly. The retailers are spread over different municipal wards of Latur town.

### **3.7 Period of Study :**

The period of 10 years (Oct. 1988 to Oct. 1998) was considered to workout the relationship between prices and arrivals of jaggery. However, to estimate the marketing cost, price spread and producer's share in consumer's rupee in Latur market only one year i.e. 1997-98 was considered.

### **3.8 Method of Data Collection :**

For collecting the data on marketing of jaggery, investigator frequently visited to the Agriculture Produce Market Committee (A.P.M.C.) Latur. For this purpose, a schedule containing the details about arrivals of produce, producers information, market functionaries, retailer prices, marketing cost, price received by producer, price paid by consumer was prepared. These schedules were pre-tested and there after finalised for collecting information. The data in respect of producer who bring their

produce to the market were collected by paying visit on farm or in the market and personal interview method was used for collection of data. Secondary data were collected by survey method and from the available records with A.P.M.C. Latur.

The monthwise information about the arrivals and prices of jaggery (for 10 years) was collected. Data in respect of prices received by producer and cost incurred by various market functionaries with their margin of profit and price paid by consumer were collected by personal interview method.

### **3.9 Practical Difficulties While Investigation :**

In the initial stage of investigation the producer and other agencies like wholesaler and retailers were unresponsive because they did not know the purpose of investigation. However, when the object of the enquiry was explained to them and some efforts through the local people were made to gain their confidence they extended their co-operation in providing required information as per schedule of enquiry.

### **3.10 Analytical Tools :**

The collected data were subjected to the analysis by keeping in view the objectives of the study.

Arrivals and prices relationship was studied by regression analysis. Other statistical tools includes simple averages, frequencies, tabular analysis etc.

### 3.11 Seasonal Indices :

The fluctuations in prices and arrivals were ~~studied~~ <sup>examined</sup> the help of seasonal indices to examine peak and slack period. The monthly seasonal indices were worked out by simple average method.

$$\text{Seasonal index} = \frac{X_i}{\bar{X}} \times 100$$

Where,  $X_i$  = Average of each month of arrival / prices.

$\bar{X}$  = Mean of 12 months

### 3.12 Relationship Between Prices and Arrivals :

To know the relationship between prices and arrivals, the linear regression equation of two variables viz. arrivals and prices as

$$Y = a + b X \text{ was tried.}$$

Where  $Y$  = Price in Rs./qtl.

$X$  = Arrival in quantals

### 3.13 Concepts Used to Study Marketing of Jaggery :

1. **Marketing channels :** Marketing channel is a path in the direct or indirect transfer of title to a product, as it moves from a producer to an ultimate users or consumers. The channel policies are

the guidelines about the number and type of trade channels which a producer may use in channelising his products. In this present study, efforts were made to find out different channels.

**2. Marketing intermediaries :** The structure of marketing channel describes the arrangement and linkage of its member. Marketing intermediaries are those who are specialised in performing various marketing functions involved in purchase and sale of produce as it moves from producer to consumer.

**a) Wholesaler (Commission agent) :** He is another intermediary working as a wholesaler in the marketing of jaggery. They charge a specific rate of commission (2 per cent).

**b) Retailer :** He performs the function of purchase and sale of the jaggery. The quantity purchased and sold to the final consumer is comparatively smaller than wholesaler.

### **3.14 Market Cost :**

It is a term applied for the cost incurred by the different intermediaries in marketing of jaggery

### **3.15 Price Spread :**

It refers to the difference between price paid by the consumer and price received by the producer.

### **3.16 Producers Price :**

Producers price is the net price received by the producer at the time of first sale. In this study it has been calculated by deducting market expenses incurred by the producer from the actual price received by him. These include cost of transport, octroi, hamali, commission which was paid/incurred by the producer.

### **3.17 Producers Share In Consumers Rupee :**

This is the percentage of producers price to the total price paid by consumer. This has been calculated on the net price received by producer as the percentage of price paid by the consumer for jaggery.

### **3.18 Market Margin :**

Margin of intermediaries refers to the difference between the total receipt obtained and total payments made by him. Margin of an intermediary includes the profit earned by him which is obtained by deducting cost of storage, transportation, loading and unloading, weighing and other miscellaneous incurred by him.

All the above statistical tools and concepts defined were used to meet the objective of present study.

# **Salient Features of Latur District**



## Chapter - IV

### **Salient Features of Latur District and General Information about the Gul Market Latur.**

1. **Location :** Latur district is to the south east direction of the Maharashtra. It lies between 18.5 N and 18.7 N latitude and 73.25 and 77.25 E longitude. It is situated on the boundaries of Maharashtra and Karnataka State. The district is bounded (on the west) by the districts Osmanabad, Parbhani, Nanded, Beed and on the east the Bidar district of Karnataka.

2. **Size :** Latur district has the compact shape and stretches over an area of 7372 sq. km which contributes the 2.39 per cent of Maharashtra and 11.34 per cent of Marathwada division in area. The district has 12 medium sized towns and 936 villages. Out of the total geographical area of the district (667400 ha.), the area under cultivation is 90.2 per cent (602300 ha.). The area under kharif crops was 496400 ha. (1998-99). Out of the total villages in the district 814 villages are kharif crop growing. The area under rabi crops was 1,38,000 ha.

3. **Administrative set up :** Latur is the head quarter of the district . The district has tahsils namely Latur, Ahmadpur, Udgir,

Nilanga, Ausa, Chakur and Renapur. Administratively the district is divided into two divisions. The Latur sub-division covers the Latur, Ausa and Renapur tahsils and Udgir sub-division covers the Udgir, Nilanga, Ahmadpur and Chakur tashils.

#### 4. Topography and soil :

**Topography :** Latur district is a part of Balaghat Plateau and has general elevation of about 540 to 638 meters above the sea level.

**Soil :** Soil of the district has slight slope and the slope is towards south the soil of district<sup>is</sup> subdivided into two parts black cotton soil and light to medium.

5. **Rivers :** Manjara is the most important river in the district. It flows through the middle part and Latur district and Latur on it flows south-east and in Karnataka, Tavaraja, Terna, Tiru, Dharni, Malad and Lendi are main tributaries of the Manjra river running. The length of the rivers Dharani and Tavarja are 40 and 50 km in the district respectively.

6 **Climate :** The climate in the district is dry except during the south west monsoon season. There are 3 main seasons namely hot, dry season from February to May, the south west monsoon from June to mid October and the cool and dry season from mid October to January. During the dry season the temperature is maximum crosses

40°C. The highest temperature recorded in the district in 1997 was 45°C in May and lowest temperature recorded in December 1997 was 14.3°C.

7. **Rainfall:** The rainfall recorded in the district reveal on uneven rainfall in district block. The district reveals rainfall mainly from south west monsoon. The district is in the measured rainfall zone of Agro climatic zones of MHR State annual rainfall is 826.6 mm.

8. **Population :** According to 1991 census the population of the district is 16,76,641. Which is (contributor) 2.13 per cent of population and MHR State. The urban and rural population and the total population is as.

Total population	-	16,76,641	-
Rural population	-	13,34,773	79.60%
Urban	-	3,41,868	20.40%

10. **Occupational distribution :** The total working force of the district is 6,56,243 which is 39.14 per cent of the total population.

The majority of the people depends upon Agriculture.

The distribution of the working population is as under.

1} Farming/farmer-	-	39.37%
2} Farm labourers		39.34%
3} Small and cattle industries	-	39.11%
4} Common repairing and		0.92%
5} Processing industries and others		20%

**11. Infra structural facilities :**

**a) Railways :** The district suffers from the Railways. The district has the two single lines. (1) First line is running from Latur-Kurduwadi- Miraj and this line is running through only Latur taluka and length of this line is 65 kms. The guage of this line is narrow guage. Second line is running through Renapur Ahmadpur, Chakur and Udgir talukas. The broad guage Railway running through Manmad-Kacheguda & Parbhani and Bangalore. The length of the broadguage line runing through the district is 83 km.

The work of new broadguage line running through Latur to Latur road & Latur to Miraj is under progress.

**b) Road Transpart :** The district head quarter as well as taluka places are connected by the state high ways. As on March 1997, the district had 5472 km of total road length. There is no national highway in the district. The road lenth in the district per 100 sq. km is 74 km.

**c) Post telegraphs and telephones :** The post and telegraph facility is functioning under the administrative control of Osmanabad district and the telephone is functioning under Latur district. There are 294 post branch post offices in the district in 285 villages, towns and cities. Besides there are 372 villages which have

received the T.V. sets from State Government Telegraph Offices in the district are 64.

12. **Electrification** : The electricity network in the district is fairly good. All the 914 villages (inhabited) have been electrified.

13. **Irrigation** : There are two major projects viz Manjra, Nimna Terna and 8 medium projects, 13 small projects in the district. The wells and borewells provides the irrigation to the area which is not under command area of this project. The command area of these projects and irrigation sources is as follows:

Major (big) project	Number	Command area
1) Major (big) project	2	69000 ha.
2) Medium project	8	
3) Small project	13	9000 ha
4) Wells & borewells	-	27000 ha.
Total		95000 ha.

14. **Animal husbandry** : The farm operations in the district is carried out with the help of bullocks. Livestock census of 1992 reported that the livestock population is 8.55 lakh, comprising 3.90 lakh bullock and cow, buffaloes and he buffaloes 1.96 lakh and sheep and goats 2.14 lakh. The per square km. population of livestock of the district is 115.97 as against of the state.

15. **Industries** : Under Co-operative sector three sugar factories functioning at Chincholirao Wadi (Vilasnagar), Nalegaon and Killari. The production of the sugar industries (1996-97) was 83000

MT. There are 6 Sut Girni (spinning mills) in the district in the year 1996-97.

The registered industries in the district were 175 during the year 1996-97. Out of which 144 are working. These industries provides the employment to 5789 workers.

**16. Market :** The district has 21 regulated markets in 7 blocks. The major markets are Latur and Udgir. All the markets have the market yard. The arrival of goods in the market in 1996-97 was 283757 metric tonnes.

**17. Banking :** The district had 103 banking branch offices on 31-3-1997. The commercial bank are however, concentrated in Latur, Udgir and at bigger towns also. There are many areas which fall outside the area of commercial banks. Latur block obviously has the highest number of branches (32) Udgir, Nilanga and Ahmadpur have 26, 22 and 15 branches in the blocks. Co-operative movement is well organised in district in different field.

**18. Cropping pattern :** The area under crop sown in the district during 1997-98 was 602300 ha. which is 90.2 per cent of the total geographical of the district. The main crops sown in district are cereals and pulses. Jowar, (kharif and rab i) wheat, paddy are major cereals while udid and tur are major pulses.

The area under sugarcane in the district during 95-96 was 21335 ha. which was 3.58 per cent of area under cultivation or net sown area.

In Latur district, the area under sugarcane is more in Larur 10150 ha. Nilanga and Ausa tahasils ranks second and third in area under s. cane in the district.

The total production of sugarcane in the district is 1415800 MT. while average per hactre yield of sugarcane is 66.738 tonnes/ha.

The irrigated compared area under sugarcane is more in Latur tahsil, followed by Renapur, Ausa 1968 ha. Nilanga. The total irrigated area under sugarcane in the district was 16955 during year.

The number of jaggery (processing) production units observed in the district were 1666. Out of the tah sil wise units of jaggery production were as follows:

Tahsil	Power electricity and Diesel engines drawn	Bullock drawn power	Total
Latur	150	4	154
Ahmadpur	59	35	94
Udgir	160	49	209
Nilanga	149	5	254
Ausa	937	18	925

## **General Information about the A.P.M.C. Latur's Manikrao Sonwane Gul Market Latur.**

Latur market is famous in Maharashtra from pre independence period. Latur is mostly famous for the market of Gur. Gur, Tur, Udid, (Black gram) sunflower and hybrid jowar are the major agril products marketed by A.P.M.C. Latur. The average arrival of the market per day is 5000 quintals and per day turnover is Rs. 45,00,000 . In which the per day arrival of jaggery (gur) is 1200 quintal and which approximately costs Rs. 11,00,000. Thus gur is the major agril commodity marketed by A.P.M.C. Latur and the share of jaggery in the total arrival and turnover of the market is 25 per cent.

The total annual income of the A.P.M.C. Latur is more than Rs. 1,50,00,000 and it ranks 6th in Maharashtra on the basis of net income per year. (First five markets are Mumbai, Pune, Nagpur, Sangli and Kolhapur).

In case of jaggery on the basis of jaggery arrival in the market per year, Kolhapur ranks Ist and Latur ranks IInd in Maharashtra.

The total arrival of jaggery (gur) in the market of Latur is mainly from the Marathwada and the nearing states like Andhra Pradesh and Karnataka , and the export of jaggery is mainly to the

states like Gujrat, Madhya Pradesh, West Bengal. Andhra Pradesh, Orrissa. Near about 25 per cent jaggery is exported to the Gujrat State.

**Foundation :** A.P.M.C. Latur is founded on 24.10.1939.

It works according to 'Agricultural Produce Purchase and Sale (Regulating) Act, 1963.

From 1998, A.P.M.C. Latur's gul market is named as "Latur's 'Manikrao Sonwane Gul Market Latur'".

**Area of Jurisdiction :** The area of jurisdiction of the A.P.M.C. Latur from 10.9.98 is 119 villages in the Latur tahsil, formerly Renapur sub market was under the A.P.M.C. Latur. Now only Murud sub market is under A.P.M.C. Latur.

**Administration :** Secretary is administrative chief of A.P.M.C. which is appointed by Govt. and there is one Sabhapati and directors board which is elected through the people . In addition to this there are 6 sub committies of market committee for effective working.

**Sources of funds :** Market fees is the major source of the fund. The rate of market fees is 80 paise on the purchase of Rs. 100.

The supervision fees are also charged on the purchase at the rate of 5 paise on the purchase of Rs. 100 and the supervision fees is paid to the Government.

**Rates in market :** The rates in the market for the various activities are observed as follows :

i) Hamali : 0.30 Rs. per 10 kg piece of jaggery.

ii) Weighing : 0.30 Rs. per 10 kg piece of jaggery.

Both the above charges are charged to the producer and also to the purchaser.

iii) Packing (stitching) : 0.50 Rs. per 10 kg piece of jaggery.

iv) Commision : Wholesaler and the exporter to the other district and other states charges 2 per cent commission to both the producer farmer and purchasar.

The licence fee for the Hamal is Rs. 6 per year and the renewal fees is Rs. 4 per year. The number of hamal licenced in the gul market is near about 100.

The licence fee for the weighmans is Rs. 20 per year and renewal fees is Rs. 18 per year. The number of licenced weighmans in gul market is 30.

The licences renewal fee for the wholesaler of exporter is dependent upon their turnover per year. However, the licence fees are in between Rs. 100-200 per year and the renewal fees are from 90-180 Rs/year.

The number of wholesaler cum exporter observed working in gul market is 26 and the licenced retailer are 700 but actually 400 retailer are working.

**Regulation :** From 28-6-73 A.P.M.C. Latur had regulated 91 agril commodities marketed in A.P.M.C. Latur including (gur) jaggery.

**Grading :** In A.P.M.C. Latur market gur is graded by the merchants themselves. The prices are given according to the grades. But there is no fixed criteria according to which the grades are given to the jaggery. And government<sup>has</sup> also not decided the grades of jaggery. Government appointed grader for jaggery is also not there.

**Method of sale :** The jaggery is sold here by open auction method. The total payment of the jaggery is also paid to the producer on the day on which it is sold. Auction starts on 11.00 a.m. in the morning.

**Godowns and storage :** In the A.P.M.C. Latur gur market there are 7 godwons. Out of which 3 godowns are of the capacity 6000 tonnes each and 4 godowns of the capacity is 2500 tonnes each and there are 3 varandas or kattas of each of them having the capacity of 1000 tonnes.

The market committee doesnot charge. for storing the gur to the producers as well as the merchants.

**Facilities provided by A.P.M.C. :** For the convenience the marekt yard is divided on 2 places. The total area of the market yard is near about 20 acres.

Large hall for the sale is avillable.

Weighing is done by authorised i.e. licenced persons only.

Various facilities for the farmers as well as merchants, are as follows :

- \* Cold and clean drinking water supply for human being.
- \* Drinking water tanks for animals
- \* Large godowns for storage of gur.
- \* No storing charges for producer.
- \* Total payment is paid to the producer on the day of sale.
- \* Auction is started at 11.00 a.m. in morning
- \* Market yard is well fenced with compound wall, and with the facilities of Roads, light, water supply, gutter, auction katta  
etc.

# **Results & Discussion**



Plate-1 External view of market complex building of Latur gur market.



Plate-2 Weighing of Gur.



Plate-3 Packing of gur



Plate-4 Storage method of gur

## Chapter - V

# Results and Discussion

The results of the data collected and analysed as per the objective and methodology outlined in the previous chapter are discussed here. This chapter deals with presentation and discussion of the quantitative assessment of the various objectives with respect to jaggery. The data for marketing of gur (jaggery) pertaining to year 1997-98 season were considered while time series analysis was based on data for the period from 1989-98.

### 5.1 Relationship between arrivals and prices :

Table 5.1 (1) : Relationship between arrivals and prices :

Mean	Intercept (a)	Reg. (b)	SE	t - value	r <sup>2</sup>
( $\bar{x}$ ) 22398.55	74892	(-) 0.00396	0.0013	3.004	0.068
( $\bar{y}$ ) 662.50	-	-	-	-	-

$$Y = a + bX$$

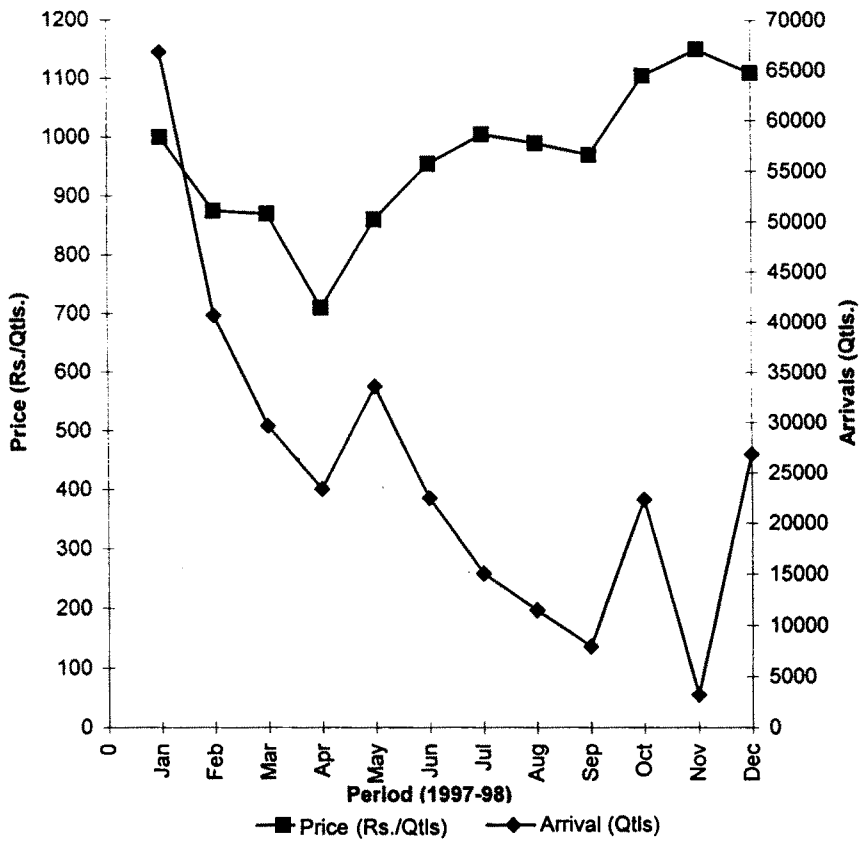
$$: Y = \text{price in Rs/Qtl}$$

$$X = \text{Arrivals in Qtls.}$$

$$b = \text{Regression coefficient}$$

$$a = \text{intercept}$$

$$N = 120$$



**Fig-1 : Relationship between prices and arrival of jaggery in Latur gur market during 1997-98.**

The relationship between prices and arrivals was negative. The prices<sup>of</sup> jaggery (gur) in Latur gul market were significantly affected by the change in arrival. The result of the study revealed that as arrivals increased, price decreased and vice versa. Price varied inversely with arrival.

The coefficient of determination ( $r^2$ ) of the relationship was 0.068 implying here by only 6.8 percent variation in prices<sup>was influenced</sup> due to arrivals in the market (Table 5.1).

The regression coefficient (b) of price on arrival was (-) 0.00396 which was highly significant. Thus, it indicated that one quintal increase in arrival of jaggery affected the price by Rs. 0.003.

In other words the prices declined by Rs. 0.00396 with one quintal increase in the arrival of the jaggery in the Latur market. The graphic representation of the relationship between prices and arrivals is given in (fig. 1)

### 5.1 (2) Seasonal Indices :-

The Seasonal Indices for jaggery arrivals & prices were worked out and presented in table 5.1(2).

**Table 5.1 (2) : Seasonal Indices of Jaggery Arrivals and Prices  
(1988-98).**

Months	Seasonal Indices (%)	
	Arivals	Prices
January	199.30	89.37
February	179.14	87.35
March	138.00	89.23
April	144.17	93.81
May	149.00	100.37
June	98.58	104.52
July	42.31	112.22
August	33.00	112.90
Septeber	20.82	102.60
October	18.68	107.83
November	55.29	96.54
December	121.24	93.22

It is revealed from the table that the maximum arrival index was in the month of January followed by February while reverse was observed in case of prices during same period.

In case of price, the index was (112.9) maximum in month of August when the arrivals were low. The price index was minimum (87.35%) in the month of February.

Monthly average prices and arrivals of jaggery during 1988-89 to 1997-98 with the seasonal indices are given in Appendix I & II respectively.

## **5.2 Marketing channels in the marketing of Jaggery, in Latur Gur market :**

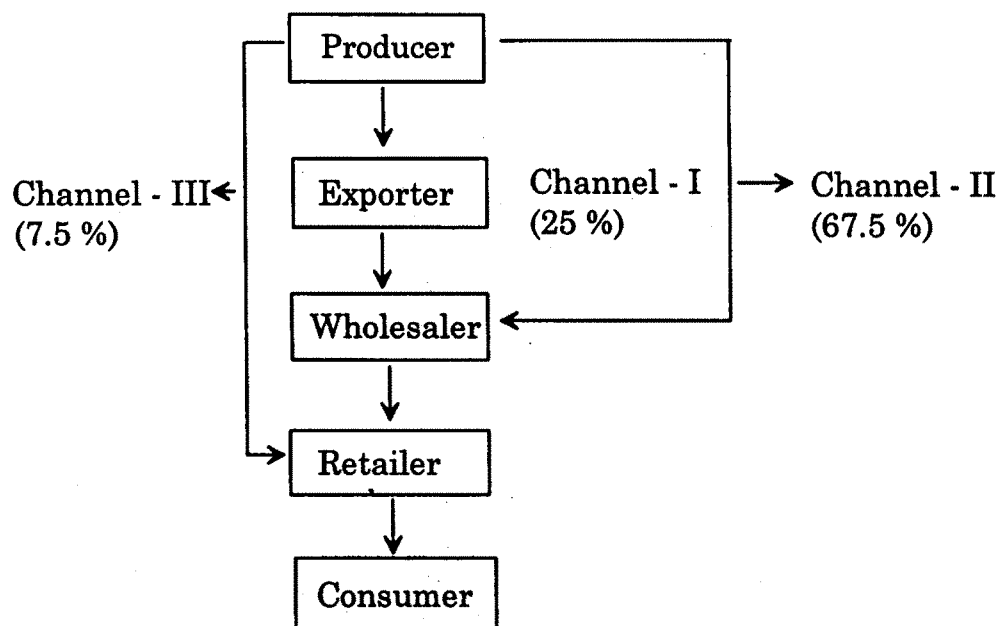
The marketing system for assembling and distribution of jaggery consists of jaggery producer, wholesaler cum exporter, retailer and consumer. The jaggery marketing is done through three major channels of trade in Latur.

Channel-I : Producer - Exporter to other district or outside the state  
- Wholesaler - Retailer - Consumer.

Channel-II : Producer - Wholesaler - Retailer - Consumer.

Channel-III : Producer - Retailer - Consumer.

About 25 per cent of producer sold their produce through channel-I 67.5 percent of producers sold their produce through channel-II 7.5 percent producers sold their produce through channel-III. The majority of the jaggery producer sold their produce through channel-II.



**Fig. 2 : Marketing channels of Jaggery.**

The details of quantity of jaggery sold through different channels are given in Table 5.2 (1).

**Table 5.2 (1) : Extent of Jaggery marketed through different channels.**

Channels	No. of Producer	Jaggery Distributed (Qtl.s)
Channel - I	10 (25)	1818.01 (28.5)
Channel - II	27 (67.5)	4146.35 (65)
Channel - III	3 (7.5)	414.63 (6.5)
Total	40 (100)	6379 (100)

Figures in parenthesis indicate percentages to total.

### 5.3 Marketing Cost :

Marketing cost incurred through different channels of marketing of Jaggery in Latur district during 1997-98 was worked out and same is presented in table No. 5.3(1).

**Table No. 5.3 (1) Marketing cost of Jaggery in Latur market through different channels. (1997-98).** (Rs./Qtl.)

Particulars	Channel - I	Channel - II	Channel - III
Producer	57.6	57.3	58.32
Exportor	19.93	-	-
Wholesaler	54.42	40.09	-
Retailer	33.32	34.53	24.53
Total	165.47	131.92	82.85

It is revealed from the above table that the marketing cost for the produce sold through channel - I was the highest i.e. Rs. 165.45 per quintal. It was Rs. 131.92 and Rs. 82.85 per quintal in channel II & III respectively. The details of marketing cost incurred by producer, exporter, wholesaler & retailer are given in Table 5.3 (2).

**Table 5.3 (2) : Marketing cost of Jaggery in Latur market (1997-98).**

Sr. No.	Particulars	Channel -I	Channel -II	Channel -III
1.	<u>Producer</u>			
	Loading	3	3	3
	Unloading	3	3	3
	Octroi (2% of sale price of jaggery.	18.42	18.80	18.91
	Commission of middleman (2% of s. p. weighing	18.42	18.80	18.91
	Transport	3	3	3
	Other	5	5	5
		6.75	6.70	6.5
	Sub Total A:	57.6	57.3	58.32
		(34.80)	(43.60)	(70.39)
2.	<u>Exporter</u>			
	Unloading	3	-	-
	Charity	0.10	-	-
	Packing	4	-	-
	Market fees (0.85% of purchase price)	7.83	-	-
	Weighing	3	-	-
	Other	2	-	-
	Sub Total B:	19.93	-	-
		(12.04)		
3.	<u>Wholesaler</u>			
	Loading	3	3	-
	Unloading	3	3	-
	Transport	5	-	-

Commission of exporter	19.10	-	-
Octroi	19.10	-	-
Market fees	-	7.99	-
Weighing	3	3	-
Packing	-	4	-
Charity	0.10	0.10	-
Other	2	3	-
Sub Total C:	54.42	40.09	-
	(92.84)	(30.39)	-
<u>Retailer</u>			
Transport (forwarding)	2	2.50	-
Loading	3	3	3
Unloading	3	3	3
Commission of Wholesaler	20.52	20.03	-
Packing	-	-	4
Weighing	3	3	3
Market fees	-	-	8.03
Others	2	3	3.50
Sub Total D :	33.52	34.53	24.53
	(20.25)	(26.17)	(29.66)
<b>Total (A + B + C + D):</b>	<b>165.47</b>	<b>131.92</b>	<b>82.85</b>
	(100.00)	(100.00)	(100.00)

(Figures in parentheses indicates percentages to total.)

It is revealed from the table 5.3 (2) that loading, unloading, octroi commission, weighing, transport, packing, charity, market fees were the items of cost in the marketing of jaggery in Latur market. Octroi market fees and commission were the major items of cost.

### 5.4: Price spread :

The price spread was worked out for each channel and details are given in Table 5.4 (1)

**Table 5.4 (1) : Price spread through different channels in marketing of jaggery in Latur markt (1997-98).**

Sr. No.	Particulars	(Rs./Qtl.)		
		Channel -I	Channel -II	Channel -III
1.	<u>Producer</u>			
	a) Producers sale price	921.32	940.25	945.5
	b) Marketing cost incurred	57.60	57.3	58.32
	c) Net price received by Producer	863.72	882.75	887.18
2.	<u>Exporter</u>			
	a) Exporters purchasing price or produces selling price	921.32	-	-
	b) Cost incurred	19.93	-	-
	c) Profit margin	14.05	-	-
	d) Selling price	955.30	-	-
3.	<u>Wholsaler</u>			
	a) Exporters selling price or wholesalers purchasing price	955.30	940.25	-
	b) Cost incurred	54.42	40.09	-
	c) Profit margin	16.50	21.60	-
	d) Selling price	1026.22	1001.94	-
4.	<u>Retailer</u>			
	a) Wholesalers selling price or retailers purchasing price	1026.22	1001.94	945.5
	b) Cost incurred	33.52	34.53	24.53
	c) Profit margin	18.08	22.34	31.29
	d) Selling price	1077.82	1058.81	1001.32
5.	Consumers price	1077.82	1058.81	1001.32
6.	Total cost incurred	165.47	131.92	82.85
7.	Total profit margin	48.63	43.84	31.29
8.	Price spread in marketing of Jaggery (6+7)	214.1	175.86	114.14

From the Table No. 5.4 it is revealed that the price spread in channel - I was Rs. 214.1 per quintal. It was 19.86 percent of consumers rupee. In channel - II the price spread was Rs. 175.85 per quintal i.e. 16.60 percent of consumers rupee while in the third channel, the price spread was Rs. 114.14 per quintal i.e. 11.39 percent of consumer's price. It was the highest 19.86 percent in case of channel-I while the lowest in the third channel i.e. 11.39 percent, as the number of intermediary decreased in IIIrd channel. Among the price spread, the marketing costs incurred in the marketing of jaggery in channel-I, channel-II and channel-III were Rs. 165.47, Rs. 131.92 and Rs. 82.85 per quintal respectively (i.e. 15.35, 12.45 and 8.27 percent to consumers price).

The profit margins in the marketing of jaggery in the channel - I, channel - II and channel - III are Rs. 48.63, Rs. 43.84, and Rs. 31.29 per quintal respectively (i.e. 4.51% , 4.14 and 3.12 % of consumers price).

However among the three channels retailer got more profit margin in all the channels than exporter and wholesaler.

Producer's share in consumers price/rupee and price spread in marketing of jaggery in Latur distr.. in 1997-98 (in percentage) in different channels is shown in fig. no. 5.4 (1).

Price spread = marketing/profit margin + marketing cost incurred

**5.5 : Producers share in the consumer's price :**

**Table 5.5 : Producers share in the consumer's price in marketing of Jaggery at Latur regulated market (1997-98).**

Sr. No.	Particulars	Amount (Rs./Qtl.)		
		Channel -I	Channel -II	Channel -III
1.	Total marketing cost	165.47 (15.35)	131.92 (12.45)	82.85 (8.27)
2.	Middlemans margin			
	a) Margin of exporter	14.05 (1.32)	-	-
	b) Margin of wholesaler	16.50 (1.53)	21.60 (2.04)	-
	c) Margin of retailer	18.08 (1.67)	22.34 (2.10)	31.29 (3.12)
3.	Total profit margin	48.63 (3.51)	43.14 (4.14)	-
4.	Net amount received by producer	863.72 (80.13)	-	-
5.	Price paid by consumer	1077.82 (100.00)	1058.81 (100.00)	1001.32 (100.00)
6.	Producers share in consumers rupee (%)	80.13	83.33	88.60

(Figures in parentheses indicate the percentages to the price paid by consumer).

It is revealed from the above table that the producer's share in consumers rupee in channel - I, Channel - II and channel - III was 80.13 percent, 83.33 percent and 88.60 percent respectively. As the number of market middlemen decreased in marketing, the producer's share in consumer's rupee increased and the price spread (i.e. marketing cost by middlemen and profit margin of middleman) decreased.

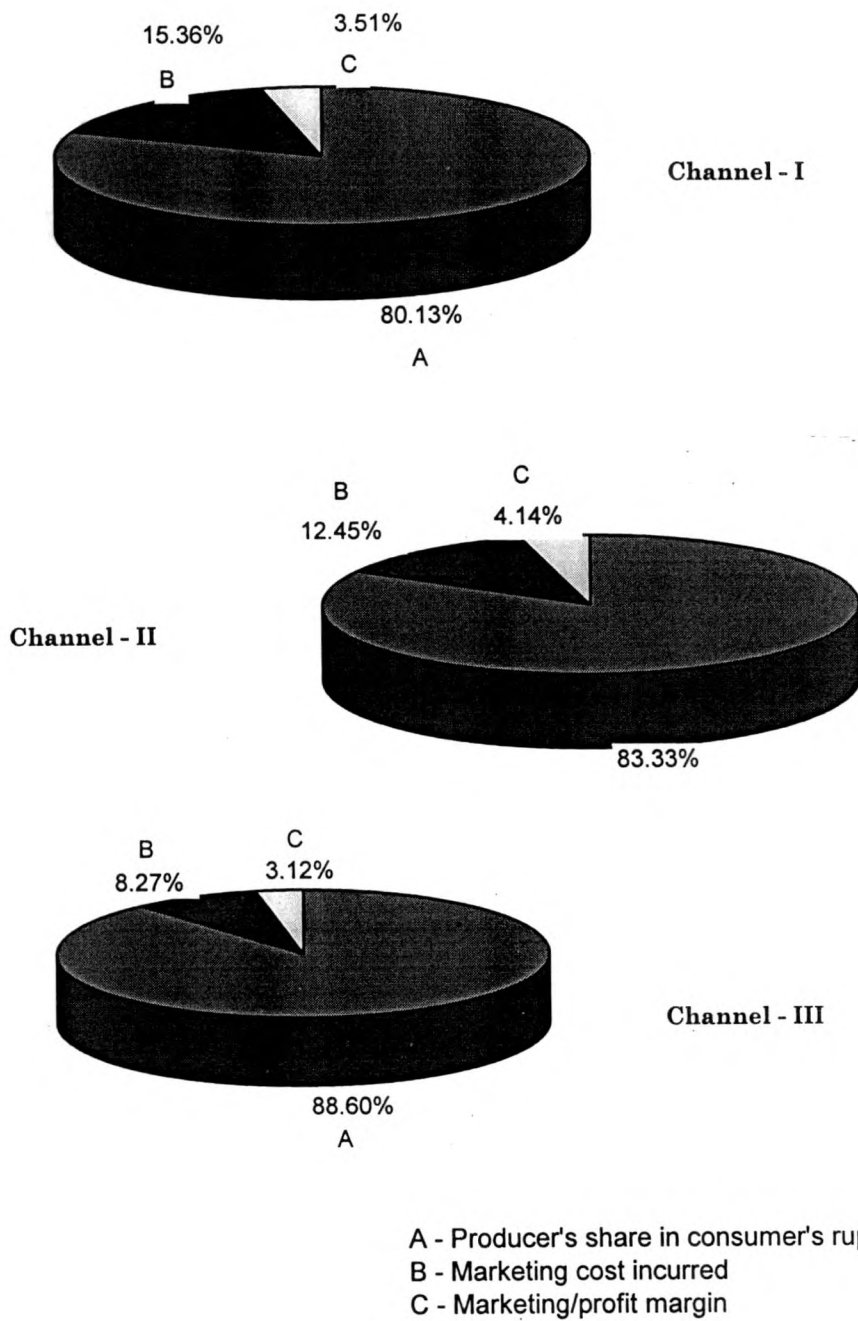
## 5.6 Storage, packing and grading of jaggery :

In Latur gur market, it is observed that there was specified storage facility available to the farmers without any charge

It is normally stored in the available godowns of AMPC. But many of the producers were not aware of this facility. It underlines the fact that there is need to create awareness about this facility the market middlemen are only taking actual benefit of this facility rather than the producer himself..

The well packed jaggery fetches attractive prices excluding the cost of packing. In Latur gur market it was observed that more than 60 percent of the arrivals in the market were not packed. The normal charges for packing of jaggery with the Hession cloth and its cost was Rs. 4 per quintal but the cost and packing can be minimised by using cheap material for packing which costs about Rs. 1 to 1.50 per quintal.

**Grading :** In Latur gur market, the jaggery was not the graded commodity. The grades were decided by the merchants without any fixed criteria for grading and the rates of jaggery were declared on the basis of those grades, there was no any grader appointed by the Government, there was exploitation of producers in the absence of authorised grading personnel or criteria. So there is<sup>a</sup> need to bring the jaggery in graded agril. produced commodity. It is very essential to fix the grades of jaggery which will help to produce the best quality material to fetch better price in the market. It will also help in value addition and easy marketing by grades. At present, only local terms are used to grade on the basis of colour, moisture content, structure and sweetness. Some times name of village is also used to name the produce.



**Fig. No.2** Producer's share in consumer's price/rupee and price spread in marketing of jaggery in different channels in Latur market in 1997-98.  
 (Price spread = Marketing margin + Marketing cost incurred)

## Discussion

The results of the analysis are discussed and compared with the findings of other studies in this section

### 1) Relationship between prices & arrivals :

The relationship between prices and arrivals was significantly negative. The prices of jaggery (gur) in Latur Gur Market were significantly affected by the change in arrival. The result of the study revealed that as arrivals increased price decreased and vice versa. It underlined the fact that arrivals in the market needs to be regulated through out the year. It could be possible only if A.P.M.C. advance some loans to the Gur producers against the security of produce and it can be sold whenever there is hike in prices. In the present study price varied inversely with arrivals in Latur market similar results were reported by Teggy et al (1996), Ravikumar and Raju (1996), Babar and Lohar (1994).

The coefficient of determination ( $r^2$ ) of relationship was 0.068 implying hereby only 6.8 percent variation due to arrivals in the market. The other factors responsible for variation in the price contributed more than the arrivals.

The regression coefficient of price on arrival was also negative which was highly significant. Thus, it indicated that unit change in arrival of jaggery affected the price in reverse direction.

In other words the prices declined with increase in the arrivals of the jaggery in the Latur Market.

Teggi (1996) reported that the coefficient of determination ( $R^2$ ) of the relationship of prices was very high i.e. 0.97 and 0.72 in Mahalingpur and Jamkhandi markets. The co-efficient of the determination of arrivals indicated that it was a major factor to affect the prices in these two markets

### **Marketing channels :**

In the Latur Gur market there were three marketing channels through which the produce was sold. The proportion of produce sold through these three channels was 28.5, 65.00 and 6.5 percent respectively. It indicated that channel was most effective because the highest quantity of Gur was sold through it. The marketing channels observed in the market were as follows :

- 1.Channel I Producers - exporter - wholesaler - retailer-consumer
- 2.Channel II Producer-wholesaler-retailers-consumer
- 3.Channel III Producer-retailer-consumer

Teggi (1996) also found three main channels of marketing of jaggary in Jamkhandi market as follows :

Channel-I Producer-commission agent-wholesaler-retailer-consumer

Channel-II Producer-wholesaler-retailer-consumer

Channel-III Producer-retailer-consumer.

Marketing cost was the highest in channel I because the produce was handled by more middlemen. The lowest marketing cost was observed in channel III due to reduction in middle men. The profit margin was high by Rs. 17.34 in channel I when compared with that of channel III. Similarly the price spread was high by Rs.100 in channel I when compared with that of channel III. The producer's share in consumer's rupee was found 80.13 per cent, 83.39 per cent and 88.60 per cent. in channel I, channel II and channel III respectively.

As the number of intermediary in the marketing increased the marketing cost increased and the profit margin increased and hence the price spread per quintal in the marketing increased, however, the producer share in consumer rupee decreased.

Producer's share in consumer rupee was the highest in channel III but maximum quantity of arrivals was sold through channel II. Same results were found by Teggi (1996) , Ravi kumar and Raju (1996). The quantity handled by retailer was comparatively low

it is not possible for retailer to handle large quantities of produce in any market. The wholesaler could handle large quantity of produce, hence maximum proportion of produce (Gur) was sold through channel-II.

Amongst the market intermediaries in all the channels the retailers were getting the highest profit. In channel -I exporter got Rs.14.05, wholesaler got Rs.16.50 and retailer got Rs.18.08 profit per quintal of jaggary. In channel II the wholesaler got Rs.21.50 and retailer got Rs.22.34 profit per quintal of jaggary. As exporter and wholesaler were absent in channel -III, the retailer got maximum profit i.e. Rs.31.29 per quintal of jaggary.

### **Marketing cost :**

Marketing cost refers to cost incurred for various marketing functions performed in the process of movement of the produce by the different persons involved in the trade. Marketing of gur plays a very vital role in the production process of sugarcane crop. The efficient marketing provides the highest returns to the producer and the greatest satisfaction to the ultimate buyer or consumer by reducing cost in the marketing process.

Marketing cost is paid by all those who are involved in the trade viz. Producer, wholesaler, retailers etc. The major

components of the marketing cost includes packing, transporting charges, commission, weighing charges, market fees, purchase tax etc. In the present study, the per quintal marketing cost incurred in the marketing of jaggary was found out Rs.165.47, Rs.131.92 and Rs.82.85 in the channel I, channel II and Channel III respectively. Among the different channels the marketing cost was the highest in channel I. The exporter in the channel I incurred marketing cost of Rs.19.93 and wholesaler Rs.54.42. In channel II wholesaler incurred marketing cost of Rs.40.09 and retailer incurred Rs. 34.53 per quintal marketing of jaggery.

As the number of middle man increased, marketing cost of jaggery also increased same result were found by Teggi (1996) Ravi kumar and Raju (1996) , Sing and Rajkishore ( 1998).

#### **Seasonal indices of arrivals and prices :**

The seasonal indices of the arrivals were found more in the month of January followed by February when the prices seasonal indices were lowest. The seasonal indices of the prices were found high in month of August - July - October when the seasonal indices of arrival were lowest. The farmers can plan their sale of produce during the months of high prices.

Thus there was inverse relationship between seasonal indices of the prices of arrival. Babar and Lohar (1994) reported in his study on the trends in arrival and prices of jaggery in Sangli regulated market of Maharashtra that seasonal indices of arrival were more higher during the months of August to January. And the indices of the prices were higher during the months of October, August and September.

### **Producer's share in consumer rupee :**

It is revealed that producers share in consumer rupee was high by 3.373 per cent in channel III than channel II. It was the highest in channel III has because exporters and wholesaler were absent in channel III. As number of market middle man increased in marketing channel in the marketing of jaggary, producers share in consumer rupee increased in Latur market. Ravi kumar (1996) found that producer share in consumer rupee in marketing of jaggery was 82.34 per cent. Teggi (1996) found that producer's share in consumer rupee in the marketing of jaggery was 86.55 per cent and 88.93 per cent in channel I and channel II respectively. Similarly Sing and Rajkishore (1998) reported producer's share in consumer rupee in the marketing of jaggery as 62.68 which was comparatively low. It showed that there has been a large variation in producer's share in consumer

rupee in different states. The disposal of gur plays a vital role in the production process of gur.

### **Price spread :**

The price spread in the marketing of jaggery was Rs.214.1 per quintal, Rs.175.86 per quintal and Rs.114.14 per quintal in channel I, II and III respectively. Among the price spread, marketing cost contributes Rs.165.47, Rs.131.92 and Rs.82.85 per quintal in channel I, II and III respectively, and profit margin or market margin in the channel I, channel II and channel III was Rs.48.63, Rs.43.84 and Rs.31.29 respectively. As number of market middle man increased in the marketing the price spread also increased and market margin also increased. Similar results were found by Raju and Ravikumar (1996) and reported that the price spread in marketing of jaggery was Rs.146.81. Teggi (1996) also revealed that price spread in jaggery marketing was Rs.153.53 , Rs.122.69 per quintal in channel I and channel II respectively. Singh and Rajkishore found that price spread in the marketing of jaggery was Rs.232.22 per quintal.

# **Summary & Conclusion**

## Chapter - VI

### Summary And Conclusions

Sugarcane is one of the most important cash crop in India and two major sugarcane based industries in our country are sugar factory and jaggery industry. Though there are large number of sugar industries in Maharashtra, jaggery plays an important role in sugar, economy of the state and jaggery marketing plays an important role in economy of the district.

The present study on marketing of jaggery in Latur district was undertaken ) to analyse the relationship between prices and arrivals. ii) to indentify the marketing channels in the jaggery marketing. iii) to analyse the price spread in marketing of jaggery. iv) to analyse the marketing system and to workout producer's share in consumer's rupee. and v)to study the different storage, grading and packaging pattern of jaggery.

In order to meet the objectives of the present study, Latur district was purposively selected as it is mai r prducer of the jaggery in the state and the Gur market of Latur is famous in the state as well as outside the state. The Latur gur market contributes (25 percent) loins share in the receipt of the A.P.M.C. Latur. Very few studies have

been conducted on marketing of jaggery in the Maharashtra State and since 25 years no work was done on jaggery marketing.

In order to know the itemwise marketing cost incurred by the producer a sample of 90 farmers was selected randomly from ten villages around Latur similarly to know the channels of distribution a sample of 20 exporters was selected and in addition a sample of 40 retailers was also considered to meet the objectives of the study.

In order to estimate the marketing cost, marketing margin, and price spread in marketing, 1997-98 year was selected while to estimate the relationship between prices and arrivals the data were collected for the period of 10 years (1988-89 to 1997-98). The data were collected by survey method and from the records of A.P.M.C. Latur.

The study of market arrivals indicated that the higher arrival were in the month of January followed by February, at the same period the prices were recorded the lowest. Similarly the highest prices were observed in the month of August when the arrivals were at lowest this indicated that there was inverse relationship between prices and arrivals.

The marketing system for assembling and distribution of jaggery consisted of jaggery producers, wholesales and exporters,

retailers and consumers. The commodity passes through three different channels of trade namely ,i) Channe I - Producer- Exporter - Wholesaler - Retailer - ii) Channel II - Producer - Wholesaler - retailer - Consumer and iii) Channel III - Producer - Retailer - Consumer. About 65 percent of the quantity of jaggery sold through channel II and near about 67.5 percent of producers sold their marketable produce through this Channel II.

Per quintal cost of marketing in channel I, channel II, channel III was Rs. 165.47, Rs.131.52 and Rs. 82.85 respectively.

Among the market middlemen, the marketing cost incurred by the wholesaler was the highest , and the lowest in case of retailer.

The result of the analysis of the marketing margin was showed that it was the highest in channel I (Rs.48.63perQt.) and the lowest in channel III, (Rs.31.29 per Qt.). Among the market intermediaries the retailers were getting the highest marketing margin in all the channels.

The resultsof the analysis of price spread per quintal of jaggery showed that the it was Rs.214.1. Rs.175.86 and Rs.114.14 in channel I, channel II and channel III respectively

The producer's share in consumer's rupee was the highest in channel III, (88.60 per cent) followed by in channel II (83.39 per cent) and channel I (80.13 per cent) respectively.

The distribution of the jaggery was found the highest in the channel II and it was also found that large number of producers sold their produce through this channel II.

The storage facility is available to the producer without any charge.

The grading of gur was done by market middlemen and there was no fixed criteria for gur grading. Gur was not under the graded commodities marketed in A.P.M.C. in Maharashtra state. So the grades of the same quality of jaggery during same period were observed different and the respective prices of that grade were also varied from middleman to middleman.

The well packed jaggery fetched attractive prices but large number of producers brought their produce without packing.

The result of the study would be useful to planners and policy makers in formulating marketing and pricing policy. Similarly the findings of the price studies are useful in solving the problem of gluts in the market arrivals due to planned production. The farmers

can decide the proper time of sale and plan production accordingly in the study area.

### **Conclusions and Suggestions :**

Following broad conclusions are drawn from present study :

1. There was inverse relationship between arrivals and prices of jaggery. It was negatively significant.
2. Three major channels were identified in the marketing of jaggery in study area. viz,

Channel - I : Producer-Exporter-Wholesaler-Retailer-Consumer

Channel - II : Producer-Wholesaler-Retailer-Consumer

Channel - III : Producer-Retailer-Consumer

The distribution of the jaggery was the highest through channel-II, both in terms of quantity sold through this channel and number of producer who sold their produce through this channel.

3. The price spread per quintal of jaggery in the marketing of jaggery was Rs. 214.1, Rs. 175.86 and Rs. 114.14 in channel-I, Channel-II and Channel-III, respectively

The per quintal marketing cost was Rs. 165.45, Rs. 131.92 and Rs. 82.85 in channel-I, channel-II and channel-III, respectively. The profit margin/quintal of retailer in marketing

of the jaggery in all the channels was the highest than the exporter and wholesaler.

4. The producer's share in consumer's rupee was 80.13 per cent, 83.39 per cent and 88.60 per cent in channel I, II and III respectively.

5. The storage facility was available to the jaggery producer without any charge in A.P.M.C. Latur but the producers were ignorant about this facility. So the jaggery was not categorised as graded commodities marketed in A.P.M.C. in Maharashtra State. There was no fixed criteria for deciding grades of jaggery. The grades were decided by the middlemen. The different grades and prices of the same quality of jaggery were observed in the market.

As jaggery is perishable in nature, it deteriorates more during summer and rainy season. It needs well packing and well packed jaggery during this season fetches remunerative prices but highest quantity of jaggery arrival in the market was not packed.

**From the present study following suggestions are made :**

1. Price policy of jaggery should be changed to provide the remunerative price to jaggery producer. The produce could be included in MSP policy (minimum support price).

2. Farmers must be educated about the scientific methods of jaggery production and to improve the quality of jaggery and there by enable farmers to realise better price.
3. In regulated market the share of middlemen should be reasonable. It should be to the extent of transport, storage cost and minimum margin of profit.
4. Jaggery producers co-operatives may be an alternative to check exploitation of jaggery producers.

Adequate crop finance and market finance must be extended to farming community in time by credit institution at lower rates of interest to enable them to take up jaggery production and attain market efficiency and to save them from the clutches of money lenders. Jaggery producer bring their produce in the market in the peak period of arrival and it results in lowering the price during such peak period of arrivals. It is sold because of the need of fund during such period.

Infrastructural development such as proper transport facilities and storage facilities are to be provided to reduce transport cost of producer and to sell their produce in proper time instead of selling in glut market.

A mechanism of jaggery price regulation need to be effected to check the violent and frequent fluctuations in jaggery price.

The gur should be brought under the graded commodities in the state by the state government, grader should be appointed for the grading of gur by the government and fixed critria should be made for gur grading as suggested by Varmeshwar Dubey (1989), to save the producer from exploitation of intermediaries.

There is much more loss of producer in the weighing process in terms of quantity and time period so the weighing process must be improved.

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Appendix - I

Monthly average prices of jaggery in Latur Gul market during 1988-89 to 1997-98 with the seasonal indices.

(Price in Rs./Qtl.)

Month Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Supt.
1988-89	410	370	340	330	350	410	460	460	470	515	575	540
1989-90	559	450	360	380	370	370	360	350	360	375	360	360
1990-91	405	400	345	340	330	325	330	375	400	415	435	440
1991-92	510	425	370	385	405	410	455	485	500	620	615	595
1992-93	690	615	645	580	645	750	715	815	990	995	1040	935
1993-94	995	740	851	811	831	771	810	880	815	860	720	740
1994-95	775	741	740	760	661	611	675	625	580	675	700	700
1995-96	820	725	660	665	580	590	550	690	710	825	835	930
1996-97	875	780	755	670	740	850	1150	1110	1145	1200	1230	1250
1997-98	1105	1150	1110	1000	875	870	710	860	955	1005	990	970
Total	7144	6396	6176	5921	5787	5912	6215	6650	6925	7435	7480	7460
Average	714.4	639.6	617.6	592.1	578.7	591.2	621.5	665.0	692.5	743.5	748.0	746.0
S.I. (%)	107.84	96.54	93.22	89.37	87.35	89.23	93.81	100.37	104.52	112.22	112.90	112.60

## Appendix - II

**Monthly average arrivals of jaggery in Latur Gul market during 1988-89 to 1997-98 with the seasonal indices.**

(Arrivals in Qtl.)

Month Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Supt.
	1988-89	1,305	3,425	16,465	31,855	42,855	23,900	29,130	21,470	4,263	3,014	1,550
1989-90	3,480	15,290	44,505	55,400	4,566	57,600	59,100	47,200	21,900	10,050	8,130	8,680
1990-91	3,465	23,375	11,200	66,200	9,330	22,440	41,250	26,800	15,780	6,825	5,230	3,610
1991-92	12,730	33,200	42,100	43,500	54,000	32,500	37,700	28,500	19,250	4,850	6,600	4,600
1992-93	4,850	4,990	22,500	32,000	45,000	22,800	27,650	28,970	9,905	3,135	1,960	560
1993-94	4,095	4,215	13,130	34,995	41,780	21,640	29,200	33,400	23,030	10,640	10,800	9,175
1994-95	5,825	3,405	22,035	29,050	21,150	26,950	22,350	37,300	43,000	16,600	14,475	59,550
1995-96	1,825	26,155	20,325	48,275	40,050	38,300	26,000	38,800	30,100	19,180	10,225	3,697
1996-97	1,175	4,260	23,705	36,075	58,360	27,535	21,150	31,225	26,669	3,680	2,995	765
1997-98	2,325	3,228	26,850	66,800	40,675	29,700	23,400	33,600	22,500	15,050	11,475	7,970
Total	41,075	1,21,543	2,66,520	4,38,110	3,93,800	3,03,365	3,16,930	3,77,535	2,16,703	93,024	73,440	45,782
Average	4,107.5	12,154.3	26,652	43,811	39,380	30,336.5	31,693.0	32,753.5	21,670.3	9,302.4	7,344	4,578.2
S.I. (%)	18.68	55.29	121.24	199.30	179.14	138.00	144.17	149.00	98.58	42.31	33.00	20.200