CHAPTER IV
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SUGAR CANE AND JAGGERY PRODUCTION IN NAMAKKAL DISTRICT

The Agricultural outline of Namakkal District shows the significance of agriculture in providing both direct and indirect employment and generating the income of the rural population. The availability of different types of soil enable the farmers to raise different types of crops. The prevailing, climatic conditions in the study region are conducive for cultivating various types of crops. The agro climate condition of this region also paved the way for establishing different kinds of agro based industries. The development of infrastructure such as roads, communication and transportation facilities, etc., will also render valuable services to the development of agriculture and agro based activities.

PRODUCTION OF SUGAR CANE

Sugarcane is one of the major cash crop in Namakkal district. Among the 15 blocks of Namakkal district sugarcane is extensively cultivated in the Kabilarmalai block (3718 hectares). In the study region the following areas cultivating sugarcane.
1. Deverayasamuthiram
2. Vengarai
3. Annanagar
4. Kobilarmalai
5. Pilikalpalayam
6. Jedarpalayam
7. Solasiramani

NATURE OF SOIL

The following Table No. 3.1 clearly furnishes the availability of different types of soils in different blocks of Namakkal district.

Table No. 3.1

BLOCK WISE SOIL TYPES IN NAMAKKAL DISTRICT

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the block</th>
<th>Type of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Namakkal</td>
<td>Black soil, Red soil</td>
</tr>
<tr>
<td>2</td>
<td>Puduchatram</td>
<td>Red sandy, Black soil</td>
</tr>
<tr>
<td>3</td>
<td>Sendamangalam</td>
<td>Sandy loam, clay loam</td>
</tr>
<tr>
<td>4</td>
<td>Erumapatty</td>
<td>Black soil, Red soil</td>
</tr>
<tr>
<td>5</td>
<td>Mohanur</td>
<td>Black soil, Red soil</td>
</tr>
<tr>
<td>6</td>
<td>Kolli hills</td>
<td>Laterite soil, Red loamy soil</td>
</tr>
<tr>
<td>7</td>
<td>Paramathi</td>
<td>Black soil, Red soil</td>
</tr>
<tr>
<td>8</td>
<td>Kabilarmalai</td>
<td>Black soil, Alluvial soil</td>
</tr>
<tr>
<td>9</td>
<td>Tiruchengode</td>
<td>Black soil, Red soil</td>
</tr>
<tr>
<td>10</td>
<td>Pallipalayam</td>
<td>Red loam, Lit.soil, Black, Red sandy</td>
</tr>
<tr>
<td>11</td>
<td>Elachipalayam</td>
<td>Red soil</td>
</tr>
<tr>
<td>12</td>
<td>Mallasanudram</td>
<td>Black soil, red soil</td>
</tr>
<tr>
<td>13</td>
<td>Rasipuram</td>
<td>Black soil, red soil</td>
</tr>
<tr>
<td>14</td>
<td>Vennandur</td>
<td>Clay, red soil</td>
</tr>
<tr>
<td>15</td>
<td>NamagiriPET</td>
<td>Black soil, Red soil</td>
</tr>
</tbody>
</table>

Source: Joint Director of Agriculture, Namakkal.
In Kabilarmalai block the Alluvial soil, Red soil, Laterite soil are found. Alluvial soil and the red soil are more suitable for the growth of sugarcane. During the months of August, September, October, the study region enjoyed adequate rainfall, which acts as a catalyst for the growth of sugarcane.

Irrigation is the major input in agricultural production and the sugarcane field in the study region is fed by River, Canal, Well and Pumping Scheme irrigation system. Hundreds of irrigation schemes installed in this study area provided adequate water to the sugarcane fields situated 7 to 12 km away from the river Cauvery. Raja canal is the major canal which started from Jedarpalayam provide regular water supply to the sugarcane fields.

CLIMATIC CONDITION

Since agriculture is a gamble in the monsoon, the healthy growth of sugarcane largely depends upon the climatic condition. The prevailing climatic condition is highly suitable for the cultivation of sugarcane in the study region.
VARIETIES OF SUGARCANE CULTIVATED

The recovery of the production of sugarcane depends upon the selection of the variety of sugarcane. The following are some of the important sugarcane varieties cultivated in this study area.

- Co 86032
- Co 8021
- CoSi 86071
- CoSi 95071
- CoC 98061
- Co 86249
- CoV 92102
- Co 86249
- Co671
- Co 62175

Only few sugarcane varieties are suitable for the production of jaggery. Co-671 and Co- 62175 are the two varieties, which are very popular in Kabilarmalai block. The per acre productivity of the above varieties are 60 tones. But due to attack of pest cultivation of this type of sugarcane was given up. At per cent co-353, co-707 is the two popular
varieties are cultivated, which is largely used for jaggery production in this study area.

Ret rot is one of the important disease. If this type of diseases attacks the sugarcane the production and productivity of sugarcane will severely destroyed. By God grease these particular two varieties of sugarcane are escaped from this disease.

Sugarcane is harvested between 9 and 10 months. Both men and women labours are employed in the harvesting operation. On an average of 50 labours are employed for harvesting one acre of sugarcane. The green leaves are removed from the harvested sugarcanes and they are tied into small bundles. The bundled sugarcanes are transported to the jaggery-manufacturing units. Human head loads, tyre-cart, tractor and lorries are some of the commonly used modes of transport for transporting sugarcanes from the field to the crushing mill (Aalai Kottai)

METHODS OF JAGGERY PRODUCTION

Jaggery production is a small-scale manufacturing firm. The manufacturing unit is known a Aalai Kottai in the study region and Karumbu Aalai in Namakkal district is either owned by the sugarcane producer or by other individuals. Majority of the producers of sugarcane and the owners of the manufacturing units. They used their
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manufacturing units for preparing jaggery from their own sugarcane. They also use them for preparing jaggery on hire basis also. Hundreds of farmers marketed the jaggery only through the ‘Pillikalapalayam Jaggery Market’.

Jaggery is called in the name of Gur and Khandasari in the northern states of India. In Tamil Nadu it is called as round balls, ‘Achhu Vellam’ and ‘Nattu Sarkari’. In Kabilarmalai block yellowish round ball jaggery are produced in larger level and the study area is very famous for this particular type of jaggery.

Sugarcane is crushed by the help of the machine called crusher and the cane juice is extracted from sugarcane. Electric motors or oil engines are used for operating the crusher. The cane juice obtained from crushed cane is stored in a ground level tank situated near the crusher. From this tank the juice is again transferred to a big iron tank with help of a small pumping machine. The required quantity of cane juice is transferred to the Kopparai through a pipe.

Kopparai is a huger iron disc which is used for preparing jaggery. The juice is boiled between 110 degree Celsius and 115 degree Celsius in order to remove the water content in the juice. An average of 1 hour and 30 minutes is required for this purpose. To remove the mud and
other foreign bodies from the juice some chemicals are mixed. Baggase, which is the residue of crushed cane, is normally used as fuel for boiling the juice. Dried coconut husk, used lorry and tractor types are also used as fuel during raining seasons.

The man who supervising the after boiling juice is known as the ‘Pathakkarar’. The quality of the jaggery depends upon the skilful and timely operation of the ‘Pathakkarar’. He has to remove the molasses and other partials found in the juice during the boiling time. Out of this experience he identified the exact ‘Patham’ (suitable condition) simply by observing the shape and size of bulles appearing on the surface of the boiled juice. The colour and the sound produced from the bubbles are also used for declining the exact striking point. In this stage the fuel used for boiling is gradually reduced in order to avoid charring in the boiled juice. The ‘Pathakkarar’ continuously stirring the juice with the help of an instrument namely ‘Thuduppu’.

After boiling the syrup to a required time, it is transferred into a specially designed wooden contained called ‘Pagu Thotti’. Till the vella pagu is cooled to a particular point stirring is done. The processed juice is used for preparing different varieties of jaggery depending upon the
Demand of the consumers. Most of the jaggery-manufacturing units prepared yellowship round ball jaggery.

PREPARATION OF ROUND BALLS

Preparation of the round balls jaggery is the important process of jaggery production. Usually women labourers are engaged for preparing round ball. This process of moulding work needs quickness, because the preparation of balls will become difficult if the processed juice is dried beyond certain limit. The processed juice is also used for preparing Achhu Vellam or Nattu Sarkarai. For preparing Achhu Vellam the moulded ‘Achhu Maram’ specially designed for this purpose is used. The preparation of jaggery is undertaken according to the demand and the prescription of the trader. After allowing few hours for sale. Majority of the jaggery unit owners draw the labourers from other places by paying advance amount of them.

Quality of the jaggery produced is the main factor which decides the money value of the jaggery. The price is also depends on the desired colour, the suitable preparation of juice for moulding, experience and skill of the Pathakkarar. If he fails to identify the suitable ‘Patham’ the quality may not be upto the expected level which will fetch low price for the jaggery. The application of excess quality of chemicals like soda,
superphosphate and lime water will affect the quality and sweetness of the jaggery.

Even during the cultivation stage the non-availability of sufficient water and the under-utilization and over-utilization of chemicals fertilizer and cutting the sugarcane before the maturity period will also affect the quality of jaggery.

MARKETING OF JAGGERY

The conduct and performance of any market depend on the structure which varies commodity to commodity. The availability of infrastructure affects the choice of technology, reduces transaction cost and stimulates market operation which produces inducement in production similarly maintenance of quality is also an important factor due to the growing consumer awareness in both domestic and in international markets.

The problems faced by the agricultural farmers in the marketing of their produce are very large comparing to the problem presented in the marketing of industrial products. From the time of procuring the raw material till the products are transferred to the centres of consumption various types of problems have crop up. In the present study the researcher traced out the following important problems faced by the
producer seller of jaggery of this study area. The major problems related to the jaggery marketing of the study area are classified as follows:

- Problems at procurement
- Problems at production stage
- Problems at marketing stage

PROBLEMS AT PROCUREMENT STAGE

Majority of the problems of the jaggery manufacturing units furnishes the following major problems in the procurement stage of the raw material i.e., sugarcane,

- Inadequate supply of sugarcane during off-season
- Procurement of immature sugarcane.
- Inability to purchase sugarcane at correct time.
- Higher transport cost.
- Higher level of cutting wages.

The above mentioned problems are affecting both quality and quantity of jaggery production.

PROBLEMS AT THE PRODUCTION STAGE

Jaggery production stage consists of different kinds of processing steps. The problems arose during the process of jaggery production are furnished below:
Inadequate labour supply
Higher electrical charge and electric cut during the summer period.
Frequent failures occurred in diesel oil engines.
Natural calamities.
Inadequate storage facilities

PROBLEMS AT MARKETING STAGE

Besides the different problems at procurement and production stages some other types of problems also appeared at the marketing of jaggery. The following are the problems occurred in the marketing of jaggery.

- Low price caused by commission agents and intermediaries.
- Inadequate credit supply
- Higher transport cost.

PILLIKALPALAYAM JAGGERY MARKET

The Pillikalpalayam jaggery market is located in Kabilarimalai block of Namakkal district. In this present study the researcher focused his attention to the marketing of yellowship round ball jaggery, Nattucharkarai and Achhu Vellam which are marketed in this study unit.
Pillikalpalayam jaggery market is an unorganized private market which is established in a suitable place. In this market there are nine jaggery auction shops are functioning. Some of the shops are owned by individual owners other shops are owned by partnership. The following are the nine jaggery auction shops functioning in the Pillikalpalayam jaggery Market campus.

- Balaji & Company
- Muthu & Company
- JPR
- KSK
- AT
- VRP
- SL
- DL
- ML

The following chart clearly shows the location of the above auction shops. It also implies the availability of facilities like canteen, drinking water, parking, toilet etc.
CHART I
CHART SHOWING
PILIKALPALAYAM JAGGERY MARKET LAYOUT
JAGGERY PRODUCTION PROCESS

The boiled cane juice after attaining suitable striking point is dried for some times. Women labourers are engaged for preparing round balls. Small cloth is used in the process of converting the semisolid material into round balls. Out of their experience the women labourers prepared uniform size of balls which weights 200-300 grams. Once again they are allowed to dry for certain hours.

The dried ball jaggery is stored in a room till it is prepared for sale. Before taking the jaggery to the market they are put into the synthetic plastic bags known as ‘chippam’. This container is specially manufactured for this purpose. Male labourers are employed for preparing the chippam. Each chippam contains 31 kg of ball jaggery.

The packed chippam is transported to the Pillikalpalayam jaggery Market during the market days for sale. Different modes of transport like bullock-cart, mini tempo, tractor trally and lorry are engaged for transporting purpose.

JAGGERY MARKET

The Pillikalpalayam jaggery market has certain distinctive features. The total geographical area of the market is nine acres. All the nine auction shops are situated within a market area and are owned by
the shop owners. The producer-sellers are flexible in the selection of auction shops. Majority of the producer seller in the study area are regular customers of any one the auction shops. Generally each producer will go to a particular commission agent because of the previous contacts or loan borrowed etc., and as a result most of the regular retail trader will go to a particular commission agent. The following chart no. 2 indicates clear understanding about the location and structure of the Pillikalpalayam Jaggery Market.

SALES METHODS

The whole quantities of jaggery produced in the study area are sold only through the auction shops functioning in the Pillikalpalayam jaggery market. In order to avoid risk the producers are not prefer direct sale. The auction shop owners are functioning as a middlemen or commission agent between the buyer and the producer-seller. The auction activities are conducted by the corresponding commission agents in the front portion of their shops. The price of the jaggery is fixed according to the arrival of jaggery and also by the number of buyers before particular commission agents.
ORGANISATION OF JAGGERY MARKET

The Managing Committee of this market follows certain rules and regulations, which resemble the regulated market controlled by the government. A clerk is appointed by the management to record the weekly arrivals of jaggery to the market. The producer-seller has to inform the number of jaggery chippam taken to the market and the particular auction shop where he wishes to sell his jaggery. Immediately after receiving the information from the product-seller the clerk will issued a time sheet.

ORGANISATIONAL CHART

Chart no.2 given below shows the organizational structure of Pillikalapalayam jaggery market.
One among the auction shop owners who is a lending personality in the local area is nominated as the president of the managing committee. The same procedure is followed in the appointment of secretary and treasurer. Two local persons are appointed by the managements as manager-cum-clerk. The day-to-day functions of the shandy are controlled by the above members. The manager-cum-clerk is responsible for the maintaining the records about the quantum of entry of jaggery, allotment of time sheet, and giving warning whistle at the close of auction in all the shops.

There is no restriction of number of sellers and the number of chippams to be supplied by the producer seller to a particular shop. Normally the producers of jaggery will supply jaggery from the very next shandy day till the starting time of the shandy day. The jaggery arrived after the start of the shandy time is allowed to sell only during the next shandy day.

BUYERS

In the price fixation process the buyers of jaggery played a dominant role. Depending upon the demand and the number of buyers, and supply of jaggery, price is fixed. Jaggery is sold on the basis of auction sale. The marketing authority allots specific time of sale for each
and every shop. Normally three seconds is given per chippam. Incase if the auction is not completed within the stipulated time a whistle will be given by the concerned authority. After the whistle auction will be transferred to the other auction shop. The unsold jaggery will be followed only in the next shandy day. This kind of auction process will be followed according to the serial number allotted to the auction shops.

COMMISSION

In the auction shop auction of jaggery will be held in the presence of the broker or commission agent. The shop owner functions as the commission agent and conducts the auction. A sum of Rs.3 to 6 depending upon the mode of payment will be collected as commission per 100 kg (3.33 chippam) from the buyer. In addition to this, the wholesale buyer paid Rs. 13.32 by way of transport, loading and unloading purpose.

An interesting feature of this market is that unlike in the marketing of other agricultural commodities where the commission agent collects the commission from the parties, commission is collected only from the buyer and not from the seller. The commission is collected from the seller will be compensated by attracting more number of sellers. As a result of this practice, majority of jaggery producers
prefer to dispose their product through this unregulated privately managed market.

The manager cum clerk collects a sum of 0.20 paise per auctioned chippam from the seller another noteworthy point which deserved mention is that the buyer will exploit the seller. That is though the chippam contains 31 kgs and the suction will be held for the full chippam. The buyer will settle amount only to 30 kgs. This is a clear case of exploitation of sellers by the auction shop owners. This amount will be utilized for the maintenance of the market area and for the payment of salary to the manager cum clerk.

Since the members of the managing committee namely President, Secretary and Treasurer are nominated from the auction shop owners, separate remuneration is not given to them.

MODE OF PAYMENT

The mode of payment is very important in any marketing system. A peculiar system of unwritten norms is followed in the payment of price to the buyers. The highest bidder will be given the chance to buy jaggery. If the payment is made immediately after auction the buyer has to pay 2.5 percent of the total payment as commission to the broker.
In case if the buyer makes the payment within 15 day after the auction the commission amount will be increased to 3 percent. If the payment exceeds beyond 15 days the commission agent collect even 4 percent to 5 percent from the buyers. In the extreme case if the amount is not settled within a month the buyer will not be permitted to participate in the future auction sale. To avoid this unpleasant deal majority of the buyers settled the account within the stipulated period.