CHAPTER VIII
OTHER MINOR AGRO-PROCESSING INDUSTRIES

8.1 Introduction
In this chapter we have discussed different agro-processing industries other than rice milling in Burdwan region. The purpose of this chapter is to make an in-depth study of the husking mills, and other agro-processing industries like chira mills, mustard oil mills, muri-processing units, khoi making in rural households, spice-grinding units, atta chakkis and dal processing units etc. in and around Burdwan city, their processes and technology involved, business operations, labour characteristics and ownership characteristics. The objective is to show that whereas the rice mills and other minor agro-processing industries occupy different levels in processing technology, they share the common characteristic of informal nature in various other aspects. We will also show that these other informal industries play a significant role in the local agricultural economy and society by providing service and as absorbers of local surplus capital and labour.

8.2 Husking Mills
Husking of rice is the most rudimentary form of milling of paddy. The process uses least amounts of capital and lowest amounts of technology. Because of these above factors, it is easy to make an entry in the husking mill sector than in rice mill sector. The processing in husking mills is quite different from that in rice mills. It can be described as more primitive form of processing, producing less fine quality rice and even lesser by-products. Consequently, the rural areas of Burdwan are dotted with husking mills. However, these mills perform important social and economic functions; they provide that way of investment of capital generated from a profitable agriculture and an avenue of developing entrepreneurship in villages in Burdwan. They also employ a large number of workers and fully exhibit all the familiar characteristics of informality.

8.2.1 Location and Number of Husking Mills
As opposed to rice mills, which show a significant concentration in and around Burdwan city, husking mills reveal a more decentralized spatial distribution in the region. In fact, the city itself has fewer husking mills than the rural mouzas around it.
Husking mills are also located in more remote parts of the region where there are fewer roads, or only unmetalled roads. However, availability of regular electric supply seems to be the most important determining factor of location in the rural context. As per the definition provided by the Planning Commission (1951), therefore, husking mills fall in the category of ‘cottage industry’\(^1\).

There are a large number of husking mills in Burdwan district. However, it is difficult to get any reliable statistics on their number. This is due to the fact that since 1998 husking mills have been de-licensed by the government. There is only a professional tax of Rs. 100 per year at present. This tax is imposed by local panchayats and there is no cumulative data on the total figures. Moreover, neither is there an association of labourers, nor of husking mill owners – thus husking mills are in the true sense examples of unorganized agro-processing units. Still, they exist, serve important functions, and enrich the local economy. Their roles too are entirely local. However, some official data is available on husking mills. According to Danish Dandapath, Chief Inspector of Food and Supplies, Burdwan, the approximate number of husking mills in the district covered by license under R.M.I(R) Act, 1958 was 1100 before the year 1996. In the event of repeal of the act in 28\(^{th}\) May, 1996 newly coming up husking mills and the then licensed husking mills become the same – totaling in number approximately – 2000 (1100 + 900). At present, they all come under a control order newly promulgated namely – Rice Paddy Control Order 1997, 19\(^{th}\) December – and are required to obtain a license under B category for storing and handling of paddy and rice either on bani milling and own production. At present the approximate number of husking mills at the rural periphery of Burdwan city are 27 (Figure 8.1).

8.2.2 Processing of Paddy in Husking Mills

As per legal terminology the objective of both the husking mills and rice mills are the same, that is, the fabrication of paddy into rice with the help of machines. But husking mills are generally engaged in bani milling of customer’s paddy for their domestic consumption. Sometimes, the finished product may be sold, but the primary intention remains domestic consumption. Thus, there is a major difference between the commercialization levels of husking mills and rice mills.

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\(^{1}\) Government of India (1951), Planning Commission, the Five Year Plan, New Delhi. In outlining the possible role of each sector in the future economic growth of the country, the Planning Commission, in its first plan attempted to define the cottage industry as it generally associated with agriculture and provide subsidiary employment in rural areas. The cottage industries involve operations mostly by hand which are carried on primarily with the help of the members of the family.
LOCATION OF CHIRA MILLS AND HUSKING MILLS
BURDWAN CITY AND ADJOINING AREAS

Source: Based on Survey. 1999-2000

Figure 8.1

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Before bringing the boiled dried paddy of the customer at the husking mill, the raw paddy must go through following processes (Figure 8.2) under the customer's custody –

**Figure 8.2: Operational Steps in Fabricating Rice Before Bringing the Paddy in the Husking Mill**

The above procedure is applicable to edible rice (*bhater chal*) production. But in case of producing rice for puffed rice (*murir chal*) paddy must pass through the above steps but boiling should be double that is steaming, water soaking, first boiling, again soaking in water, second boiling, and two full days of sun-drying.

After bringing the boiled sun-dried paddy to the husking mill, it is poured into the huller for crushing and after crushing, rice mixed with a small quantity of fine husk is produced. After that only husk needs to be separated from the rice. Finally, rice mixed with husk passes in front of a fan, which blows the husk mixed with rice as much as possible. There is hardly any variation in coarse and fine *kura* as in case of rice mills.

### 8.2.3 Technology

In rural-urban fringe of the city and in rural areas single huller machines are commonly called husking machines. These are generally used in husking mills. These mills generally crush paddy by conventional hullers without the aid of modern machines like rubber roller, paddy separator, and polishers. A husking mill is generally equipped with a motor for electric energy. It requires an oil engine for driving the huller and a huller for crushing the paddy. Beside these, there is also a fan, which helps in blowing the husk, that is still mixed with rice after processing.
There are mainly three types of huller. With the variation of huller number the capacity of milling changes.

8.2.4 Marketing
Milling of rice of husking mill is mainly bani milling, based on customer’s paddy supply. The husking mill owner is nothing but a miller doing the job of value addition and form utility creation. All the finished products and byproducts in the husking mills are used to refund the customers.

However, the system is such, that it reminds one of pre-industrial revolution systems, that is, non-capitalistic production system. It also shows the lesser specialization of production activity in rural areas.

As the husking mills within Burdwan are situated at Kanchannagar, Rathhtala, Bajepratappur, Alamganj, Bijoyram, and Agriculture farm areas, they all handle local paddy that is the paddy of the neighbouring villages. For example, in the husking mills of Alamganj, Kanchannagar and Rathtala, customers come with paddy of neighbouring villages like Belkash and Kalimohanpur. The husking mills of Bajepratappur, Bijoyram process the paddy originating from Raina I and II, Keshtopur villages and the Agriculture farm. The only husking mill situated in the northeastern periphery of Burdwan crushes the paddy of neighbouring villages like Raipur, Kashiara and Hatgobindapur.

The rice produced from husking mills is consumed by customers at home as well as for selling to the grocery shop (a large share) and arath (negligible amount). Arath is a wholesale trading centre for purchasing and selling of rice from producers and to consumers respectively. Sometimes the araths of the city include a grocery shop especially those in the rural-urban fringe area.

The owner of husking machine gets 20 paisa for crushing each kilogram of paddy from the farmers. The rate is even lower for those customers who come with several bastas (jute or gunny bags) of paddy. The rate for such bulk milling is different and varies between Rs 8 and 8.50 for each 60 kilograms basta. As husking mills do not yet have any labour union, there is no fixed rate for milling/fabrication of paddy. There is a severe competition among neighbouring husking mills. As a result some husking mill owners take lesser price than the
prevailing rates for drawing greater number of customers to their mills. In this way, a balance is reached in the market.

8.2.5 Labour Characteristics
Only a small number of workers are required to continue operation in husking mills. Generally two workers can easily run the milling operations in the husking mill. In some mills where the owner is physically present in the mill, only one worker is sufficient for continuing the milling operations. The owner himself often works with his assistant during crushing of the paddy. In absence of the worker, the owner must supervise the entire operation. To make profit in a husking mill, the owner must be an all-rounder and must have a sound knowledge of repairing the huller. Above all, he must have will/energy to perform hard physical labour etc.

There are no permanent women workers in the husking mills though women are often employed in winnowing the paddy of the customer. This requires the payment of additional charges other than that for hulling.

The workers in husking mill are monthly-paid and the amount varies in each month depending on the amount of hulling of paddy. As the husking mill worker is not unionized, there is no hard and first rule about the wages of the workers. However, a minimum wage rate as fixed by the government is commonly offered. In husking mills, there is no pay in case of no work. The worker only enjoys half-day leave in each Sunday.

8.2.6 Ownership Characteristics
An entrepreneur selects a form of organization, which will be compatible with the prevailing conditions. In general, he will consider the factors that weight in this respect are: (a) easy formation; (b) facility of raising capital; (c) extent of liability; (d) continuity of business; (e) exemptions from government’s regulations; (f) maintenance of secrecy; (g) flexibility of operation; (h) decision-making opportunity; (i) rights of management and control; (j) impact of taxation; and (k) prevention of exploitation.

Among the various forms of organization (from the ownership point of view), sole proprietorship is a form of business organization which is found in husking mill, where one individual invests his own capital, uses his own skill and intelligence in the management of
its affairs and is solely responsible for the results of its operation (Desai, 1989). The owner of a husking mill may take any decision for increasing his profit; he is all in all in his mill.

8.2.7 Salient Features of Husking Mills

- Husking mills may be set up within a small area.
- The capacity of husking machine is 0.6 to one metric ton of paddy per hour (Sen, 1966).
- It requires minimum two/three workers.
- In most husking mills, the owner himself becomes the mechanic.
- Husking mills are generally associated with other businesses and milling operations. For example a husking mill and a fertilizer business are inter-related in Baje Pratappur area in the outskirts of Burdwan. In another case, there is a milling complex that incorporates a husking mill, oil mill, a flour mill and a grinding unit - all running within a common boundary wall.
- In case of husking mills de-licensing have been done for encouraging the establishment of more mills.
- The husking machine owner never or in rare cases invests money for purchasing raw paddy. They always earn on a contract basis from the farmers/consumers in the bani milling system.
- The owner of a husking mill never arranges living quarters for the workers.
- There is no unionization of workers.
- The workers, during rest or leisure may engage in other income-generating activities such as bidi making.
- There is no permanent woman worker in husking mills.

8.3. Chira (Flattened Rice) Mills

Burdwan city as well as the district has a long tradition of chira milling from the early days. There are some quite old chira mills in Alamganj area of Burdwan city. As against husking mills, their numbers have decreased in recent years. In respect of capital investment, proprietorship, production capacity, number of workers involved, space requirement and job protection, chira mills may also be put in the category of informal sector industry. These mills play important roles in the economy of the city and absorb excess worker and capital of villages.
8.3.1 Location and Number of Chira Mills

Even approximately 25 years ago there were 150 chira mills within the Burdwan city. Now their numbers have come down at 42 only. A large concentration of chira mills has formed in Alamganj and Nirmalbagan (30) and Bijoyram plus Baje Pratappur (10), which is shown in Figure 8.1. Even about 10 years ago 3 were three chira mills near Kalna Gate but they have been closed a couple of years ago. Also the chira mills of Tikarhat have closed down in the last one year.

One notable feature is that most chira mills have no special name, and are known by the name of the owner. Sometimes a single owner may have even 5/6 chira mills. These are in the true sense an unorganized part of agro-processing.

8.3.2 Processing of Chira in Chira Mills

After purchasing the paddy, it is cleaned by winnowing. Then the cleaned paddy is put in the houze for soaking in cold water for three hours, where the mud and other impurities of the paddy are washed off. After drawing wet paddy from water, it is again kept in clear water for one and a half-hour and then the water is dislodged for free flowing. The cleaned wet paddy is left for 12 hours (whole night) in the houze. Next morning, that paddy is brought in the roaster machine with the help of sand for roasting/frying. Finally the roasted paddy may pass through the pressure of pressure pulley in the pan to form the chira. In the pan, chira is left mixed with kura (husk) and broken chira. This mixed chira is then brought in the electric sieve, where the three – chira, husk and broken chira are separated and some parts of it are blown during sieving. Operational steps for fabrication of chira is shown in Figure 8.3.
8.3.3 Technology

The chira mills of the older parts of Burdwan like Alamganj and Tikorhat were mainly equipped with older machinery whose capacity was also low – one machine used to produce chira from only 10 bags (60 kilograms/bag) of paddy per day. Now the older machinery have been replaced by new ones with a capacity of milling 60 bags (60 kilograms/bag) of paddy per day. This machine consists of roaster, pan, pressure pulley and seiver, which are manufactured by an indigenous company of Belgachia, Howrah. There is also a 15 feet high chimney.

8.3.4 Marketing

The business operation of a chira mill is very much similar to that of a rice mill. Here also the owners of the chira mills of Burdwan city use to purchase paddy freely from local araths of Ganj, Hatgobindapur, Raipur etc. through middleman. Then he himself with the help of workers and machinery fabricate chira from paddy. After production of chira, the owner contacts the araths of Posta, Khidirpur, Shyambazar, Chhatu babur bazar and Sealdah of Calcutta and with the araths of Purulia, Asansol, Maldah, Bankura and even to Bihar for selling of chira. The cost of sending chira to the araths through road transport is borne, by the arath owner. This system of bearing the transport cost by the owner of the arath, helps in
senting *chira* to distant parts of the country as the transport cost does not add to the production cost of *chira*. Thus, this system helps in increasing the sphere of influence of Burdwans *chira* produce.

### 8.3.5 Labour Characteristics

Unionization is prevalent among *chira* mill workers. As per union’s rule in each *chira* mill there must be a minimum of nine workers engaged in production if the owner himself manages the official work. In most of the mills, the owners are physically present in the mills to supervise production. In rare cases of mills, where the owner is not present, at least 10 workers have to be employed as per rule.

Most of the workers of *chira* mills are migrants from various places. They had come from far away places such as Bihar, Purulia and Birbhum, while there are some local workers too.

Among the nine workers, there are two *mistris* who work in the pan. The number of helpers helping the *mistris* is also 2. There is a fireman, and 2 persons engaged in arranging all the raw materials and finished products – they are locally called *yogare*. For winnowing of raw paddy there are 2 women workers.

The wage structure of *chira* mill workers are as follows:

- **Mistri** – Rs 5 and Rs 4.50 for each 60 kilograms bag of paddy for fabricating fine *chira* and coarse *chira* respectively. This rate is divided between them equally.
- **Helper** – Rs 55 per day.
- **Fireman** – Rs. 55 per day.
- **Yogare** – Same as above.
- **Women workers** – Rs 1.50 per 60 kilograms bag of paddy.

Clearly, those in actual production work get wage according to the amounts of job done. For women, the amount of wage is lower than those of men.

**Office staff** – It at all there is an office staff, he is usually given about Rs 1,000 monthly.
Working hours of the worker are long, from 7 am to 3 pm in summer, 8 am to 4 pm in winter. During that period, the workers get a break for refreshments. This is called 'tiffin' hours and is not the same for all workers so as to continue production uninterruptedly. One worker among the 9 is relieved from his work periodically for refreshments.

The workers enjoy Sunday as a holiday with pay. The payment on Sunday is the average of a worker's earnings over the last 6 days. The workers also enjoy 12 days as leave with pay and enjoy additional 15 days medical leave also annually.

The age of retirement of chira mill worker is 58 years. At the time of retirement he/she gets 15 days average payment. If someone is unable to work before the age of 58 years, as per Union's rule, the mill owner must appoint the worker's son or nominee in the mill where he used to work. Thus the trade union helps in minimum subsistence of a disabled worker's family by giving appointment to his/her nominee.

8.3.6 Ownership Characteristics
Chira mills are often sole proprietary units. In most cases an owner may even have several mills, as many as 5 or even 8 chira mills at a time. This is due to the fact that only a knowledge of the raw material sources, market, small investment with bank support, and the ability of supervising work are necessary to start a chira mill.

8.3.7 Salient Features of Chira Mills
- A Chira mill may be set up in a small area of about 3-4 kathas, that is, its space requirement is slightly more than a husking mill but significantly less than a rice mill.
- The capacity of each machine in a chira mill, is to process 60 bags (60 kilograms being the weight of each bag) of raw paddy per day. The average milling of paddy in most mills is 40-50 bags per day.
- Chira milling requires a minimum of 9 workers per machine per day, that is, its labour requirement is more than a husking mill but significantly less than a rice mill.
- Unionization is strong in chira mills.
- Licensing has been withdrawn over the chira mills from this year (2002) to encourage the establishment of new mills.
The owner of the *chira* mill does not provide quarters for the workers as against the rice mills revealing its more informal nature.

There are major seasonal variations in the production of *chira*, *kura* etc. In winter and rainy season, the amounts of production are good. In summer, the efficiency of the worker decreases as they work in high temperatures. Consequently, the amount of *chira* decreases but *kura* and broken *chira* increase. The variations are clearly related to working conditions.

This informal agro-processing industry has great importance during emergencies such as floods and other natural calamities like earthquakes in any part of the country. During such times *chira* is sought as a dry food that can be eaten without lighting a stove. For this reason, it is urgently supplied by the owner as per government orders to overcome distress situations.

The production of this industry is also related to the different festivals like *Saradutsav*, *Chhat puja*, *Shiba Ratri* as *chira* is used also for offering to the gods.

Like rice mills, *chira* mills also have chimneys to emit the smoke out. However, their height is less than 15 feet, and less harmful for spreading pollutants than rice mills. Chira mills also have *houze* (of 4 feet/6 feet and four feet depth) for soaking paddy in water.

*Chira* produced in the mills of Burdwan city and its periphery are mostly marketed in Calcutta.

No of innovation in the use of by-products *chira* has been made so far other than use as fodder.

In all *chira* mills, the source of water is groundwater, lifted by tube-wells and pumping machines.

There is no industrial electric line in *chira* mills. These mills usually have commercial lines and the amount of electricity charge increases with the increasing fineness of the finished product because of more time spent in polishing the *chira*.

Unlike the large solvent plants, there is no educational skill requirement for the entry of a worker into a *chira* mill.

In the dusty environment of *chira* mills, most workers and sometimes even the owners suffer from air-pollution related diseases such as tuberculosis and bronchial problems like asthma.

After retirement, the *chira* mill workers do not receive any pension.
With the rise and fall of market price of *chira* in other states of India, the milling of city's *chira* is not affected as it has a niche market mainly in Calcutta and locally. Paddy is procured from local farmers or *araths*. The *chira* miller is free to buy paddy from any other sources.

The burned husk (*chhai*) and *akra* of *chira* mills do not create major problem as waste since their quantities are negligible and they are transported away from the inhabited localities.

The peak season of *chira* production is December to mid February.

The quantity of *chira* and its by-products vary with the quality of paddy and *chira* (Table 8.1). In a 60 kilograms bag of paddy, the amount of *akra*, *chira*, *kura*, broken *chira*, dust etc. are as follows:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Akra</th>
<th>Chira</th>
<th>Kura</th>
<th>Broken chira</th>
<th>Dust</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superfine</td>
<td>6</td>
<td>32</td>
<td>18</td>
<td>2</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Fine (Medium)</td>
<td>6</td>
<td>34</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Coarse</td>
<td>6</td>
<td>38</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Very coarse</td>
<td>6</td>
<td>40</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Socio-economic survey, 1999-2000

The rate of superfine *chira* varies from Rs 810 to 1,200 per quintal. The rate of fine *chira* varies between Rs 800 and 1,100 per quintal. With increasing coarseness the range of the price of *chira* decreases and also the proportion of *chira* slightly increases. The rate of *kura* varies from Rs 100 to 200 per quintal.

### 8.4. Mustard Oil Mills

Among the other informal agro-based industries of Burdwan city and its surrounding areas, mustard oil mills are notable. Burdwan region does not specialize in oil seed production; yet there is such a great concentration of oil mills within the city. Naturally, the questions arise, why have these mills come up and why has such a concentration taken place in Burdwan? It is true that Burdwan region had a long tradition of oil processing; there are some local castes such as *kalu* and *tili* who have conventionally specialized in this activity. However, that social explanation is not the only reason. Here the answer to the questions lies in economic
geography; we see how spatial advantages giving rise to one industry in a place are attracting other, related industries there. These oil mills have come up in Burdwan by the well-established entrepreneurs to take advantage of a flourishing agro-processing trade. They have given rise to a near-agglomeration situation in Burdwan.

8.4.1. Location and Number of Mustard Oil Mills

At present there are 18 oil mills within city proper (Annexure III) and in the periphery its number is small. However, it is difficult to get any reliable statistics on their number. The agglomeration of mustard oil mills has been found especially in Alamganj-Batchhala areas, and now in the outskirts of the city such as Baje Pratappur, Kalna Road, Ghordour chati and Bahir Sarbamongola areas (Figure 8.4).

8.4.2. Oil Processing

Oil processing is comparatively less intricate an activity than rice milling and does not require a lot of space. But it gives out some bad odour and generates a dirty environment due to the smelly waste products. Mustard seeds are usually brought from far away places like Uttar Pradesh and Punjab regions for processing here to take advantage of a ready market and trade.

Operation steps in mustard oil production is shown in figure 8.5. After purchasing the mustard seed at first it is cleaned and sieved. Then it is put in the ghani (whose capacity is 10 kilograms mustard seed at a time) where with the help of intermittent splashes of water (250–300 grams) it is pressed and moulded to produce oil. For preparing oil the ghani revolves for an hour. Then oil (3 kilograms) and oil cakes (7 kilograms) are separated. As there is further small quantities of oil within the oil cake, so the oil cakes are again put within the expeller where the oil cakes are de oiled at maximum and approximately 250 grams – 300 grams oil is produced and the rest left are oil cakes. Finally the oil cakes go through the machine named disintegrator where it becomes disintegrated.
LOCATION OF MUSTARD OIL MILLS AND MURI PROCESSING UNITS
Burdwan City and Adjoining Areas

Source: Based on Survey. 1999-2000

Figure 8.4
8.4.3. Technology
There are 2 types of oil mills – (1) Manual oil mill – where there is ghani, expeller, filter etc. and (2) Automatic oil mill.

Among the 2, the first type is very popular in Burdwan city and its adjoining areas but the second type is absent here, found only in Rajasthan, Madhya Pradesh, and Uttar Pradesh. There are several indigenous companies of Howrah, which usually manufacture oil ghans, filters, expellers and disintegrators. So the manufacturer of machinery of minor agro processing industries are not located very far from Burdwan region indicating easy access to improved technology.

8.4.4. Marketing
In all mustard oil mills of Burdwan region, there are single ownership or the sole proprietorship. They produce and market their own finished product independently, though at negligible portion they (the mill owner) use to mill customer’s mustard seed by taking bani at the rate of Rs 20 per 10 kilograms of mustard seed and they used to refund the oil and oil cakes both to the customers. So there is coexistence of 2 systems- traditional bani milling like husking mills and marketing of finished product like rice mills.

The oil mills of Burdwan region, purchase mustard seed from local araths where black mustard seeds mainly imported from other states like Rajasthan, Uttar Pradesh, Madhya Pradesh, Gujarat and Hariyana. Maximum quantities usually come from Rajasthan and white mustard seed are usually purchased from neighbouring villages.
The oil cakes and mustard oil (after sealing the tin) are supplied to the local markets of Barabazar, Raniganj bazar, Borehat, Nutanganj, Kanchannagar and Rathtala.

8.4.5. Labour Characteristics

Depending upon the capacity of the oil ghani, minimum workers – one mistri and one helper is essential for running the mill. With the increasing number of ghaniyas, the requirement of workers increases. All the workers of mustard oil mill are unified under CITU.

The working hour of the workers is 8 hours. If they work more than 8 hours, they are paid overtime at the rate of Rs 7.50 per hour. They enjoy leave on each Sunday and national holidays with pay. During mill closure the workers are paid in full. The gadi staff enjoys 60 days leave with pay.

The mistri enjoys the wage of Rs 47 and the helper enjoys the wage of Rs 45 daily. Both of them get bonus at the rate of 17 per cent of the yearly income.

In larger mills there are gadi staff, who prepare the register up to date, take the charge of raw material purchase and selling of finished product and also in the absence of owner supervise the entire milling operation. They get Rs 1,500 per month with free food and lodging.

Besides these there are contract labourer who are also the member of the CITU. Their wage rates are as follows:

For unloading of 100 bags of mustard seed from the truck, Rs 100
For loading of 100 bags of mustard oil on the truck, Rs 100
For unloading of 100 tin mustard oil from the truck, Rs 30
For loading of 100 tin mustard oil on the truck, Rs 30
For unloading of 100 bags of oil cakes from the truck, Rs 100
For loading of 100 bags of oil cakes on the truck, Rs 100

The above rates vary from one mill to another depending on the workload and the distance to be covered by the workers from the truck to the godown.

The system of, no work, no pay is common in case of contract labourers. They enjoy lodging at free of cost but they take food at their own cost.
The workers mainly come from neighbouring villages like Mongolkot, Raina, Monteshwar, Bontir, Belsore, Kamalpur and also from Rathhtala and Kanchannagar. There are also workers from other districts – like Midnapore, Murshidabad and also from other states like Bihar.

8.4.6. Salient Features of Oil Mills

- Though this small scale industries use raw material from other states but they usually market their finished product locally thus meeting the local demand and no excess product has been left for export which justify its informal nature.
- The peak season for oil production is from January to March.
- Here the brokers are from other states like Rajasthan, who mainly engaged in the transaction of paddy, dal, mustard seed, wheat, kura and bhusi. They usually collect mustard seed from Rajasthan at cheap rate.
- It is a seasonal job for the brokers. They stay in Rajasthan for 6 months at the peak season of production. During the off-season in Rajasthan they come in Burdwan to join their business operation.
- There is an anomaly in the distribution of profits among the persons engaged in oil production. As for example, according to a broker, if they purchase a two-wheeler for business in a season, the cost of purchasing it, would be gained by one day profit.
- The owner of the comparatively large oil mill provides leavings quarters for the workers.
- All workers have accident insurance (Janata policy). The owner pay Rs 14 per year for accident-proofing each worker.
- All the oil mills of Burdwan and neighbouring areas have commercial electric line.
- At present mustard oil production of Burdwan is being faced steep competition from cheaper oil like rice-bran oil, palm oil etc. and also from cheap mustard oil from Rajasthan.
- The number of ghanis per mill here varies from 3 to 12.
PLATE 11: FABRICATION OF CHIRA IN ROASTER MACHINE

PLATE 12: MUSTARD OIL PROCESSING IN A MILL
8.5. *Muri* (Puffed Rice) Processing Units

*Chira, muri, khoi* – all are food for Bengalees – especially Bengalee widows, vegetarians, particular religious groups like the Baishnab community, and economically poorer sections of people. Because these are easily digestible, they are also a suitable food for a warm and humid parts of India. Traditionally, these have been processed by women in their homes as a means of subsistence. From the early days *muri* and *khoi* making has been the main source of income of poor widows and destitute women of the rural areas as well as urban areas of Bengal. Burdwan city and its periphery is not an exception from this general trend. However, a commercialization of *muri*-making has taken place in Burdwan taking advantage of the existence of good rice supply from the mills and to meet the increasing demands of the modern day. Consequently, a large number of muri-making units have now grown up in Burdwan.

8.5.1. Location and Number of *Muri* Making Units

Even only two years ago, *muri* making was mainly confined within one’s kitchen. The recent trend since 1999-2000, there is large concentration of machine-*muri* unit in certain pockets like Baje Pratappur, Dubrajdighi, Ichhlabad, Diwandighi and Shialdanga. There are about 32 machine *muri*-making units in the city proper (Figure 8.4). Of these major concentration is found in Baje Pratappur area. One important feature is that like *chira* mills majority of the *muri*-making units have no special name. Those are known by the name of the owner. Important *muri*-making units of the Baje Patappur area are – Sk. Karim, Sk. Lala, Fakir Miya, Sk. Atiar, Sk. Nasir, Nakul Das and Basu Kundu. Among the 7 units, the *muri*-making unit of Sk. Atiar is the oldest – established about 2 years ago. From the above names, it clear that machine *muri* units are mainly dominated by the muslims.

There are about more than 1000 persons (whose majority are female) only within the Burdwan city, engaged in fabricating puffed rice at home.

8.5.2. Processing of Puffed Rice

8.5.2.1. Traditional Methods

Traditional methods of *muri* making were used by women at home. In this method at first the raw rice (that is the *murir chal*) is thoroughly washed with cold water for cleaning and separating from its impurities. Then a considerable amount of salt (25 grams of salts in a kilogram of raw rice) is mixed with the wet raw rice for increasing its taste. Now the raw rice
is spread over the yard for a full day sunshine of about 5 hours unless the moisture content is reduced and it is dried considerably (not fully dried). Now the almost dried rice is usually fried in a *khola* (a round shape vessel/container) for *muri* making, kept on an *unan* (open cooking oven) unless the rice makes a coarse sound when cut with teeth. Then the negligible amount of warm rice is again left in a smaller vessel partly filled with sand (for 25 gram of warm rice, one kilogram of sand is needed) and the vessel is again put on the *unan* for warming of the sand and *muri* has been processed.

### 8.5.2.2. Muri making in Roaster Machine

After purchasing the rice (*murir chal*), it is cleaned and in a 80 kilograms bag of rice, 1.5–2 kilograms of salt and 5-6 kilograms of water is used to mix. After mixing of the above 3, the rice is used to spread over the sunshine for 5-6 hours (for concrete drying). Then the dried rice is kept into the huller (number 11). From the huller the rice goes to the roaster machine, where roasting is done with the help of warm sand to produce *muri*. The heat of the sand is generated by firing the boiler with the help of *kura*. From the roasting machine, the puffed rice goes through the rolling sieve plate for cleaning. Now the puffed rice is ready for packing. The operational steps of producing *muri* in roaster machine are shown in figure 8.6.

![Figure 8.6: Operational Steps in Muri Fabricating Unit](image)

### 8.5.3. Technology

The machinery of puffed rice unit consists of blower, huller, roaster, sieve plate and boiler. The function of a blower is to blow/regulate the quantity of husk for continuing the burning of the boiler in order to roast the rice to form the puffed rice. A motor is attached with the blower and huller for driving the both. The machinery, which are 3 to 4 years old there is no
blower. The husk/kura is directly given to the boiler manually. The machinery of muri processing units has been manufactured by an indigenous company of Burdwan city.

8.5.4. Marketing
Fabrication of puffed rice since the early days was mainly bani milling, based on customer’s rice supply. Now the numbers of bani-miller have been reduced considerably. The producers of the rural areas as well as urban areas take the risk of producing puffed rice at their own cost and supply it to the city’s arath in the Bajepratappur area (on the Burdwan-Katowa road) and in Shankharipukur. One producer approximately supplies 30-40 kilograms puffed rice per day in an arath. Each arath stocks its every day’s supply through the supply of 2/3 producers.

The owner of puffed rice-producing machine, uses to purchase rice from local rice millers directly as well as from local araths of the city proper. Then after fabrication of muri, that is supplied to the arath and from the arath those are transported to the urban areas like Durgapur, Asansol, Panagarh, Barakar, Kulti and some times to Bihar and also consumed locally. So using local raw material and indigenous technology Burdwans’ muri created larger markets than mastard oil, spice powder and husking mills’ rice.

There are also another type of businessman who uses to purchase murir chal and lend to the muri producing machine unit for fabrication of muri by giving bani at the rate of Rs 25 per 40 kilograms of rice. Minimum 40 kilograms of rice is needed for bani milling. After production of muri, they usually bring it to their home and there they pack it in plastic packets in the quantity of 250 grams, 500 grams and 1 kilogram. The members of that business man’s family are usually engaged in muri packing, indicating informal nature of these agro-processing industries. This type of business man uses a brand name of their own like – Tiger muri, Dubraj muri, (Baje Pratappur), Mousumi muri (Dubrajdighi), Asits special muri (Hatu Dayan), and Taja muri (Shankhari pukur) etc.

8.5.5. Labour Characteristics
Minimum five workers are required for running the machine. Among then there are two helpers – who are usually engaged in packing of muri, husk giving to the boiler or any other negligible work. Their wage is approximately Rs 20 per day and get 3 times food at free of cost. The other 2 enjoy Rs 50 and rest one enjoys Rs 35 per day. So the average wage rate of
*muri shramiks* is lower than the wage rate of *chira* mill workers and rice mill workers. The number of workers and also the wage rate vary from one unit to other depending upon the amount of production. There is no job specialization among the workers. Their working hour is from 7 am to 7 pm with break for tiffin and lunch. Maximum number of workers are local.

The system of no work no pay is prevalent in this industry. They do not enjoy any leave with pay. Unionization has not been found among *muri shramiks*.

8.5.6. **Salient Features of Muri Fabrication Units**

- There is lack of unionization among the *muri shramiks*.
- Seasonal unemployment is found among *muri shramiks* as the *muri* fabrication units do not run during rainy season due to the absence of sunshine. At that time the workers are engaged in other types of job like rickshaw pulling, domestic servicing and *muri* production in household.
- At present the owners who have *muri*-fabricating machines had a long tradition of household *muri* production (in a large scale).
- Majority of the owners of the *muri* fabricating units are Muslims.
- *Muri* producing machineries can be set up within small areas than rice mills.
- It requires minimum 2/3 workers.
- There is no requirement of license for establishing a *muri*-producing unit.
- In some cases, the owner of a *muri*-producing unit makes arrangement for lodging of the helpless workers.
- The peak season of *muri* production is from March to May (when ample/sufficient sunshine is available).
- They do not enjoy any leave with pay, as their job is not protected by trade union.
- The fees for health checkup and expenditure for medicine of the worker have been paid by the owner of the *muri*-producing unit.
- Maximum number of workers in these units has been fall within the age group of 30 – 40 years.
- Majorities of the workers are local.
- Sole proprietorship is common in *muri* producing units. The owner may take any decision for increasing his profit.
8.6. Khoi (Indian Rai) Production

*Khoi*, a kind of Indian Rai, is also produced from paddy. *Khoi* production is limited within one’s kitchen. Their production is also limited as their amount of consumption is very low in comparison with puffed rice. It is used mainly in some rituals (like funeral, weddings, *Diwali*). It is consumed as a cereal for relieving constipation problem and also used for decorating purposes.

Those who produce puffed rice, may also produce *khoi*. At first the raw paddy is used to dry in the sun for two–three hours. Then a small amount of water is mixed with it. It is roasted with the help of warm sand in a *khola* which is put on the *unan*. A small amount of paddy is spread on the warm sand and continuous mixing is needed for fabrication of *khoi*. After fabrication of *khoi*, the paddy husks are separated with the help of a sieve plate (made up of the fibre of the bamboo). Now it is ready for marketing. It is mainly consumed locally and also used for preparation of *murki*, which is a sweetened form of *khoi*. The market price of *khoi* varies from Rs 22 to 28 per kilogram.

8.7. Masala (Spice) Grinding Units

Spice constitutes an important group of agricultural commodities that are virtually indispensable in the Indian kitchen. They can be primarily defined as farm products used in various forms viz.; fresh, ripe, dried, broken, powdered etc. which contributes aroma, taste, flavour, colour and pungency to food, rather than a lone food seasoning factor. The spices are well known as appetizers or preservatives and many of them have rich medicinal properties and are used in pharmaceutical, perfumery, cosmetic products, religious rituals etc.

8.7.1. Location and Number of Spice Grinding Units

In Burdwan city there are approximately 20 spice-grinding units situated on the B.C. Road, in Alamganj, Ichhlabad, Rathtala and Parkus Road area (Figure 8.7). Important units are Kalidasi Masala *Chakki*, Cook and Care Spice Industry, Ina Spice, and Laxmi Narayan Gura Masala. Their number in the rural counterpart of Burdwan city is very negligible and some cases it is nil. We have interviewed only the owner of Cook and Care Spice Industry for understanding the processing techniques, business operation, labour characteristics, and market price. However, it is very difficult to get any reliable statistics on their number because there is no association of owners of spice-grinding units and not all the workers of these units are member of CITU – thus spices grinding units are in the true sense examples of informal processing units.
LOCATION OF DAL MILL, ATTA PROCESSING UNITS AND MASALA GRINDING UNITS
BURDWAN CITY AND ADJOINING AREAS


Figure 8.7
8.7.2. Processing of Spices

In Burdwan, only the grinding of spices like turmeric (holud), red chilli (lanka), coriander (dhone), and cumin (zira) to convert those into powder form is practiced in the spice processing units. After purchasing of different types of spices, those are dried on the sunshine and cleaned. Then it is kept within the square-shape container (dala) of the machine, from where spices pass down in between the 2 grinding stones (locally known as chakki lies below the dala, vertically) for grinding into powdery form. After grinding, it comes out and the gap from where the powder comes out and fall, there a piece of cloth has been attached in order to decrease the spreading of spice power. The powdered spices then sieved to separate the husk (like the chal of turmeric) from the powder. Now it is ready to sell and consume. The time requirements for grinding different spices are as follows:

<table>
<thead>
<tr>
<th>Spice</th>
<th>Quantity (kilograms)</th>
<th>Time requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turmeric</td>
<td>20</td>
<td>2 hours</td>
</tr>
<tr>
<td>Red chilli</td>
<td>20</td>
<td>4 hours</td>
</tr>
<tr>
<td>Coriander</td>
<td>20</td>
<td>1 hour</td>
</tr>
<tr>
<td>Cumin</td>
<td>20</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

8.7.3. Technology

The grinding machine generally used in spice processing unit is 16” grinding machine (chakki). This machine consists of a container (dala), 2 grindstones (yata), one pulley attached to a belt with the motor of 10 horsepower. When motor is in running condition, the pulley revolves to help grinding: Besides these, there are adjustable rod for adjusting/regulating the fineness or coarseness of the spice powder. The body of the machinery is manufactured locally by indigenous companies of Burdwan, but the chakkis are usually imported from Rajasthan (Pokhraj Industries).

8.7.4. Marketing

Sole proprietorship is an important characteristic of spice-grinding unit. They mainly produce their product for only retailing purpose, that is for consumption of local people. Sometimes hani milling is done where customers pay Rs 4 to Rs 5 for grinding of one kilogram of spice separately. The owner mainly purchases the spices from the wholesale market of Posta (wholesale market of Calcutta) and also from local markets in Nutanganj and Tentultala.
8.7.5. Labour Characteristics
In each spice-grinding unit, there are 3 workers – one mistri and 2 helpers (on an average). The age of maximum number of workers are between 20–30 years. In the absence of any one the quantity of grinding would be hampered. Not all the workers of spice-grinding unit are member of CITU. Their wages also vary from one unit to other. The wages are determined by mutual adjustment with the owner. The mistri enjoys Rs 60–80 per day and the helper gets Rs 30–42 per day. They enjoy every Sunday and major festival days like Durga puja, Kali puja, Biswakarma puja as holidays with pay. During Durga puja they enjoy 30 day’s wage as bonus. The working hour of the workers is 8 hours.

8.7.6. Salient Features of Spice-Grinding Units
- All the workers are not unionized.
- Bani milling is also prevalent (though negligible amount)
- There is absence of women workers.
- These units are primarily meant for retailing.
- These units are associated with selling of atta, rice power, basan, chatu (not grinding at their unit but purchased from wholesale counter)
- The peak season for production is from November to February.
- There is sudden inspection of the purity of the finished product.
- There is no requirement of water in this unit.
- For the establishment of a spice grinding unit, following licenses and certificates are needed:
  i) Trade License – From Burdwan Municipality or any other equivalent authority.
  ii) Food License – From Burdwan Municipality or any other equivalent authority.
  iii) Provisional certificate from District Industrial Centre (DIC) or any other equivalent authority.
  iv) Certificate of Pollution Freeness – From Pollution Control Board, Durgapur.
- The problem faced by these small scale is, there is no centre/institution/board for providing guidelines for further improvement and development of their units.
- Single ownership is common in case of spice grinding unit. The owner is the sole decision-maker of his unit.
PLATE 13: MURI MAKING IN ROASTER MACHINE

PLATE 14: ATTA CHAKKI
8.8. **Atta Chakki (Wheat Processing Units)**

Hand made *roti* (wheat flour bread) is also a staple food of non-bengalees residing in Burdwan city. As Bengalees are trying to leave the habit of rice-eating, many families have started to use hand made *roti* regularly for dinner at night. The hand made *roti* is made up of *atta*, which is also a product of agro-based industries. In Burdwan city proper there are approximately 190 – *atta chakkis* and in the periphery its number is about 50. The *chakkis* usually grind wheat for selling *atta* and also practice *bani* milling. Like spice grinding units these units are in the true sense examples of informal processing units.

8.8.1. **Location**

The *atta chakkis* are mushrooming here and there within Burdwan city, not only along the main roads and busy market complexes like Natunganj, Borehat, Barabazar, Tentultala market, but also even along narrow lanes like Pirbaharam road, Radhanagar, Bahilapara etc. depending upon the demand. The important *atta chakkis* of the city proper are shown in figure 8.7 and Annexure IV.

8.8.2. **Processing of Atta**

Processing of *atta* is very much similar to spice grinding. After purchasing of wheat, it is cleaned by winnowing as dust, mud, straw (*kathi*) etc. are mixed with it. Then it is kept within the square-shape container (*dala*) of the machine, from where wheat passes down in between the 2 grinding stones (*chakki*, lies below the *dala* vertically side by side) for producing *atta*. Then the *atta* comes out through a pipe-like channel and falls inside a basket shape iron container. In some cases the *atta* is then sieved for separating the skin of the wheat locally known as *chokla*.

The *chakkis* which are meant for selling plastic packed *atta*, they generally use the roller machine for removing/polishing the skin of the wheat in order to maintain the quality/fineness.

8.8.3. **Technology**

There are several types of *chakki* for grinding the wheat – eight inch, ten inch, 16 inch, 20 inch. Among the above 16 inch and 20 inch *chakkis* are very common. For running 16 inch *chakki*, 10 horsepower and for 20 inch *chakki* 15 horsepower motor are used. The technology is similar to spice grinding machine (as the purpose of both is same). The stones or *chakkis*
and sometimes machine body are usually imported from Rajasthan (*chakki* manufacturer Pokhraj Industries).

### 8.8.4. Marketing

Sole proprietorship is common in this *atta chakki* business. The number of *chakkis* varies from one unit to another depending upon the amount of milling/grinding. In some units there are more than one *chakki* and sometimes even 7 (at Radhaballav *atta chakki*, Mohan *atta chakki* the number of *chakkis* are 4) or in other it may be one. The number of one *chakki* unit is maximum and along with owner's own wheat processing, they generally practice *bani* milling, not only wheat (in all season) but also *bhater chal* (rice) during winter. The rate for *bani* milling is Rs 1.50 per kilogram of wheat. All the owners of the *atta chakkis* procure their wheat from the local M.R. shop (illegally). During the new agricultural calendar, for clearing the older stock (cereal), the central government provide opportunity for purchasing wheat from Food Corporation of India (F.C.I.) at the rate sanctioned by central government. The finished product, *atta* consumed locally as well as to the surrounding villages within the radius of 15 kilometres from the city proper (Bhatar, Seharabazar, Kurmun, Galsi etc.).

Depending upon the consumer demand one *chakki* in an unit may grind 14 bags (75 kilogram weight per bag) of wheat per day. There is 50 grams shortage in weight during processing of wheat into *atta*. The market price of wheat varies between Rs 580 and Rs 750 per quintal. The rate of *atta* per quintal is fixed by adding Rs 120 to Rs 150 per quintal rate of wheat.

### 8.8.5. Labour Characteristics

The workers of the *atta chakki* are not unionized. These units fall under the purview of union of workers of shops and other establishment. Only 7 *atta chakkis* of the city are the member of aforesaid union. So there is no fixed rate of wage of workers of the *atta chakkis*. The workers get Rs 5 to Rs 8 for grinding one bag (whether it 50 kilograms bag or 75 kilograms bag) of wheat. Generally in one *chakki* unit, there is one worker. But there are many units, where more than one *chakki* (like four *chakkis* operated by one worker) is managed by only worker. With increasing number of bags of wheat milling, the earning of the workers increases. In single *chakki* unit sometimes the owner himself perform all the grinding operation or he may appoint 1 or 2 workers – one *mistri* (Rs 60–80 per day) and one helper (Rs. 30–40) per day. The workers who are paid monthly or weekly they enjoy one-day leave with pay in a week that is closing day of the shop. But the workers who earn on the basis of
contract; do not enjoy any leave with pay. Their case is no work no pay. The working hour of
the worker is from 8 am – 8 pm (with 2 hours break for lunch, tiffin etc.).

8.8.6. Salient Features

- All the workers are not the member of the union of workers of shops and other
  establishment, as the atta chakkis workers have no separate union. C.I.T.U has tried
  their best for organizing separate union for this very group of workers.
- Bani milling is also practiced by the atta chakkis.
- Besides atta processing, the chakki is used for grinding spice, rice etc. and
  simultaneously they sell other products like chira, muri, bhater chal (rice) etc.
- These units meant for retailing as well as whole selling.
- The peak season for production is the winter and rainy season (as the demand
  increases at that time)
- For establishment of an atta chakki, following licenses and certificates are needed:
  i) Trade License – From Burdwan Municipality or any other equivalent
     authority.
  ii) Food License – From Burdwan Municipality or any other equivalent
     authority.

The atta chakkis usually face sudden checking of over stocks, exact price, and quality
of products by District Enforcement Branch (DEB).
- There is no provision for allotment of quarters for the workers of the atta chakkis.
- The negligible amount of by-product of atta is chokla (broken skin of wheat). It is
  only used as cattle feed.
- The market of atta is local and surrounding villages at a radius of approximately 15
  kilometres from the city centre.

8.9. Dal (Pulses) Processing Unit

With rice or roti, the commonest item of food is dal (lentil soup). Naturally, taking advantage
of the flourishing agro-processing, a dal unit too has come up in Burdwan. There is only one
dal producing unit in Burdwan at present. Sri Laxmi dal mill was established 70 years ago by
the grandfather of the present owner, Mr. Vinod Gadia, originally from Jhun Jhunu district of
Rajasthan desert region. There was another dal mill in Burdwan – Shyam Milling Industries
– but it has been closed for the last 15 years or so.
8.9.1. Location
Located near the Rajbati on B.C. Road (Figure 8.7), the main commercial street of Burdwan, the dal mill is a significant component of the informal manufacturing sector of the city. Its raw material production ratio is 100 : 70, with the peak season in the period between October – December. During rainy season, there is no special provision to continue production and hence the mill is closed most of the days. In the three monsoon months, the mill operates only for about 15 days.

8.9.2. Raw Material and Processing
Out of the total raw material of this mill about 95 per cent is supplied by Satna and Gulmohor districts of Madhya Pradesh and rest 5 per cent have come from Uttar Pradesh. The supply of raw material of this mill for every month is 30 trucks with 10 tons load in each. In this mill the raw material and finished product ratio is 100 : 70. The daily output of this unit is 10 quintal. The important pulses (dal) processed in this unit are moong, musur, arhar, khashari, kalai, and chola (gram). The processing of dal from the original seed form, 4 to 5 days are required in general. The broad steps are as follows:

- threshing of dal in a sieve plate to clean it from impurities;
- rolling of dal to remove the skin; addition of water if necessary at this stage to clean the dal,
- grinding in a grinding machine;
- sieving again to separate broken dal from entire grains;
- separation of husk/skin and dal in a fan roler.

Clearly, the processes are labour-intensive and require low-level of technology. No specific skill is needed from the labour. This is the reason why dal processing is market oriented since the packaged, final products can be easily supplied to the local market.

There are minor variations in the processing of different varieties of dal. For example, the processing of kolai and arhar dal is as follows:

- threshing of dal in a sieve plate to clean it from impurities;
- rolling of dal to remove the skin; but the skin is partly removed at that time;
- mixing with mustard oil and left those for sun-drying for 4 to 5 days;
- rolling of dal for complete removal of skin;
• sieving again to separate broken dal from the entire dal; and
• separation of husk/skin and dal in a fan roller

It may be noted that in each stage of skin removal of the dal, some amount of water is required, if the chhilka (skin) does not remove properly.

8.9.3. Waste and Byproducts
The waste of this mill is dust, kankar and soil nodules. This waste is negligible and dumped regularly on to the street. The municipality takes little notice of the garbage and it is cleaned along with other roadside dirt by municipal workers.

The byproducts are chuni and bhusi, that is, the husk of pulses, broken and grinded part of pulses. These byproducts are used as fodder for cattle and as food of fish. The weight of one bag chuni and bhusi is 65 kilogram whose worth may vary from Rs 500 to Rs 650.

8.9.4. Labour Characteristics
There are 4 male workers who work in machines as well as they engage in loading and unloading of trucks. There is no female worker as it is deemed that they are unable to carry heavy (the weight of one bag dal is 80 kilograms) dal bags.

There are 3 office staff, salesman, accountant and a computer operator in this mill. They are the ‘white-collar’ workers of the mill and there is a great difference of wage-levels between them and the manual workers.

8.9.5. Working Conditions
All manual labours of this mill work a daily wage basis. As there is no separate quarter for labourers, they take shelter at night in the godown. Their daily wage is Rs 40 and the mill supplies fuel and dal for cooking. During Durga puja the labourers are paid Rs 1500 as bonus. As compared to the manual workers, the white-collar staffs receive better salaries on a monthly basis and have a better job security.
The working environment of the mill is dominated by a huge quantity of dust and no comfort for the manual workers. There are no provisions for basic amenities such as toilets or resting spaces.

8.9.6. Technology
In the dal mill, the machinery consists of chakki (grinding stones), dala (container), pully, motor, roller, sieve etc. The chakkis in this unit are of inch diameter and imported from Rajasthan. Manufacturer is Pokhraj Industries. Machine body is also brought from Rajasthan. Repairing and replacement of required machine parts has been done and supplied by indigenous supplier and manufacturer.

8.9.7. Marketing
This unit markets 75 per cent (approximately) of their finished product within the Burdwan district as well as at the local markets of Nutanganj, Raniganj, Tentultala, Barabazar, and Nilpur area. The mill owner directly supplies dal in own districts market through truck for the supply at distant places and rickshaw van for city’s market. The rest of their finished product that is 25 per cent (approximately) dal usually are transported to other districts like Birbhum, Murshidabad, Darjeeling, Jalpaiguri (Siliguri is the main dal market in the North Bengal). This marketing is done indirectly through brokers by trucks.

8.9.8. Salient Features
• The dal mill workers have no separate union. So their job is not protected.
• Dal mill workers are seasonally partly unemployed. In the rainy season when the manufacturing activity comes to a halt and production is almost nil, the labourers are engaged in loading and unloading of trucks as this unit performs both trading and manufacturing. During this off-season, there payment is not on daily basis but on contract and earnings vary between Rs 20–25 per day from this unit. During leisure of noon they are in search of another job like rickshaw pulling, seiving as helper in different types of shops like grocery.
• Minimum labour requirement for continuing milling operation in this unit is 3/4.
• One important feature at the dal mill is, among the 3 office staff, one staff’s qualification is C.A (Cost Accounting).
• Without securing any other job, he is compelled to join at this dal mill as a supervisor cum account cum computer operator at a salary of Rs 4,000 per month with free food and lodging.

• The machine workers do not enjoy any leave with pay but the office staff use to enjoy Sunday as off day.

• Though the working environment of blue collared workers are not healthy but the white collared workers work comfortably and their workplace is not so dusty as the white collared. The dal mill owner does not supply musk nor the worker uses the musk at his or her own will.

• As there is no any other dal milling unit in this city and its adjoining areas, they have a monopoly over the local market.

• For the establishment of a dal mill, following licenses and certificates are needed:
  (i) Trade license – from Burdwan Municipality or any other equivalent authority.
  (ii) Food license – from Burdwan Municipality or any other equivalent authority
  (iii) Provisional certificate from DIC.
  (iv) Certificate of pollution freeness – from Pollution Control Board, Durgapur

• This non-Bengalee businessman is more conscious about his profit and business/trade without hesitating to neglect manual workers’ health and sanitation. It is reflected by the purchasing of a computer and building an air-conditioned computer room in the same roof, where there is no separate room for resting and sleeping (bed room) and arrangement of toilets in this mill. The manual workers are compelled to stay in the dal godown at night.

• All types of dals are processed except the motor dal (dal formed from peas)

• Water is not essential during processing of all types of dals. It is only required for kolai and arhar.

• Twenty litres water is required per day during processing of dal. The only source of water in the mill is tube well.

8.10. Summary
In this chapter we have discussed the most rudimentary form of milling of paddy that is husking mills. We have also examined other agro-processing units like chira mills, mustard oil mills, muri processing units, khoi making in rural households, spice-grinding units, atta chakkis and dal processing units. These units have flourished along with rice milling in
Burdwan region. From our detailed study of above agro-processing industries, the following salient characteristics become clear.

Firstly, in comparison to rice mills, the total number of worker requirement is very low in other agro-processing units especially husking mills. The labour requirement ranges from one/two worker/s in husking mills and spice grinding units, and minimum two in mustard oil mills, to nine workers in a single atta chakki. Secondly, like rice mills there is a preponderance of migrant and contract labourer in some agro-processing industries. This indicates an informal or unorganized nature of these processing units. Thirdly, unlike rice mills, there are no women workers in these industries except for cleaning and winnowing of raw cereals, but like rice milling their status in the industry is rather low than the male workers. Fourthly, in rice mills sole proprietorship as well as joint entrepreneurship is common but in case of husking mills and other minor agro-processing industries only sole proprietorship is common. However, like rice mills a single owner may have several mills; for example Mr Haran Dey of Bijoyram owns eight chira mills in Burdwan. Fifthly, space requirement for these minor agro-processing industries is quite low in comparison to rice mills. Sixthly, like rice mills, de-licensing has been done in case of husking mills, mustard oil mills, muri processing units and chira mills for encouraging them. In case of spice grinding units atta chakkis and dal mills there are still the requirements of obtaining trade and food license. Therefore, there is still some amount of official procedures to be followed for these units. Seventhly, the owners of husking mills, chira mills, atta chakkis and spice-grinding units do not provide quarters for the workers as against the rice mills. There is far less domination of the unions too. However, the owner of mustard oil mills, dal mills and muri processing units, provide some living quarters for the workers though these are insufficient and unhealthy as a rule. Finally, unlike the products of rice mills, which export rice to far away places, the products of mustard oil mills, husking mill rice, spice powders, atta and dal have only local markets. However, chira and muri of this region have larger markets than the five mentioned before. Thus we see in Burdwan region spatial advantages giving rise to one industry – rice mills – which in its turn has attracted a large number of other minor agro-processing industries.