SUGARCANE CULTIVATION AND THE COOPERATIVE SUGAR FACTORY: A CASE STUDY OF THE ASKA REGION IN ORISSA

A dissertation submitted in partial fulfilment of the requirements for the award of the degree of Master of Philosophy of Jawaharlal Nehru University, New Delhi.

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1986

I hereby affirm that the research for this dissertation titled "Sugarcane Cultivation and the Cooperative Sugar Factory: A Case Study of Aska Region in Orissa" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development Studies, Trivandrum.

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Certified that this dissertation is the bonafide work of Sri Keshabananda Das and has not been considered for the award of any other degree by any University. This dissertation may be forwarded for evaluation.

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ACKNOWLEDGEMENTS

But for whose able supervision, support and suggestions this study could never have been possible, they are Dr. G.N. Rao and Sri Sakti Prasad Padhi. My heartfelt gratitude to them, I must submit, will stand nowhere before their bountiful concern, patience and involvement in the making of this thesis.

I am extremely grateful to Mr. Jagannath Sahu, Mr. N.Ashok Kumar, Mr. Trilochan Pradhan and Mr. D.C. Patnaik for their kind and ungrudging help during my field survey at Aska.

My thanks are due to Dr. Chandan Mukherjee, Mr. Michael Tharakam, Mr. Raman Mahadevan of the Centre and Dr. K.Nana Buchi of Khallikote College, Berhampur, for some useful discussions and material help.

I am deeply indebted to Mihir Shah who provided me with many valuable theoretical insights and was very much involved in my thesis work. His caring admonitions only were instrumental in my moving ahead with the work faster.

I am very much grateful to Ashok Babu for his immense help, encouragement and some useful tips at various stages of the work.

My friends, Ashesh Ambasta, Rammanohar Reddy, R. Nagaraj, Pyaralal Raghavan, S.Raju, Haseeb Drabu, K.J. Joseph, Muraleedharan Nair, Sunanda Pattnayak, Girija Padhi and Sushant Padhi lent their hands lovingly whenever I needed them. I am grateful to all of them.

For all her friendly care, hospitality and inspiration I am extremely grateful to Sadhana Satapathy.

My very special thanks to Soma Roy without whose many an hour of earnest cooperation the thesis taking the final shape would have sufferled cunctation and mis-prints.

For neat and timely typing I am thankful to Mr. Satyanarayana.

KESHABANANDA DAS

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CHAPTER I

SOME THEORETICAL QUESTIONS AND REVIEW OF LITERATURE

Introduction:

The major implications of the introduction of agro-industrial crops in an economy are two-fold. First, production becomes market-oriented. Hence, the farmer enters the market in two interrelated forms - (i) as a seller of his produce, which implies that market calculus enters in his production operation, and (ii) as a buyer of inputs from the market. Secondly, the process of production involves a greater degree of technological intricacy - both within the agricultural labour process and in the processing that follows - so that it is always possible to increase the margin of profit by undertaking technological improvements in either or each of these respects. In the former, time-measurement becomes a crucial factor. As far as the latter i.e., the processing is concerned, the development of technical processing of agricultural produce is linked very much with technical progress in agriculture. "The establishments which effect this processing either constitute part of the very farms on which the raw material is produced or belong to special industrialists who buy up the raw material from the peasant farmers."[1] Therefore, both these phenomena are contingent upon the development of capitalism in agriculture. In essence,

what happens is a reshuffling of the existing socio-economic relations in a dynamic fashion.

1.1. Some Aspects of Production Organisation of Agro-Industrial Crops:

Before proceeding to study in greater detail how and what forms of changes were engendered due to the introduction of agro-industrial crops, we must point out that these changes, wherever they occurred, had typically a differential impact on different sections of the rural population. To begin with, not all producers were involved in the market and more crucially even among those who were, the nature of their involvement varied qualitatively.

It is beyond the means of the poor peasantry to introduce the kinds of technical changes necessitated by the new crops. This meant their dependence on some "outside" agency for conducting each of the three operations of production, processing and marketing - the agency might, in principle, be rich peasants, landlords, moneylenders, merchants, processing middlemen, industrialists or any one of their combinations. And this dependence did have a tendency to cumulate over time. Whether it led to actual dispossession of land from these peasants, or not is, however, not our concern in the present context.

We will make an attempt to discern analytically different links, hence mechanisms of control, that operate on the peasantry as an indispensable outcome of its involvement in the agro-industrial crop production. For this purpose, we must mention the typology D.H. Buchanan developed in his major work The Development of Capitalistic Enterprise in India for the various forms that the intervention of capital can take. Though originally it relates to his survey of indigo, it in fact, provides a very useful way of categorising the differences that may exist in both the nature and magnitude of capitalist penetration in agriculture.

1.2. Buchanan's Typology:

Buchanan,D.H. (1938)[2] lists the following typical forms of production of agro-industrial crops:

1. Purchase of completely manufactured product by capital - this represents one pole with capital playing no role in the production of raw material or in manufacture.

2. Purchase of partially manufactured product by capital with the process being completed in a factory owned by the capitalist.

3. Purchase of raw material by capital with manufacture wholly done by capital. The purchase could occur under alternative conditions:

a. In the open market, with independent producers selling to highest bidders.

b. Capitalist provides seed and has prior right to new material bought at market price.

c. Capitalist makes advance on the agreement that the cultivator will sell raw material to him at a previously agreed price from which the value of the advances will be deducted.

d. All conditions of (c) prevail except that the cultivator is a tenant on land on which the planter has acquired, either by short or long lease or by purchase, the rights of the overlord.

e. Added to the conditions of (d) is the sub-letting of his occupancy rights by the tenant in the face of his debt-bondage which may also involve interest payment.

4. Cultivation and manufacture by capitalist-cultivation could be --

a. With labourers, implements and cattle hired from peasants.

b. With his own implements and cattle and hired labour, living mainly on the plantation.

A perusual of the massive literature dealing with agro-industrial crops reveals that the various elements which we have mentioned earlier are in fact related to

and interacting with each other in a complex manner which is also changing over time - mutuality of interests between two groups at a certain point of time giving way to antagonism later - thus complicating the picture further.

We will make an effort to review the literature on such crops in the light of our preceding discussion.

The crops we will study are - indigo, opium, cotton, jute, tobacco, coffee and sugarcane (with special reference).

1.3. Crop-wise Studies:

1.3.1. Indigo:

Towards the end of eighteenth century due to a sharp rise in prices indigo became the dominant commercial crop in India under the influence of European enterprise, "with its centre in Bengal".[3] However, in Bihar as well as in north India its growth was no less significant. Table 1.1. shows the change in the relative importance of indigo cultivation in different areas.

In Bengal, though land was held by small peasant families, stringent control was exercised on the

production process and also on the sale of the crop, by the European 'planters', through an elaborate system of loan advances. Unlike traditional money-lending, such a system, overtime, compelled the poor peasantry who could not have afforded otherwise such a costly cultivation, to remain under painful dependence on the planters. While accepting loan the peasant was to enter a written contract "by which he agreed to do whatever was necessary to cultivate indigo and to deliver the plant to the planters".[4] Due to low prices paid and other deductions made during payment, peasants' indebtedness kept on growing enormously.

Table 1.1: Production in 'maunds' of Indigo, 1843-44 to 1888-89 by years. (1 maund = about 80 lbs)

Place	1843-44	1857-58	1877-78	1888-89
Doab	6,400	9,360	44,285	64,000
Benares	16,400	10,000	17,556	18,600
Bengal	97,000	50,330	16,502	17,200
Bihar	23,400	18,822	34,857	58,748

Source: Reid, "Indigo", p.58. Quoted in Buchanan, D.H. (1938), p.38, fn.27.

The very nakedly exploitative character of the system, however, set on itself limits to its own durability. "The recurring clashes between the planters

and the indigo growers, which the system of indigo cultivation tended to generate, began to tell on the cultivation only after the widespread indigo revolts of 1859-60"[5].

In Bihar the system was very different. Under this system (known as zerat), the planters took over the land themselves and initiated direct cultivation under their own supervision, employing hired labour. Originally, the system simply involved the use of zamindari powers including rent enhancement by planters to secure enforcement of their contracts, by securing a lease of lands (thikas) from the zamindar, paying the latter a certain portion of the rent. Slowly these powers were used increasingly to expropriate the land of the peasants and to convert them into hired labourers, paid very low wages through the operation of various modes of extra-economic coercion. (For instance, manipulating the 1859 Rent Act against peasants). In 1867-69 violent peasant uprisings virtually sealed the fate of this system.

Buchanan also suggests that the Bengal type mechanism was in operation elsewhere in India, though the zerat system remained very much peculiar to Bihar. Mechanisms3(c) and 3(d) of Buchanan's typology representing a fairly high degree of control by capital

over the production process, albeit from 'outside', were the most common in indigo all over India.

1.3.2. Opium:

Though the cultivation of opium as a standard commercial crop in Bengal was quite prevalent, only after 1830's it "phenomenally increased by about 122.3 per cent between 1828-29 and 1938-39"[6]. This first phase of a big increase in opium production was designed by government precisely to counteract a threat to the monopoly position of Bengal opium. Table 1.2 suggests its steady growth till the 1860's after which it remained more or less constant.

Table 1.2: Area under Opium Cultivation in Bengal, (1800-1893).

Period	Area under 'Bengal Opium' (in acres) Annual average
1800-1820	25,000
1828	79,488
1838	1,76,745
1848-53	2,75,523
1868-73	4,99,775
1888-93	4,72,394

Source: Bhattacharya, S.(1984), p.327

The main features of the British introduced system - of controlling cultivation, purchase and processing of opium - has been summed up by B.B.Chaudhury in the following words: "The peasant could cultivate poppy only for the government, it could be grown only on those fields as were thought fit by the government; poppy grown in violation of the condition was destroyed; whatever the quantity the peasant could produce was produced only under advances from the government which implied a definite obligation of delivering a given quantity of opium; illicit sale of any opium exposed the peasant to vigorous punishments"[7].

The entire system administered through a complicated bureaucratic machinery managed to make high margins by keeping prices paid to peasants quite low, thus making cultivation unprofitable. Various forms of force were deployed to ensure government control. Peasants were not allowed to give up poppy cultivation once they undertook it - unless they gave up the land itself. Like in indigo, there is some evidence of interference by government agents in actual cultivation practices also. The pattern of cumulative dependence engendered by the advances that we talked about in indigo, also occurred in poppy. The advances were made through khatadars, usually moneylenders or rich peasants, who

often used up these advances to pay off rents of peasant-debtors to their zamindars and also reduced the price paid to peasants by cheating them in various ways. "Opium, despite the low cultivators' prices, had its attractions, the chief one being the interest-free advances offered at a time when the cultivators needed them most, i.e., when the payment of rent instalments became due - a coincidence not incidental, but deliberately planned by the government".[8]

1.3.3. Cotton:

The share under cotton cultivation increased mainly from 1850s onwards. Madras, Punjab, Bombay-Sind were the major cotton growing areas during that period. The role played by railways for this increase was no less important. As in other crops discussed earlier the capital from outside the cultivation in both processing (ginning and pressing) and marketing was no less similar to the earlier mechanisms. "The advances were made at all levels from the village to the last wholesale market, and were given to primary producers like cultivators and weavers; processors like...cotton screw owners...The advances provided primary producers, too poor to buy seeds and raw materials, with funds for investment, and with cash to pay land revenue instalments; and gave merchants, processors, and

zamindars control over the type, amount, price, and the sale of commodities produced".[9] We find similar descriptions by Kumar, D. (1965), Whitcombe, E.(1972), Guha, A.(1972) and also Siddiqi, A.(1973). As we find in jute, peasants faced problems of price fluctuations and in some cases those created by the system of advances, low prices and a chain of middlemen. The Deccan Riots of 1875 is an overt dimension of its perniciousness.

1.3.4. Jute:

The manufacturers and exporters of jute did, of course, gradually exercise an increasing control over the marketing and cultivation of jute, but even then the manner in which this control was mediated was rather different from what we have been describing above. In eastern India, the jute industries, through their control over the demand for jute and consequently its prices, appropriated a considerable part of the peasants' expected gains. The growers, where they borrowed, also surrendered part of the whole of their crops to their creditors, including jute traders, at prices much lower than the market ones. "They offered, probably worst, when the jute prices suddenly slumped, particularly where, not having any previous contracts with their

creditors to hand over their produce to them at a fixed price, they bore the entire loss, and such fluctuations were a common phenomenon in the jute market".[10] Thus, the impact of a volatile market on the cultivators was greatly aggravated by the existence of a whole chain of middlemen who separated the producer from the consumers, viz., the jute mills and exporters.

Also, in some areas the system of advances (dadan) was quite prevalent, though not as "all-pervasive" as in indigo and opium in certain areas in certain periods. The dadan system usually involved money being advanced by the middlemen on a bond that the product would be sold to him at a rate which will be lower than the market price. On failing to do so the borrower would have to repay the loan along with the interest. Further, cultivators were highly disorganised and lacked facilities for storage and transport. This prevented them from avoiding the middlemen.

This was the kind of structure, that prevailed till about 1920's or so. Slowly, however, and especially with the crisis that hit the industry since the 1930s, the Indian Jute Mills Association (IJMA) greatly increased its control over jute cultivation and marketing almost entirely squeezing out the share of the various

strata of middlemen in the surplus. A simultaneous policy of controlling production and piling up inventories on the one hand and concealing information about potential or actual demand from the cultivators meant that the earlier uncertainty prevailed for the latter. Jute forecasts by IJMA were thoroughly underestimating the likely yield and were thus upsetting production calculus in a way that would strengthen the buyers because the sellers would be even more vulnerable in an excess supply situation.

1.3.5. Tobacco:

In Duvvury, N. (1985) we find an elaborate description of how Indian Leaf Tobacco Development Company (ILTD) sought to dictate the nature of leaf to be grown and the methods of cultivation to be applied by providing required inputs to growers in Guntur tobacco belt, Andhra Pradesh, during the period 1923-40. This system implicitly made it obligatory on the part of the producers to sell to the company at a pre-agreed price from which the value of inputs supplied would be deducted. The introduction of flue-curing process generalised a potential basis for differentiation amongst peasantry because of differential capabilities of cultivators to set up their own barns. It also implied the addition of "quality dimension".

As we found in the case of jute there was dependence of the poorer peasantry on the company.

1.3.6. Coffee:

Similar types of mechanism also operated in the case of coffee. Curing is an important process in coffee cultivation also. The Report of the Marketing of Tea and Coffee (1944) describes the pivotal role played by curers in coffee cultivation, processing and marketing. They made both money advances and supplied plants, implements and fertilisers to growers on the condition that the product be sold to them for curing and final sale. Interest was also charged on advances. The major proportion of the crop went through this channel with only the richer planters escaping the clutches of the curer-cum-financier-cum-traders.

1.3.7. Sugarcane:

(i) A review of the work of Amin, S.(1981a, 1981b and 1984) on sugarcane in eastern UP between 1880 and 1940 clearly brings out how the various mechanisms of vertical capitalist penetration, we have been describing, come together, though differently for different crops with the particularity of the crop adding its own variations. For the pre-sugar factory period 1850-1920 Amin describes the dependence of rab-producing peasants on the sugar refineries. The latter

gradually came to exercise the virtual control over the production process of such peasants through a system of advances which were either given directly or through landlords, to whom the peasants paid rent in any case. Agreements were signed which bound the peasants to sell their produce at a low price to the khandasari manufacturers in return for the advances. There was also a penalty clause in the agreement forbidding gur production and agents of refineries kept a watch so as to see that the clause was met. Gur production would free peasants from their dependence on refineries, as it needed little processing. This does not mean that gur producers were entirely free from the hold of merchant moneylending agents. Moreland, W.H. (1907) also describes different methods of sugarcane processing and points out the above phenomenon. He says gur producers are generally small growers, who for any profitable business must 'depend' upon rab producers.

Amin describes systems of advances whose burden he shows was aggravated by the manner in which rent demands were timed and which implied a certain control over the product of the peasant. This was particularly so in a crop like sugarcane, where the problem of long turnover period is particularly acute with the gap between production and working time being very long.

He also documents in great detail the vast number of ways in which the peasants were cheated by the mills in the process of selling cane. He concludes that the "'unequal exchange' relations of the dependent small peasantry caused by credit-bondage resulted in surplus appropriation by the emerging agro-based capitalists system".[11]

(ii) In his study on South Gujarat Breman, J. (1978) analyses different relationships involved between the factory and the migrant harvesting labour via mukadams (labour contractors). For each season, the factory, greater part of the membership of which is restricted to high caste middle and large farmers, employs mukadams on a written contract basis for conducting the harvesting operations. Mukadams are to supply the required number of koytas (groups of three labourers - a cutter and two helpers) who remain fully under the control and mercy of the former. The use of migrant labourers who come from localities of extreme indigence ensures least cost on the factory who does not bear any direct responsibility towards these massive temporary labour, though it can always dictate its terms. In principle, koytas are free to choose their employers, but, in practice, they are no better off under any mukadam.

In such a system, "with the options receding for the weaker party a situation develops as one of dominant control over the entire livelihood of the weaker party. To the same extent that the dominant party (both factory and mukadam) stretches the domain of exploitation, the weaker party has less possibilities of redress".[12] Commercialisation may imply then that while the exploitative element of the earlier relations is strengthened the patronage element is eliminated gradually.

The study of Baviskar, B.S. (1980) which is quite exhaustive in nature, attempts a situational and a structural analysis of one of the oldest cooperatives in Maharashtra. The most interesting feature of such a 'growers cooperative' organisation is that the composition of its shareholders was representative of the major caste groups in the state, whereas the lower caste people usually employed for menial works.[13]

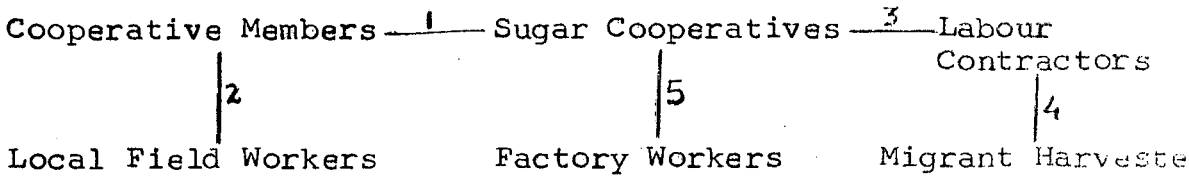
The advantages to individual growers in such a cooperative are mainly higher prices, credit for crop loans, lift irrigation and even trucks, provisions of inputs and advice from hired agricultural experts; a centralised professional service for performing manage. tasks for cutting, transportation and marketing, etc. Apart from all these they are also provided with social service activities like school, college and health centres. However, such facilities have come about as

an indirect result of "selfish" economic and political interests of the leaders, who dominate in the factory's organisation.

Chithelen, I. (1982) in a review of Baviskar depicts different relational mechanisms operating in the total organisational set-up as follows: "A sugar cane cultivator is by and large a rich farmer. From amongst the cultivators, those with larger plots and greater resources have gained enormously by the cooperatives; much more so than the smaller ones. This disparity is reflected in caste terms too. Marathas own 60 per cent of the shares while only 8 out of 1,044 members are from the lower caste. The Board of Directors consists of medium and large shareholders, with a handful of latter-taking virtually all the important decisions. These leaders control other institutions as well, such as the cooperative Banks, the Congress Party Organisation and State Ministries. The relationship is a two-way process with both economic and political power reinforcing each other. Baviskar acknowledges that these cooperatives have led to the growth of a thin layer of powerful, prosperous, upper-caste farmers".[14]

The plight and exploitation of harvesting migrant labour, as we find in Breman and Matson, has also been discussed by Baviskar.

Jim Matson's study (1983) of sugar cooperatives of Maharashtra is a critical account of a system of production which has benefited rich and influential local farmers and hence severely raised the "vulnerability" and "domination" of labour. He, however, points out that this antagonism of interests occur not at a single level; rather it is an obvious outcome of interactions of different relations involved in the process of production. The following diagram presented by him shows different important relations operating in the organisation of production.



The first link that Matson explores is that the members of cooperative are well-to-do landowners, who by the virtue of their membership right, supply cane to the factory. However, cooperatives have been used as instruments by these members, who being politically strong enough ensure better price for their produce and easy availability of inputs like fertilisers and pesticides. Even many high posts of the factory are offered to these members and their relatives. These members constitute the strongest political lobby in the state politics. They are even capable of organizing peasant movements which benefit the rich farmers and the sugar cooperatives.

The second link established by Matson is that the factory hires local labour quite irregularly. Hence the factory does not bear any direct responsibility towards their welfare, or for that matter security of the job. Moreover, by segregating field workers from processing (which is exclusively done by factory workers) landowners have really exercised a severe control over the former, whose attempt to unionise gets liquidated in the process.

As Breman, J.(1978) had found in the case of Gujarat here also the labour contractors arrange with the cooperatives to supply and organise efficiently, the specified number of labourers for harvesting and transporting cane to factory. All wages and allowances to workers are paid through contractors by the factory. These payments exclude advances paid by factory to contractors. Contractors then pay the labourers after deducting their advances to the latter. Hence, the factory does not deal with the workers directly. However, the cutting schedule and rhythm of work to maximize the supply of freshly cut cane, 24 hours a day, is determined by the factory.

Another link brought out, is similar to that of Breman's study. This involves all phases of recruitment, migration, work and payment, though basically on a non-

contractual arrangement. Usually from a known village or his own village debt-stricken labourers are recruited by the contractor who exercises various controlling measures upon them so as to make the maximum possible gain in the contract with the factory.

Finally, regarding the recruitment of workers, mainly local, it is very much influenced by the big landowner-shareholders. The latter have an upper hand in controlling the former. Though labour unions exist, their position as far as demand fulfilment is concerned, is not very sound due to the "narrow limitation of the State framework for negotiations".[15] The hierarchial position of the worker in the factory indicates his duration of employment and degree of security. As the factory workers are the highest paid wage labourers in the area, the payment will increase as they work for a longer period of time. In this sense, their earnings differ very much from the casual hired labourers. He observes finally that the organisation of work and the pattern of State involvement in the cooperatives are crucial to understand the intricate politics of production.

1.4. Scope, Purpose and Structure of the Present Study

Having seen the typical features of production organisation of agro-industrial crops, both in general

terms as well as in the case of particular crops, we will now briefly explain the scope, structure and arrangement of the present study.

The present thesis is a particular case study with two general objectives. First, to look at the economic conditions of production of an agro-industrial crop. The analysis here will essentially be centred around variations in the cost structure, yield levels and cultivation practices (in particular, varieties of cane grown) across size-classes of sugarcane cultivators. The second broad objective is to analyse the role of the cooperative sugar factory in the region of our study primarily in terms of its impact on the economic condition of, and its relationship with, the predominantly small cane-growing cultivators in this region. On this basis, we can raise the question of the adequacy of the cooperative form of organisation for an agro-industrial enterprise in bringing about economic changes within agriculture.

Now the choice of the region and that of sugarcane is dictated by a number of reasons which give the present study its precise scope and justification. On the one hand, there is evidence of a rich culture of high quality cane cultivation in Ganjam district, its agro-climatic conditions being eminently suitable for

the same. On the other hand, the sugar factory at Aska established in the 1840's was one of the oldest in South Asia and known to produce superior quality sugar so much so that some varieties of sugar were named as 'Aska' sugar. It is against such a background that a study of the current state of the sugarcane economy in the Aska region of Ganjam district seems worth undertaking.

In addition, there are some features of the sugarcane economy of the region like the absence of migrant labour for cane harvesting, which set it off from the other sugarcane growing regions of India such as Maharashtra and Gujarat, the studies on which we have reviewed above. Hence, the specific conditions of this region call for a separate study.

The study has been organised as follows. Chapter 2 sets out the historical background including the history of the early factory and the trend in the area under sugarcane for the district as a whole and for the Aska region within the district. Chapter 3 analyses the socio-economic conditions of sugarcane cultivation in a major cane growing village of the Aska region. Chapter 4, then, analyses some aspects of the relationship between the cooperative sugar factory and the cane growers. Chapter 5 analyses the economics of gur manufacturing for one of the few remaining villages where

gur is still manufactured as a non-commercial activity in order to bring out the significance of a major option of the cultivators vis-a-vis the sale of cane to the factory. The main findings and analytical points are brought together in the concluding remarks.

Notes and References

1. Lenin, V.I. (1972), p. 287.
2. For details, see, Buchanan, D.H. (1938), p.42.
3. Buchanan, D.H. (1938), p.36.
4. Chaudhury, B. (1964), p.130.
5. Bhattacharya, S. (1984), p.318.
6. Bhattacharya, S. (1984), p.318.
7. Chaudhury, B. (1984). p.7.
8. Bhattacharya, S. (1984) p.327.
9. Kessinger, T.G. (1984), p.264.
10. Chaudhuri, B.B.(1984), p.146.
11. Rajapurohit, A.R. (1985), p.59.
12. Bharadwaj, K.(1982), p.11.
13. Baviskar, B.S. (1980), pp. 47,52-55.
14. Chithelen, I. (1982), p.146.
15. Matson, J. (1983), p.25.

CHAPTER 2

THE HISTORICAL BACKGROUND

Introduction:

The purpose of this chapter is to provide some sort of a historical background for an analysis of the current situation presented in the following three chapters. The historical descriptions, it is hoped, will provide an explanation for the changes, if any, that occured in the sugarcane economy of the region vis-a-vis the operation of the sugar factory.

Thus, in this chapter, we will try to cover the following three broad topics viz.,

i. how the natural/agro-climatic conditions in the region have been highly favourable to cane cultivation;

ii. a reconstructed account of the establishment, growth and subsequent decline of a sugar factory in this region (regarded as one of the oldest in South Asia), leading upto the setting up of the cooperative factory in 1963, and, finally, given (i) and (ii);

iii. the trend in the area under sugarcane and the place of sugarcane in the cropping pattern of the district for the period 1891-1981.

Let us start with a brief discussion on the importance of cane in the district before proceeding

to analyse the agro-climatic conditions prevailing in Ganjam and their suitability for cane cultivation.

2.1. Significance of Cane in Ganjam:

Ganjam[1] is the southern most district of Orissa. It is bounded on the north by Boudh-Khondomals and Puri districts, south by Srikakulam district of Andhra Pradesh, west by the districts of Boudh-Khondomals and Koraput and east by the Puri district and the Bay of Bengal (See Map I).

According to the 1981 Census, Ganjam is the third largest district of the State in terms of area and population. The district extends over an area of 12,527 sq.kms and has a population of 2,652,699 of which the rural population constitutes as much as 86 per cent of the total.

There were a number of references[2] to extensive cane cultivation in Ganjam, especially towards the end of the eighteenth century and later[3]. Raju, S.(1941) had referred to several such sources[4] which clearly pointed to the appropriate climatic conditions prevailing and very high quality cane grown in the district.

While C.N. White, member of the Board of Revenue, observed that Northern Circars (which included Ganjam)

DISTRICT GANJAM

MAP I

MILES 4 0 4 8 12 KILOMETRES

INSET A

POSITION OF GANJAM DISTRICT IN ORISSA

Drawn in the office of the Director of Census Operations, Orissa from the State map approved by the Survey of India. Jurisdictional changes in the district boundaries have been duly vetted by the Director of Land Records and Surveys, Orissa. 1972

Name of the Tahsil	Area in Sq.Kms	Area in Sq.Miles	No. of Village	No. of Towns
Chatrapur	766.7	296.0	217	4
Kodala	1,375.3	531.0	629	3
Berhampur	982.7	352.0	251	2
Digapahandy	1,067.2	412.0	434	---
Chikiti	836.7	322.3	338	---
Ghumsur	2,326.3	821.0	401	3
Aska	963.8	372.1	335	1
Surada	945.4	364.0	273	1
Parlakhemundi	1,401.4	541.2	741	1
R.Udayagiri	2,356.3	910.9	1,076	---
G.Total	12,238.3	4,725.0	4,757	15

SEE INSET A

REFERENCE

- District Boundary
- Tahsil Boundary
- MS Boundary
- District / Tahsil / MS Hqrs.
- National Highway
- State Highway
- Major District Road / Other District Road
- Railway — Broadgauge with Station
- Narrowgauge with Station
- River
- Canal
- Urban Area / Town
- Hospital / Dispensary / PHC / MCWC
- College / High School / Market — C HS M
- Post Office / Post & Telegraph Office — PO P&T
- Rest House / Inspection Bungalow etc — RH
- Important Village
- Hill

East of Greenwich

had "so many natural advantages of situation and climate" for the growth of sugarcane cultivation to any extent, Sir Thomas Munro also had asserted the above view that "Ganjam...had long been famed for (its) sugar, and the well-known Aska sugar, after which a great many varieties are now called, came originally from Aska paragana of Ganjam".[5] Minutes of the Board of Revenue in June, 1797, based on an inquiry, noted that the largest quantity of cane in the Madras Presidency was grown in Ganjam and Vizagapatnam and it had scope for large extension. Not only that cane was grown in plenty here but also, according to Dr. Roxburgh, an expert in the field, "this country (mainly, the two districts) possessed every facility for cultivation and enjoyed several advantages over the West Indies whence the English demand for sugar was chiefly met. The plant yielded more than double the produce of the cane in West Indies, labour was infinitely cheaper and the crop more certain."[6] Again, in 1815, the Collector of Ganjam noted that "the quantity of sugar could be extended to almost any number of maunds annually."[7]

2.2. Agro-climatic Conditions for Sugarcane Cultivation:

Sugarcane is a tropical crop. But it extends much farther beyond these zones. The cane as normally cultivated is of about 10-14 months duration, depending upon the variety grown. Temperature, light and moisture are the principal climatic factors that have a direct

bearing upon its growth. Warmth and humidity during the growing stage and dry chilly weather at maturity are ideal for the crop. Mangelsdorf[8] characterizes the following as an ideal climate for the production of sugar from sugarcane;

> "a. A long, warm summer growing season with adequate rainfall.
>
> b. A fairly dry, sunny and cool but frost-free ripening and harvesting season.
>
> c. Freedom from typhoons and hurricanes".

Temperatures are lower at higher land platforms and given the normal cloudier weather there, cane grows at a slower pace and matures at an older age.[9]

In South India sugarcane is cultivated under rainfall conditions ranging from about 20 inches to 100 inches or more. But, "it is in the tracts of moderate rainfall of 30 to 40 inches supplemented by sufficient and timely irrigation that the crop thrives best."[10] In the district of Ganjam the heavy rainfall is concentrated in the south-west monsoon months of June to September (See Table 2.1) and at the height of the monsoon the cane is only 5-7 months old. Though special efforts have to be made to secure adequate drainage of the surface water the growth of the cane

is not arrested seriously and even if there is a slight check, the cane grows rapidly after the monsoon conditions cease. The average rainfall in this district is about 50 inches (i.e., 1,301 mm) which is a very sound agro-climatic factor for cane crop here. Again, as seen Table 2.2 shows, during the early stage of growth (November to March) both average sunshine hours and sunny days are the maximum, helping cane to grow in a very conducive climatic condition.

Table 2.1: Monthwise average rainfall in Ganjam (in mm.) (1973 to 1983).

Name of the month	Average from 1973 to 1983	
	Rainfall (in mm)	Rainy days (Nos.)
January	2.6	0
February	25.5	2
March	43.4	5
April	44.3	5
May	68.6	6
June	183.2	12
July	265.4	17
August	254.9	17
September	243.9	14
October	114.3	7
November	49.7	4
December	5.2	1
Total	1,301	90

Source: District Agricultural Office, Aska.

Table 2.2: Monthwise average of bright hours of sunshine, (1976 to 1983).

Name of the month	Total sunshine hours	Average of bright hour of sunshine per day
January	296.9	9.6
February	270.9	9.6
March	269.4	8.7
April	251.1	8.4
May	272.1	9.0
June	174.3	5.8
July	138.6	4.5
August	133.6	4.4
September	173.1	5.8
October	234.0	7.6
November	250.8	8.7
December	275.7	8.9

Source: District Agricultural Office, (DAO), Aska

The major sugarcane growing region of this district (Aska and its surrounding 13 blocks) is, under coastal sub-tropical climate with varying agro-climatic conditions of central plain and Eastern Ghats. The soil type ranges from the alluvial and heavy soil to red loamy of hilly regions of Surada and Jagannathprasad blocks.[11] This part of the district enjoys an average 31.6°C maximum and 20.1°C minimum temperature with 89% humidity and an average

precipitation of 1,290.01 mm. with 88 rainy days, out of which 187.72 mm (13.9%) is received before monsoon, 954.61 mm (74.1%) during monsoon and 147.68 mm (12%) after monsoon (See Table 2.3).

Having seen the overall suitability of the climatic conditions in the district of our study, we shall now move on to an account of the beginning and growth of the sugar factory.

2.3. The Aska Sugar Factory:

Realising the tremendous prospects of sugarcane as an "export" crop, as early as in the beginning of the nineteenth century, besides the East India Company, a number of "Private businessmen, English and Indian, were active in making advances to cultivators to grow sugarcane and they were successful in some districts (of Madras Presidency)."[12] Ganjam was one of them. These 'alien' elements failed in their initial attempts at introducing high-yielding varieties (Mauritian) of cane in the district.[13] That was mainly because the ryots had nothing to do with the West Indian methods of cane cultivation and also they were content with the quality and yield of the native cane grown that met their consumption requirements. Even those who were cajole

Table 2.3: Yearwise total precipitation (in m.m) 1974-1983

Year	Total amount of rainfall	Total rainy days	Total rainfall during the year upto monsoon			Total of rainfall during the monsoon			Total rainfall during the year after monsoon.		
			Rain fall	Rainy days	% of rain	Rain fall	Rainy days	% of rain	Rain fall	Rainy days	% of rain
1974	939.5	94	120.6	8	13	572.8	67	65	246.1	19	22
1975	1,120.7	96	107.3	17	9	858.5	73	79	154.9	6	12
1976	1,245.7	95	85.4	21	8	1,003.4	64	77	156.9	10	15
1977	1,378.2	101	192.3	23	15	914.2	62	65	271.7	16	20
1978	1,352.8	112	226.3	25	16	977.7	69	73	148.8	18	11
1979	1,085.8	57	106.4	6	10	90.40	44	82	75.4	7	8
1980	1,587.3	82	164.8	12	13	1,190.0	61	71	232.5	9	16
1981	1,391.1	76	222.4	19	17	1,147.0	54	81	21.7	3	2
1982	1,212.7	77	285.8	24	19	846.2	47	74	80.7	6	-
1983	1,586.3	96	365.9	27	19	1,132.3	58	74	88.1	11	7
Average	1,290.01	88	187.72	18	13.9	954.61	60	74.1	147.68	10	12

Source: Kharif Strategy, 1984, DAO, Aska.

to "experiment", discontinued to practise the awkward new method[14] as the contractual obligations involved were stringent in nature. Such rejection of the external intervention confounded many "venturers". Many of them were thoroughly disgusted with the farmers and described them as unfaithful and obstinate people.[15] However, this never killed their hoggishness to make a fortune out of sugarcane in this district. They made repeated efforts towards this end, the most effective and consistent being those of the Binny's of Madras, the free merchants who dominated over all major trade and industries in the whole of South India, especially after 1833.[16] After about a decade of enterprise, in the early 1840's, the first sugar factory in Ganjam was set up as a "considerable undertaking" at Aska.[17] The 'Aska Concern', incidentally was Binny's maiden investment in agro-based industry.

The first ever recorded shares in this concern (in 1847-48) are shown in Table 2.4. From amongst all these partners, Scott Bell & Co. were Binny's London constituents and John Scott was a London-based importer having dealings with the House (of Binny's). Being an employee of the House, Boothby was in charge of managing the Aska concern from Madras. In 1855, when W.S. Binny's share was transferred to his son, it caused

Table 2.4: Partners and their shares of Aska Sugar Factory (1847 - 48).

Partners	Shares
Binny & Co	14
Scott Bell & Co	7
A. Hastie	7
W.S. Binny	7
John Scott	7
G.W. Boothby	6
Total	48

Source: Desouza, F. (1969), p.53.

Note : The shares are presumed to be of equal value.

"consternation" in the firm; "looking to the future they speculated on the effect of a loss at Aska on the slender fortune of the younger Binny, for times were by then perhaps not too easy for the Old Guard (W.S.Binny).[18]

It will be of interest to note that almost around the same period, in 1842, Parry & Co. of Madras launched their first major sugar venture by starting a factory at

Bandepollium in South Arcot district. Such a sudden spurt of sugar factory development in South India was, of course, not without reason. Until mid-thirties, "the West Indian sugar interests had succeeded in clamping down and keeping down a restrictive tariff against East Indian sugar; this deadweight could not be overcome either by rational argument or by the East India Company's propaganda sugar-basins labelled in gold letters "East India Sugar NOT made by slaves."[19] The tariff gap (about 30 shillings a cwt) was large enough to dishearten the Indian enthusiasts to make sugar a worth-going-for venture.

Two remarkable events, however, occurred around this time, the combined effect of which gave a distinct fillip to the Indian sugar industry. First, in 1834, the abolition of slavery led to an insoluble crisis in sugar in the West Indies as it heavily disrupted their plantation activities. As Adamson, A.H. (1972) puts it:

> "Slave labor was the base of eighteenth century colonial agriculture. Despite rising prices slaves were considered cheap compared to free workers. The docility which the institution was supposed to imply provided a force which could be commanded at all seasons and under all conditions. This was thought to be especially important in cultivation of labour-intensive crops like sugar (cane). Planters could no more conceive of growing sugar without slaves than they could of making it themselves...Free Negroes, it was argued, had never been known to work for hire on a sugar plantation."[20]

Secondly, and most notably, in 1836, the discriminatory import duties on both the East and West Indian sugars were lifted. This implied there was no "economic distinction" between the two. For many West Indian planters, this period (1838-50) was indeed the end.[21] The private entrepreneurs left no stone unturned in making the best utilisation of the opportunity to improve the East Indian sugar, which was to be exported to Britain where the post-emancipation phase, eventually witnessed a huge market for the product. In response to this, there was a "big boom" in overseas sugar shipment and the export figures of 1840-45 were "promising".

According to the report of the Select Committee of the House of Commons on Sugar and Coffee Planting, (published in 1848), India supplied about one-quarter of England's total sugar requirements during the years from 1839 to 1847, the average annual exports to England being 59,373 tons.[22]

Table 2.5 is rather a rare compilation of sugar export data for over a century from 1800 to 1905. This clearly suggests that sugar exports rose appreciably between 1839 and 1851. Similarly, the rise of above 100% within a very short period of just a couple of ye... (1839-41) definitely points to the impact Indian sugar had made in the world market. As far as Madras Presidency

is concerned Table 2.6 shows the extraordinary rise in exports of sugar, it was more than 20 times between 1835-36 and 1850-51.[23]

Table 2.5: Export of Sugar from India (1800-1905)

Year	Total sugar (in lakh cwts)
1800	1.20
1821	2.77
1835	1.01
1839	5.19
1841	10.37
1851	16.07
1861	8.46
1888	11.80
1904	1.93
1905	2.30

Source: Shah, P.G. (1911), p. 288

Note: One Cwt is equal to 50.8 Kgs.

Table 2.6: Value of Export of Sugar from Madras Presidency (1811-1851).

Year	Value (Rs.)
1811-12	9,450
1820-21	10,408
1825-26	30,443
1830-31	45,864
1835-36	1,00,906
1840-41	1,12,171
1845-46	15,26,899
1850-51	20,98,387

Source: Raju, S. (1941), Appendix XII, p. 310.

This abrupt rise, however, was temporary. Confirming the apprehensions of the sugar industrialists regarding British government's "political caprice", in 1845 the adoption of the policy of free trade practically "slaughtered" the Indian sugar concerns,[24] with the exception of one refinery in North India and in the South Parry's in South Arcot and Binny's at Aska.[25] As a result, India was not able to compete with its counterparts outside the British empire. The rise of beet-sugar industry nurtured by government countenance was also a significant cause for depressing India's sugar export performance.

With the establishment of refineries at Aska and Nellikuppam (Parry's), domestic consumption demand for sugar could be met and unrefined sugar was exported to Britain where it was "either refined or used for brewing or cattle fodder".[26] That is not to say that such business was, by any measure, non-lucrative. In fact, as mentioned in Desouza, F. (1969), Aska sugar was sold in London at an average price of Rs.25/- per candy of 500 lbs compared to a very low cost price of less than Rs. 10/-.In spite of the working of the Aska refinery, the Binny's were not able to compete for white sugar which was exported by other European refiners and, hence, was not obtained in the local market. The adequate ground for the inadequacy of refined sugar (made at Aska) to be exported could be identified mainly with the falling quantity rather than with the quality of the product, which was evidently of superior merit.

A perceptible fall in quantity, in this case, can never be understood unless we get some impressions regarding the relationship between the factory on the one hand and the contract-growers on the other. As referred to earlier in this section, the local ryots were ill-disposed towards the introduction of a 'culture' of sugar, especially because of the harsh terms of contracts. However, even after a decade of factory's operation, it appeared to be "perpetually in trouble". The management was very much worried about the piling

up of native debts, which resulted from non-payment of their (growers') credit dues. Relating to such state of affairs, there was "some sort of a crisis", over which the local manager had to resign after a disagreement with Boothby, who was looking after the concern from Madras.

One of the most remarkable incidents, that perhaps explains the fall in the quantity produced and reflects the nature of the relationship with the "reluctant" cultivators, is worth noting here. Though we do not have detailed material on this, the following extract from The House of Binny will definitely be suggestive of the same:

> "...an underling named Brown (probably, the local crop manager employed by Binny's), was dismissed by Boothby for "giving vent to his temper" and striking some of the cultivators, following which supplies of the basic raw material jaggery, had mysteriously dried up."[28]

In 1862, i.e., a few years after this incident, Boothby (then, no more the manager) made a petition to the Government of India arguing for legislation to cover 'breach of contract' by cultivators. The Aska factory had advanced a crop loan of Rs.800/- to a cane grower on a contract basis. But neither the contracted

cane was supplied to the factory (for it was sold to others) nor the loan repaid by the grower, even though a decree went in the former's favour. Also, the Madras Board of Revenue ruled that a defaulter's land could not be sold to compensate his debts. Boothby's petition, thus, was rendered "infructuous".[29]

As a consequence of such estranged relationship, Binny's found it hard to manage it further. They did not maintain any direct involvement with the factory and by 1856 sold out their interest as a firm. Of course for quite a long time - till 1872 - their agency was sustained. The partners also either retained or acquired the shares.

In the meantime, one Mr. Frederick James Vivian Minchin,[30] a German, entered the scene as a factory shareholder and showed a lot of interest in it. He had planned for the modernisation of the plant for he felt that the prevailing operation was not profitable. In 1869, he purchased new machinery from Europe and installed the same at the Aska factory. Apart from sugar he was also involved in other commercial ventures - leather goods industry, indigo cultivation etc.,[31]

Before we go ahead beyond 1872, when the Binny's ceased to be the agents and the Aska Sugar factory became the property of and was run entirely

by M/s. Minchin Brothers and Co., a look at the changed shareholders' position, as of 1866, (See Table 2.7) might be of some interest.

The existence of at least six partners of Binny's, in the above list, at a time when the factory's performance was no more promising, probably suggested the venture's"fascination" for Binny's partners or the reverse. How exactly Binny's connection with their first agricultural concern in India got delinked for ever is not known.

Table 2.7: Share position of Aska Factory in 1866

Partners	Shares
F.J.V. Minchin	7 (+salary of Rs.600 p.m.)
Scott Bell & Co	9
J.B. Key	7
J. Ainslie	5
R.O. Campbell	5
R.B. Bell	5
Wm. Scott	5
C.A. Ainslie	5
Total:	48

Source: Desouza, F. (1969), p.55

Note: The shares (whose values are not known) are presumed to be of equal value

The British Government's switch over to free trade policy in 1845, had a deleterious impact on the sugar industry in India for several years. But we see, towards the end of the century, that there certainly was some sign of revival. The pressing need to improve the "wretched character" of the product was emphasized even at the higher governmental level. The absurdity of out-migration of Indian indentured labour to Mauritian plantations was also seriously thought about. With a view to "keep the men and the cane at home", i.e., to prevent sugar imports (from Mauritius and other West Indian countries), the amelioration of Indian sugar industry was considered in terms of modernising the existing processes so that raw sugar turn-out would be bettered. The Aska concern with its "machinery of the best construction" and the Nellikuppam unit of Parry were the most outstanding inspiration to the sugar industry in India, which " could become, instead of an importer, a supplier to the world."[32]

Evidently, there was a persistent rise in sugar trade from 1870s onwards, excepting for a'flat spell' in 1880. The exports rose from 4,00,000 cwts (Rs.19.5 lakh) in 1873 to 1,478,600 cwts (Rs. 80.5 lakh) in 1883.[33] This was a clear reflection of the fast increase of consumption demand at home itself. Aska and Nellikuppam in Madras were producing the 'bulk' of refined sugar and the home demand was thus met 'solely' through both

these factories. The demand for refined sugar from abroad, especially from Great Britain, was also mounting, as a direct consequence of swelling up of tea consumption there.[34]

As noted a little before, Minchin had made all possible efforts to modernise the plant with advanced technology.[35] By 1880, the yearly output of sugar by diffusion method was about 8,000 bags of 1½ cwt each of first product, amounting to Rs.1.6 lakh. One lakh gallons of syrup (valued at Rs.25,000/-) were also manufactured each year. In addition to this, whenever there was a demand for home shipment, large quantity of centrifugaled "chini" (jaggery without syrup) was made to meet this end. The refining capacity of the Aska factory was 2,000 tons of refined sugar of Rs.6 lakh worth. By using the "most approved fashion", from the surplus syrup or molasses, rum, rice spirit, cognac and milk punch were manufactured as important by-products of the factory. 1.5 lakh gallons of proof spirit was the out-turn of rum per year. The distillery possessed two column stills, each producing 1,000 to 1,200 gallons of proof spirit in 24 hours. The factory also had a cooperage for cask making and a separate unit for iron and brass castings.

Though, in 1889, J.D. Rees[36] after visiting the factory, observed that, "Everything throughout the

factory is altogether on a model scale, but business is not so active as it should be", F. Desouza maintains, "Minchin was still going strong (even) in April 1899."[37]

Such handsome growth of the factory was not, however, entirely to the satisfaction of the raw material suppliers - the cane growers. The growers had to enter into contracts to provide cane or jaggery to the factory. Loans for cultivation expenses were, of course, extended to the growers and the terms of agreement were rather harsh. The factory had taken on lease large amount of land and the cultivators to whom it belonged were bound to produce cane. The "veteran Minchin" was a hard-core manoeuvrer and was tactful enough to prevent accumulation of debt. We learnt from some local people (whose forefathers supplied cane to the factory) that during the Minchin period, some growers had lost their land to the factory in connection with the failure to pay back the loan amounts taken to supply cane.

The growers definitely had less liberty to get away from the lease trap of Minchin management than that of the Binny's earlier. The reason, of course, is not very far to seek. As recorded in the Ganjam District Manual, "The firm (M/s. Minchin Brother & Co.) are distillers as well as sugar makers, and at present

(1882) besides supplying Government with considerable quantities of Alcohol and Rum, are the Abkari renters of Ganjam".[38] This government-level connection was by itself an effective means of control over the locality. The local Oriya Sundies, "in whose hands the liquor traffic formerly lay" were put to undue trouble as a result of Minchin's higher level links. They were going desperate with the growth of the factory and especially, the distillery. Rees notes that, "Mr. Minchin has a monopoly of the supply (of proof spirit) under contract with Government, but complains of the large amount of illicit distillation, and petitions were presented to the Governor by some people who said they were hereditary distillers, and that their means of livelihood had been destroyed by the monopoly system".[39]

Those wealthy landowners who were growing cane for the factory had an advantage over their less well-to-do counterparts mainly on two grounds. Firstly, as a rule, "only the more wealthy ryots can afford to grow it" as the crop required more water (about three times more than rice), a long time to mature and a lot of care to protect the crop. And the early practice of keeping the land fallow for the next season after cane had been harvested was, of course, a more difficult proposition for the poor growers than the richer ones.[40]

Secondly, their social relationship with Minchin, who, in fact, had to depend upon these influential persons for his own status and safe growth, largely prevented them from getting into troubles regarding credit and contract issues with the factory. We do not know what precisely were the elements of nexus between them, but what we heard from people in the locality was that these big growers were instrumental in persuading their tenants and/or poor peasants, who took loans from them on various occasions, to supply cane to the factory. This in turn secured the former's position to get things done, whenever needed, at the governmental level through Minchin, who 'supported' their cause.

Apart from Minchin's favourable relationship with the government, his 'fame' as an employer of about 1,000 people in the factory, as a developer of a very modern irrigation system at Aska on the river Bodonadi, as a 'wide-hearted' person after his marriage to a lower caste Oriya woman, Suna (daughter of a worker in the factory), and as a 'promoter' of the Aska town itself, all acted together to strengthen his social position in the locality.[41]

Such mutuality of relations (between Minchin and big growers and influential people), where each party

buttressed the other for selfish motives, probably explicates why Minchin's enterprise grew without any open protest by the poor growers. Added to this, Minchin's social standing and the politics of pressure operating in this subtle way had ensured cane supply to the factory and also allowed his power to be exercised sans hurdles.

The poor cultivator who, partly due to some expectation of making profits and partly due to allegiance to the landlords, grew cane had an onerous experience to get through. If he was so poor as to have no oxen of his own, then he obtained the use of a pair, for the different operations required, and paid their owner perhaps in grain or labour, or perhaps by alloting him a portion of the crop when cultivated. To assist him in hoeing, watering, and watching his field, he engaged his wife and family, or associated himself with some neighbour, to whom, in requital, he probably allowed a share in the produce. In this manner, when the crop was harvested, very little came to him as his own share and that created cracks in his contract to supply a pre-accorded amount of cane to the factory. The other portions of his time he used to pursue various employments, the nature of which very much depended on the particular caste he belonged to, which

brought him in a few pence; and that alone enabled him to bear up against oppressive rents, grinding usurers, and other ills which very numerously beset him. But, it must be mentioned, the cane growers had no opportunity to convert their crop into gur, for which mills were no less abundant. In 1892, as many as 1,310 wooden mills alone were there in the district.[42] As far as gur manufacturing was concerned there was no official restrictions imposed by the government.

Between 1899 and 1905, the senile Minchin,[43] was seriously trying to sell the concern. In fact, the "Binny's might actually have taken it back as a reinforcement of their fledgling sugar venture at Samalkot had not financial stringency came in the way".[44] In 1905, Parry's were also negotiating with Minchin, who of course was 'reluctant' to accept a sum of rupees one lakh and a half, but in vain.

After the demise of Minchin, his wife Suna Minchin managed the concern till her death in 1916. Till 1915 Aska remained a familiar name outside the district. To quote Desouza again,"...to this day white sugar is called 'Aska' in the bazaars of Madras. Then the factory's proprietorship was taken over by a rich family of a nearby village (Sahu brothers of Nimakhandi) who could run it till 1943, when the factory

had gone into a stage of heavy liquidation and production was falling because of ill-functioning of obsolete machinery and mismanagement. After Sahu brothers came, the factory's link with the export world diminished for the reasons mentioned above and also for the lack of communication with the local government.

Until the end of the nineteenth century imports of sugar to India were "insignificant"; India's consumption needs were large enough to use up whatever variety of unrefined sugar manufactured within the country. However, later, especially after 1884-85, quantities of sugar shipped into the country from abroad shot up fast.[46] This growth has been attributed to the rapid technological advancement in cultivation and manufacturing of sugar from both sugarcane and sugar beet in major sugar producing countries of the world. In India, there had been "practically no progress in the same.[47]

In the face of growing sugar importation, remarkably enough, the gur industry in India never breathed its last, considering the fact that there hardly was any progress in gur technology: cane was grown by ryots on"small and scattered" plots of land and albeit "the methods they used might be inefficient compard with

the modern methods, the peasant's total earnings might still be greater than the profit he would make by selling the cane to a sugar mill or a refinery..."[48] Added to that, the ryot would prefer to cultivate cane making the best use of family labour and the piece of land he possessed, "although if he paid his labour the wages ruling in the market he might show a loss".[49] It is of no less concern to note that even in 1846, Disraeli observed the small-peasant element in sugar production in India and since the peasant had complete control over the production process there definitely was some "increased income" accruing therefrom even while practising inefficient methods as was known to him.[50] This was true also in the case of Ganjam where a large number of villages were growing cane solely to make gur which was both [illegible] up and/or sold in local markets by the ryot himself. In fact, after Minchin's death supply of cane to factory was not very satisfactory and Sahu brothers found it difficult to manage the factory which incurred heavy losses.

For the period from the World War I to 1930 as the whitesugar industry was "effectively protected" by bringing down import figures, the supply of foreign machinery to India was also prevented. This, of course, had a telling impact upon the performance of sugar industry at home. Hence, non-replacement of 'obsolete',

machinery at Aska factory by the 'already-in-the-red' Sahu brothers, was another reason for their fiasco.[51]

The year 1930-31 was, however, an important "landmark" in the Indian sugar industry history, when at the instance of the Imperial Council of Agricultural Research, the issue of protection to the industry was referred to the Tariff Board by the government. In March 1931, pending deliberation of the report of the Tariff Board, the revenue duty on sugar was upgraded to Rs. 7-4-0 per cwt. Over and above this, a revenue surcharge of 25% (Rs.1-13-0) per cwt was imposed from September 1931. Finally, the government fixed a protective import duty on sugar at the rate of (Rs.7-4-0 per cwt with effect from 1st April 1932. Till 31st March 1934, the total import duty including the surcharge Rs.9-1-0 per cwt.[52]

Despite the ubiquitous economic depression, the sugar industry in India had made "phenomenal progress" under the tariff umbrella that was guaranteed for a period of 15 years, ending on 31st March 1946. "Besides the duty, various other special advantages - consequent of the depression - have helped the rapid growth of industry".[53] Table 2.8 is corroborative of the above

Table 2.8: The Growth of Sugar Industry in India (1929-46)

Year	Number of Factories in India
1929-30	27
1932-33	57
1933-34	112
1945-46	145

Source: Low, F.(1945), p.733 and Jehu, I.S.(1948),p.841

Though the growth of factories in India was remarkable during this period, by the end of 1946, ironically as it might be, the factory at Aska - one of the oldest in the country - was no more in existence.

2.4. The Coming of the Cooperative Sugar Factory at Aska:

The cooperative movement in Orissa was gaining momentum during 1930's. The first sugar cooperative institution named Sugarcane Growers Cooperative Society was registered under the Cooperative Societies Act in 1939. That was the time when many sugar factories came up in the states of Bihar and Uttar Pradesh with modern technology.

Soon after Independence the newly formed Government of India with its planning had established a number of

plants which were having crushing capacity of 1,000 tons per day (ten times that of the Aska sugar factory managed by Sahu brothers). The Government started giving preference to cooperatives in the matter of licensing and provided share capital for such sugar mills to meet the capital cost of the projects.

During early 1950's the successful operation of one of the earliest cooperative sugar factories, Pravara Sahakari Sakhar Karkhana at Ahmednagar in Maharashtra and such other factories in UP, sparked inspiration to start a similar cooperative factory at Aska.

By the concerted effort of many political leaders (some of them local MPs and MLAs) the industrial licence for the factory was obtained in 1955.[54] The collection of a minimum share capital of Rs.3 lakh both from growers and non-growers was also materalised by 'popular leaders (mainly, Congress people).[55] The Government of Orissa wanted to establish two sugar factories in the cooperative sector, one at Sambalpur and another at Aska during the Second Five Year Plan period. Aska had collected a share capital of Rs.3 lakh early and hence the first cooperative sugar factory in Orissa could be established at Aska. It started its production in 1963.

The new factory complex, however, was constructed at Nuagaon, about 2.5 km away from the old factory at Aska town. By now this is the biggest cooperative sugar factory in the State.[56]

During the first two decades of the inception of the first cooperative sugar factory of Orissa at Aska, the membership had seen a phenomenal increase, from 2,617 in 1963-64 to 19,400 in 1982-83. Between 1963-68 to 1978-83 there was a more than four fold increase in the same. Accordingly, the share capital had also shot up from Rs.38.7 lakh to Rs.82.4 lakh (113% rise) during the same period (See Table 2.9).

Table 2.9: Growth of Membership and Share Capital of Aska Cooperative Factory (1963-83)

(Five Yearly averages)

Year	Membership	Share Capital (Rs. lakhs)
1963-68	3,902	38.7
1968-73	9,706	60.6
1973-78	14,872	72.6
1978-83	18,632	82.4

Source: Annual Report of the Factory, various issues.

At this point, it is of importance to take a close look at the stagnancy and wide fluctuations between different periods as captured in the columns for sugarcane crushed, sugar produced and number of cane crushing days. (Table 2.10). In fact all the indicators show wide fluctuations in factory's performance, this is also clear from Graph I.

Table 2.10: Performance of the Cooperative Factory in terms of cane crushed and sugar produce

Year	Sugarcane crushed (1000 metric tons)	Sugar produced (1000 quintals)	Recovery %	Number of crushing days	Average cane crushed per day (tons)
1963-64	28.5	21.1	7.54	119	240
1964-65	51.3	42.4	8.26	89	577
1965-66	90.0	79.4	8.82	119	756
1966-67	59.1	51.2	8.65	88	671
1967-68	28.2	27.4	9.66	49	576
1968-69	110.8	112.6	10.17	116	955
1969-70	149.4	135.8	9.11	162	922
1970-71	48.4	42.6	8.80	58	835
1971-72	42.4	41.7	9.82	52	815
1972-73	41.4	36.9	8.85	52	796
1973-74	60.4	56.9	9.02	73	827
1974-75	119.1	102.3	8.59	142	839
1975-76	87.9	77.4	8.82	95	926
1976-77	94.2	81.9	8.78	99	951
1977-78	113.4	96.4	8.60	122	929
1978-79	173.9	144.8	8.30	209	832
1979-80	99.1	85.4	8.55	95	1,043
1980-81	104.9	93.9	8.96	110	953
1981-82	199.3	162.2	8.15	179	1,113
1982-83	208.8	168.1	8.11	192	1,087

Source: Annual Report of the Factory, various issues.

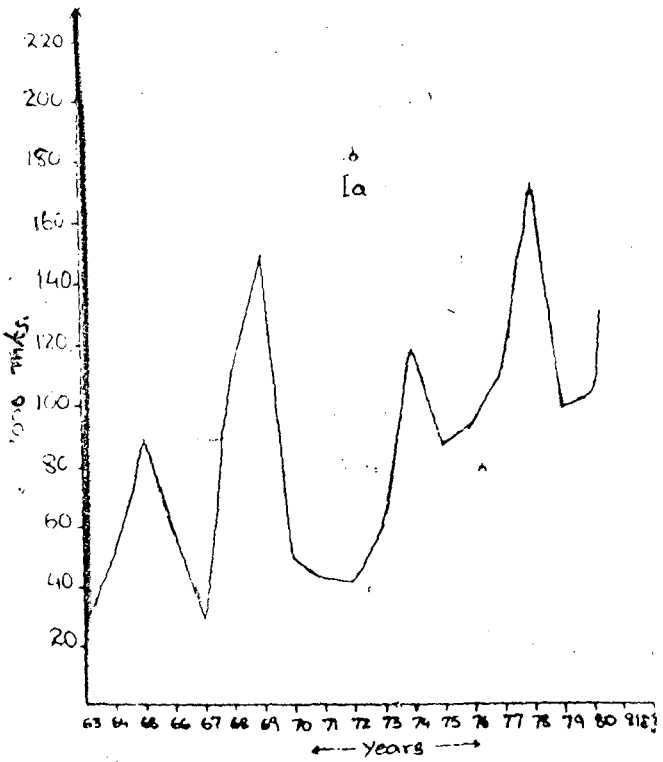
Graph I : Year-wise Performance of the Aska Cooperative Sugar Factory (1963 - 82)

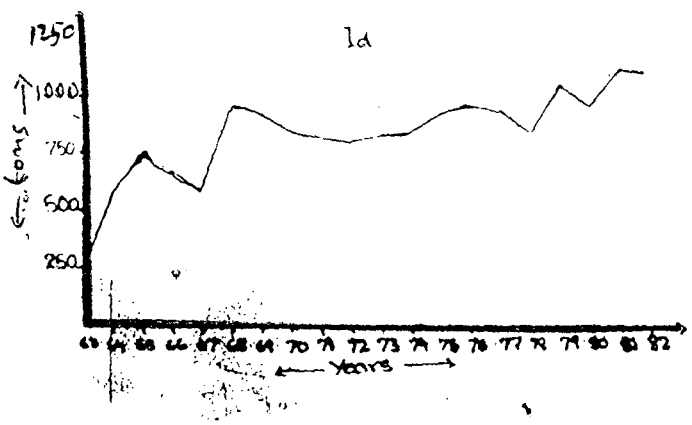
Ia Total Cane Crushed

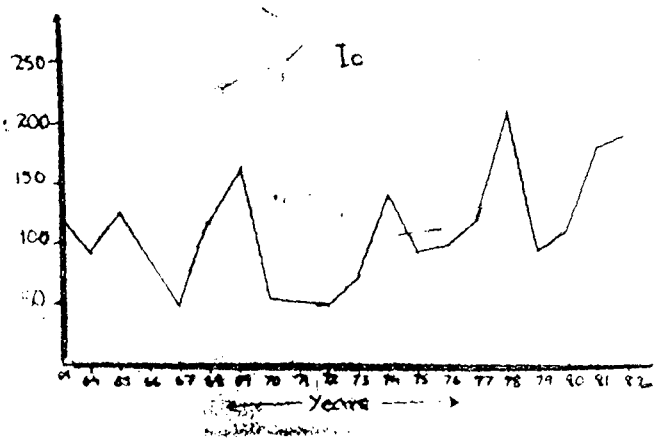
Ib Total Quantity of Sugar Produced

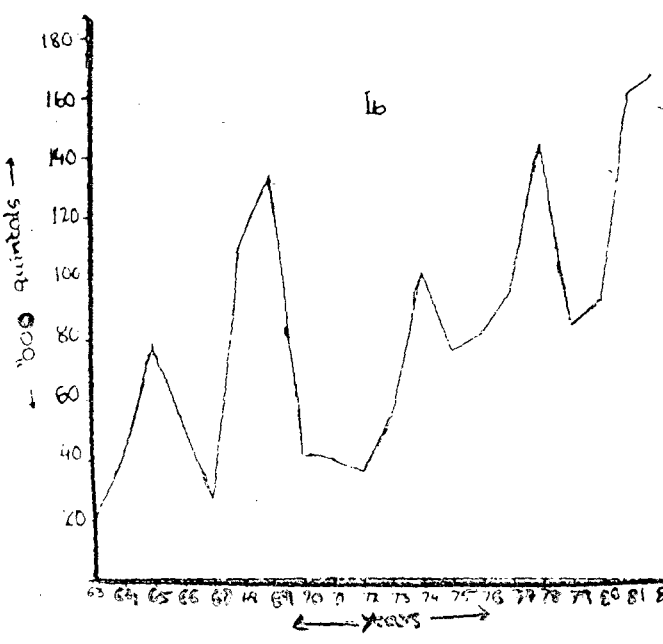
Ic Total Number of Crushing days

Id Average Cane Crushed per day









For the years 1967-68 and 1970-73, the figures are the lowest. Added to this is the disappointing figures for recovery percentage. Only on five occasions (1967-70, 1971-72 and 1973-74) this percentage was above 9, which again is a very low figure compared to those in other cane growing regions in various States.[57] The recovery percentage has almost always fluttered around an inferior range between 7.5 to 8.8. This speaks poorly of the nature and degree of cane care taken by the factory, so far as provision of technical and infrastructural facilities are concerned.

Before we go into the details of the relational aspects between the factory and the growers, which, of course, is one major thrust of this study, it would be better to have some idea of the financial standing, or in other words, profit and loss position of the factory till present times. Table 2.11 below shows the sale figures of sugar and different by products of cane over the last 20 years of the factory's functioning as also the year-to-year profit/loss account.

The most discernible picture of mounting losses incurred by the factory, almost unfaltering, for well over a decade reveals the general state of the factorys economy and other related countenances of it. As a matter

Table 2.11: Revenue of the Factory; source-wise and its profit/loss account (1963-83).

Year	Sale of sugar (Rs.lakhs)	Sale of Molasses (Rs.lakhs)	Sale of Bagasse (Rs.lakhs)	Sale of Press Mud (Rs.lakhs)	Sale of Spirit (Rs.lakhs)	Profit/Loss (Rs. lakhs)
1963-64	12.4	1.98	-	-	-	(-) 12.06
1964-65	26.60	1.21	-	-	-	(-) 6.01
1965-66	51.24	0.18	-	-	-	(-) 6.91
1966-67	68.49	3.46	-	-	-	(-) 7.13
1967-68	60.50	2.50	-	-	-	(+) 4.27
1968-69	104.77	4.84	-	-	-	(-) 32.67
1969-70	122.44	1.72	0.10	-	-	(-) 42.25
1970-71	165.80	2.85	0.01	-	-	(-) 38.77
1971-72	82.38	3.21	0.02	-	-	(-) 45.68
1972-73	77.46	Neg.	Neg.	0.02	-	(-) 40.94
1973-74	112.23	-	0.04	0.04	-	(-) 31.63
1974-75	130.12	Neg.	0.03	0.06	15.31	(-) 21.67
1975-76	256.80	0.05	0.06	0.11	33.38	(-) 4.03
1976-77	148.28	-	-	0.07	39.57	(+) 19.65
1977-78	182.01	-	-	0.06	30.24	(+) 9.27
1978-79	230.76	Neg.	-	Neg	37.92	N.A.
1979-80	420.87	0.01	-	0.18	45.24	(+) 14.77
1980-81	316.02	-	-	0.08	48.81	(+) 7.11
1981-82	378.01	-	0.14	0.19	64.00	(+) 9.51
1982-83	444.10	0.07	1.02	0.31	75.96	(+) 9.73

Source: Annual Report of the Factory, various issues.

Note: Neg.: Negligible N.A.: Not available

of fact, the total losses for the first 10 years (1963-73), amounted to as high as Rs. 228.15 lakh. Even upto this time point, revenue from sale of sugar was neither stable nor encouraging. However, for the two seasons 1974-76, the open market sugar rate was favourable and was not against factory's anticipation. So, it made some extra earnings out of it. In fact, between 1974 to 1977 sugar (of Rs.80 lakh value) from this factory was exported abroad.

As the factory was not getting better price for the molasses each year and to prevent wastage, a tank was constructed for storing molasses. This storing facility enhanced the scope for provision of enough input for the Rs. 34 lakh distillery project that was forthcoming with central assistance.[58] The distillery, which was proposed early in 1971-72 started its production from the last quarter of 1974. It obtained licence to supply country liquor to all the major centres in the district, namely, Berhampur, Aska, Khallikote, Bhanjanagar and Chikiti. Gradually, the distillery not only enabled the factory to recoup all its earlier losses but also helped keeping Rs 19 lakh for depreciation of machineries and Rs.21 lakh as Reserve Fund.

Hence, within less than a decade's time it compensated all its losses and during 1979-83, its

net profit had reached a sum of Rs.35.62 lakh. The management is also planning to launch a foreign liquor plant as well as another unit to utilise the spirit derived from the distillery shortly. The estimated cost of these complexes is Rs. 40 lakh each.

2.5. District level trend in the Area under Sugarcane vis-a-vis Other crops:

What has been the trend in the area under sugarcane in both absolute and relative terms? Unfortunately, we do not have data on the area under sugarcane for the early factory period: we have data only for 1891-92 onwards (See Table 2.12). Because of this, it is not possible to say whether the area under sugarcane was much more for example, when the sugar factory was successfully managed by Ms.Minchin & Co. Nevertheless, what we do find the area under sugarcane hardly shows any significant trend, either in absolute or relative terms, until recently. In any case, for the district as a whole, sugarcane occupies less than one per cent of the total cropped area by 1981, compared to more than 7% in the case of oilseeds whereas pulses (which have been growing in importance) occupied nearly 30%. Of course, it should be kept in mind that as sugarcane is mainly trated in the Aska region, viewed as a proportion total cropped area of the district, it does not look impressive. In fact,Aska occupies nearly 80% of the t

Table 2.12: Area under Some Major Crops, Ganjam District, 1891-92 to 1980-81

(Five Yearly Averages, in acres)

Period	Total cropped area	Paddy	Ragi
1891/92-1895/96	511920	305549 (59.69)	82869 (16.19)
1896/97-1900/1901	541537	335931 (62.04)	79002 (14.59)
1901/02-1905/06	640222	376347 (58.79)	80525 (12.58)
1906/07-1910/11	1823777	1036101 (56.81)	251600 (13.80)
1911/12-1915/16	2103045	1177417 (55.99)	271655 (12.92)
1916/17-1920/21	1991197	1177711 (59.15)	255430 (12.83)
1921/22-1925/26	1895511	1151317 (60.74)	233470 (12.32)
1926/27-1930/31	1818904	1146174 (63.02)	182675 (10.05)
1931/32-1935/36	1639218	989323 (60.36)	138894 (8.48)
1936/37-1940/41	1184728	755309 (63.76)	70553 (5.96)
1941/42-1945/46	958017	647495 (67.59)	58460 (6.11)
1946/47-1950/51	1028059	677104 (65.87)	48373 (4.71)
1951/52-1955/56	873734	498686 (57.08)	71843 (8.23)
1956/57-1960/61	920480	557447 (60.56)	66715 (7.25)
1961/62-1965/66	1406000	818578 (58.22)	56995 (4.06)
1966/67-1970/71	1607500	861816 (53.62)	89313 (5.56)
1971/72-1975/76	1636250	895131 (54.71)	131642 (8.05)
1976/77-1980/81	1925000	809605 (42.06)	125793 (6.54)

Contd..

Total Oil Seeds	Sugarcane	Total Pulses	Total area under other crops
30733 (6.01)	2474 (0.49)	57027 (11.14)	33268 (6.50)
29420 (5.44)	2055 (0.38)	57588 (10.64)	37541 (6.93)
39438 (6.16)	1984 (0.31)	97668 (15.26)	44260 (6.91)
102785 (5.64)	4901 (0.27)	264847 (14.53)	163543 (8.97)
127005 (6.04)	4675 (0.23)	332959 (15.84)	189334 (9.00)
115363 (5.80)	5608 (0.29)	277872 (13.96)	159213 (8.00)
108541 (5.73)	5267 (0.28)	288706 (15.24)	108210 (5.70)
120005 (6.60)	4930 (0.28)	257652 (14.17)	107468 (5.91)
105544 (6.44)	5343 (0.33)	277049 (15.91)	123065 (7.51)
43143 (3.65)	3377 (0.29)	159016 (13.43)	151330 (12.77)
32943 (3.44)	3922 (0.41)	186445 (19.47)	28752 (3.00)
N.A.	3635 (0.36)	145194 (14.13)	N.A.
78203 (8.95)	2380 (0.28)	148943 (17.05)	73679 (8.43)
59016 (6.42)	2214 (0.24)	145531 (15.81)	89557 (9.72)
64343 (4.58)	6062 (0.44)	240792 (17.13)	219230 (15.59)
94269 (5.87)	6588 (0.41)	239154 (14.88)	316360 (19.68)
106829 (6.53)	8666 (0.53)	425341 (26.00)	68641 (4.20)
143799 (7.47)	12451 (0.65)	565151 (29.36)	268201 (13.93)

Source and Notes on next page.

Source: Agricultural Statistics of India, Calcutta, various issues (for the periods 1891-1921 and 1930-1938);

Proceedings of Board of Revenue, Madras, (Land Revenue and Settlement), Agricultural Statistics (for the period 1921-28);

Indian Agricultural Statistics, New Delhi, (for the period 1938-1957).

Notes: 1. Data not available for the following years: 1928-1930, 1947-1948, 1957-1960 and 1969-1972.

2. Up to 1946-47 pulses figures were not available separately. It included minor non-food grains. However, the figures predominantly represent pulses. For instance, the 1920-21 figure for total pulses (exclusively, pulses, as given in Benson, C.(1924), p.19) is nearly 88% of the total pulses figure as given in the present table.

3. Till 1936, the year the State of Orissa was constituted, the district of Ganjam was part of Madras Presidency with an area of 8,382 sq.miles. In 1936 it became a part of Orissa Province with an area of 4,835 sq.miles and the remainder was amalgamated with the Madras Presidency. Strictly speaking due to the above, the figures over time are not comparable. However, this does not affect our argument as we are interested in charting down the broad tendencies only. For area figures see, Census of India, 1931, Vol.XIV, Madras, Part II, p.326 and Census of India, 1951, Vol.XI, Orissa, Part-II -A, P.2

4. Figures in parantheses show percentages of total cropped area for each period.

area under sugarcane in the district.[59] Nevertheless, the absolute area under sugarcane does not show any significant increase.

Conclusion:

The historical account of the sugar factory at Aska, as presented above, provides certain clues to understand the logic and 'efficiency' of the present cooperative form of organisation of the factory, primarily in terms of the range and depth of control over the growers which is now made possible, as we shall see later. What we have seen above is that beginning with the reluctance of the farmers to grow cane for an external agency, the growers, especially the smaller ones, were subjected to more and more stringent controls effected through the cane supply contracts or other measures. The keen interest of the foreign entrepreneur to start a concern here was obvious in the wake of growing demand in the global market after the West Indian sugar supply failed due to the abolition of slavery then. Again, while with the 'powerful' Binny's the local growers could be stubborn enough to 'resist' by 'drying up' the supply all of a sudden (so that finally the former had to quit), Minchin could 'handle'

the situation cleverly (to his advantage, of course) by securing the favour of the local government and the 'people of importance' in the locality. He could avoid peasant resistance by controlling them indirectly via influential social connections.

Growing disinterest in cane cultivators resulted in not much growth of the sugar concern in the area whe[illegible] it stopped functioning for two decades from 1943 to 19[illegible]. This was occurring in a region agro-climatically quite suitable for sugarcane cultivation.

The cooperative form of organisation must have given enough boost to the local growers through its claim of helping the weaker peasantry and decentralised decision-making process. But we have seen from the factory's annual reports that in its two-decades' of existence it had been incurring heavy losses for about 15 years and only recently has it started making profit. As we will see later, it had not helped cane area to expand on a large scale.

Before we examine the functioning of the present cooperative factory we propose to look at the relations within agriculture, the culture of cultivation etc., as practised in the region.

Notes and References

1. The district derives its name from the Persian word, 'Ganj-i-Am', meaning 'the granary of the world', which, of course, it is not; rather it is ironical considering its poor state of economy. However, some of the most fertile lands in the district are suggestive of such a nomenclature. Until 1936, Ganjam was the northern most district of the division of the Madras Presidency called the Northern Circars.

2. For instance, see, Bartholomew, J.G. (1919), p.24 and The Imperial Gazetteer of India, (Year not mentioned) Vol.VI, p.13. Also, for a similar reference, see, Minutes of Evidence taken before the Select Committee on East India Produce (1840), p.19.

3. Even as past as during Akbar's reign and beyond sugar in bulk was being exported to England from Madras (That refers to Ganjam also, as we will see now that it was one of the most important cane-growing regions of Madras). See, Spear, P. (1983), pp.45,67.

4. For such references See, Raju, Sarada (1941), pp.62-63, 81-7, 242.

5. Raju, Sarada (1941), p.63.

6. Commercial Despatch to England, 2nd May 1793; noted by Raju, Sarada (1941), p.81.

7. St. George Revenue Consultations, 31st July 1815; quoted in Raju, Sarada (1941), p.82.

8. Quoted in Humbert, R.P. (1968), p.44.

9. Barnes, A.C. (1974) states that the average crop age in East Africa increases seven months in rising from sea level to 4,500 ft.p.456.

10. Memoirs of the Department of Agriculture, Madras (1954) (hereafter Memoirs), p.246.

11. Sugarcane being a 'long duration exhaustive' crop "shallow soils, and poor gravelly and sandy soils are suitable", (Memoirs, (1954), p.427). According to Barnes, A.C. (1974) the above mentioned soil types are of "high and enduring fertility and easy to work", "free-draining" and respond to artificial and organic manures.p.134.

12. Kumar, Dharma (1984), in her edited The Cambridge Economic History of India, Vol.II, pp.366-67.

13. "An attempt was made to introduce the culture of sugar at Ganjam from 1796 to 1803, but the result was unsatisfactory." Dutt, R.(1902), p-281. In fact in 1800 "J.Colley, latter a master attendant at Ganjam, established a distillery, sugar and rum manufactory at Munsurcotta (in the district). It worked successfully for some years. But as the culture of sugar-cane in early years of the century was not done in plenty, the manufactory was closed." See, Das,B. (1985), p.205.

14. The varieties (Otaheite or Bourbon) introduced was originally brought to Java by Dutch Planters and were widely grown in Mauritius. Till 1850's such varieties were quite popular. For an idea about method of cultivation and other details see, "Sugar in Mauritius" (1976), p.41. Also see Ghosh,H.H. (1934), pp.90, 127. However, the most exhaustive and authentic description can be had from the book by Wray,L.(1848).

15. As one Mr. Campbell (better known as 'Sugar Campbell') who tried the similar thing in Chidambaram area of South Arcot, attributed his failure mainly to the attitude of the local ryots, who at first sight "tolerably attentive", lapsed gradually into negligence (and non-payment of their dues) and finally became wholly "contumacious and unmanageable". See Brown, H. (1954), p.39.

16. In 1833 East India Company's charter was renewed. Since 1813, the Company's trading strength had been on the wane due to the persistent growth of business by 'free merchants'. Hence, in 1833, the Company's trading power withered out completely and their sole function became governing. "This left the 'free merchants', including Binny's, in clover and paved the way for the rise of the mercantile classes". Desouza, F.(1969), p.44.

17. The exact date of inauguration of this venture is uncertain. Hilton Brown refers to it as already in existence in 1845, whereas according to Sir Stuart Town...it does not appear in Binny's books till 1847-48. (And)...from the fact that W.S.Binny, who... retired from India in 1844, was an original partner, "the probability is that Aska took shape by about 1842 or 43". Desouza, F.(1969), p.52.

18. Desouza, F.(1969), p.53.

19. Brown, H.(1954), pp.82-83.

20. Adamson, A.H. (1972), p.26.

21. Adamson, A.H. (1972), p.32.

22. Bagchi, A.K. (1975), p.359, fn.1.

23. For a similar boost of sugar production and exports in eastern India and UP, See Amin, Shahid (1984) pp.26-27.

24. See, Kumar, Dharma (1984), p.368.

25. Brown, H. (1954), p.23 and Desouza, F.(1969), p.53.

26. Desouza, F. (1969), pp.53-54.

27. The machinery employed at Aska were the "most upto-date" ones imported from the famous firm M/s. A&W Smith & Co, Glasgow, in the 1850s. The very fact that the samples (loaves of sugar candy and sugar in pots) selected by a Committee in Madras for transmission to the prestigious Universal Exhibition at Paris in 1855 suggests its high quality, (Desouza,F. (1969), p.54). Also, as late as in 1878, the quality remaining excellent, "the jurors of the Paris Exhibition...granted a silver medal to M/s. Minchin and Co.(the later name of Aska factor for their exhibits of sugar". See, Maltby,T.J.(1918), p.196.

28. Desouza, F. (1969), p.54. Emphasis added.

29. Desouza, F.(1969), p.55.

30. The name Minchin was to "conjure within the Indian planting world of the nineteenth century, and it was no doubt he who kept the concern from folding up and infused new life into it, though he had earlier steered clear being unimpressed with the way it was run". Desouza, F. (1969), p.55.

31. Chinishilpa (1983), Vol.I, No.1, p.2.

32. Brown, H. (1954), p.143.

33. In fact, between 1876-84, figures for sugar import were the lowest compared to any other similar period between 1876 and 1939. See, Amin, Shahid (1984), (Appendix 4.1), p.289.

34. Brown, H. (1954), p.143.

35. "The process employed for the manufacture of sugar is that termed in German the "Diffusions-process." It consists, shortly speaking, in chopping up the sugar-cane into small shavings by means of rapidly revolving knives, and the juice of the cane is then extracted by a thorough saturation in water. The saturated extract is afterwards boiled down into sugar, after undergoing various processes of cleansing and refining. It is calculated that by the "Diffusions-process", some 80 per cent of sugar is extracted out of a possible 90 per cent in the cane. By the native method of manufacture, which is of the rudest description, a large percentage of the sugar-cane juice remains unextracted, and is thus wasted. The refuse of the sugar-cane is used for fuel and burnt. The process employed is a continuous one, and fine white sugar can be bagged from the cane within 48 hours without the use of animal charcoal. When charcoal is used the time required is 72 hours". Maltby, T.J. (1918), p.196.

36. Rees, J.D. (1891), p.183.

37. Desouza, F. (1969), p.143.

38. Maltby, T.J. (1918), p.43.

39. Rees, J.D. (1891), p.183.

40. Maltby, T.J. (1918), p.190.

41. A statue of Minchin 'saheb' is still kept protected in a small fenced park near the old factory building. A marble statue of his wife has been preserved in the State Museum, Bhubaneswar. His huge palatial residence now houses a high school. The remnants of the canal irrigation system developed by him are to be seen to this day.

42. See, Sugar Mills, Bulletin No.26, Department of Land Records and Agriculture. p.246.

43. Minchin died three years later in 1909, at the age of 79. Chinishilpa (1984), No.1 Vol.1. p.2.

44. Desouza, F.(1969), p.56.

45. Desouza, F. (1969), p.56

46. The index numbers of quantity imports of sugar into India with base (average for the years 1884-85 to 1888-89) 100 rose to 792 in 1909-10. See, Table-12.1, in Bagchi, A.K. (1975), p.359.

47. Bagchi, A.K. (1975), p.360.

48. Bagchi, A.K. (1975), p.361.

49. Bagchi, A.K. (1975), p.361.

50. Bagchi, A.K. (1975), p.361, fn.4.

51. However, in 1934 M/s. Sahu Bros, tried to modernise the factory. They stopped the factory for a few years and restarted it in 1946 when they found it uneconomical to produce sugar in those outdated machinery and the batch type diffusion process. Finally they decided to close down the sugar factory along with all its ancillary industries.

52. For a more elaborate description, See, Jehu, I.S. (1948), pp.840-41.

53. See, Low, F. (1945), p.732.

54. This was facilitated by a sample survey conducted at Aska by the Central Government which reported that the yield was above 40 tons per acre and sucrose conten about 10.5%, See, Chinishilpa , (1983), Vol.1, Nos.1&2.

55. Thus the cooperative sugar factory at Aska was a result of political pressure. Apart from the local politically influential people's involvement, the then Chief Minister, Mr.Biju Pattnaik, played an important role in its establishment. In fact, he had made arrangements for sanctioning the official share capital to fulfil the stipulated target of Rs. 10 lakh which was a necessary condition for obtaining license.

56. The second cooperative sugar factory came up at Bargarh town of Sambalpur after a decade, in 1973.

57. In 1981-82 the sugar recovery percentages for the cooperative factories in the following states were: Gujarat and Punjab (9% to 10%); Karnataka and Maharashtra (above 10%). See. Cooperative Sugar. (1983), Vol.14, No.12, p.654.

58. A loan of Rs. 28,36,000 was provided by the National Cooperative Development Council; the rest was arranged from the State Government and the factory itself. The distillery is having the installed capacity of 10,000 bulk litres per day of rectified spirit. During the year 1981-82 the highest quantity of 21.22 lakh bulk litres of rectified spirit was produced by the distillery unit. After catering to the requirement of rectified spirit in the State of Orissa, the factory has also the credit of supplying the rectified spirit to the neighbouring States. The factory has also moved the Government of India for issue of industrial license for collecting and marketing Carbondioxide gas which is a by-product of the distillery unit.

59. See, Various issues of Orissa Agricultural Statistics; for instance for the latest year (1980-81) for which figures are available the district's sugarcane area was 13,625 acres and that of Aska was 10,625 acres.

CHAPTER 3

ECONOMICS OF SUGARCANE CULTIVATION: ANALYSIS OF VILLAGE SURVEY DATA

Introduction:

In the previous chapter we have tried to trace the history of sugar manufacturing at Aska. The present chapter would deal with some important economic (and associated social) aspects of cane cultivation in the region so as to understand the mechanism of production within agriculture. For this purpose we conducted field surveys in two villages between August and December of 1984. One of these two villages, Karnoli, is a predominant supplier of cane to the factory, but does not produce gur. The second one, Mangalpur, is the most important jaggery (gur)-producing village in the region, though it also supplies cane to the factory. We will concentrate here on the former village only and the gur-manufacturing shall be taken up in Chapter 5.

A somewhat detailed narration on the general physical-technical conditions of sugarcane cultivation, which is the opening section of the chapter, has been presented to appreciate the discussion that relates to a number of aspects of cane culture, specific to the region. The process of cultivation decides, to a great ex...

the costs incurred, labour-use pattern, water requirement and, of course, the yield, to mention only a few.

Here, we have attempted to analyse the tenancy system and the relations of production, within and without, where land-rent, labour hiring and forms of control exercised by one group over the other have been taken into account. On the basis of a disaggregated cost structure and estimated net income (taking into account yields of different varieties) we have tried to show the wide variations in profitability accruing to different size-classes of growers. A separate discussion on varieties of cane grown has also been included. The chapter contains many references to the factory, solely for which cane is grown here.

3.1. Cultivation Practices:

In the field crops such as sugarcane, as opposed to tree crops, mechanical preparation of land and the mechanisation of planting and harvesting operations are essential to economic production in modern times, although the extent to which this is most economically carried out is dependent on the cost and supply of labour[1]. But, however, "Indian agriculture implements are in many cases extraordinarily well adapted to local conditions, they are cheap, easily made and repaired and they are

constructed of materials close to hand. They are, however, undoubtedly capable of improvement if carefully studied in the light of modern knowledge of the soil conditions.[2]

At Aska, cultivation is still carried on mostly by hand labour and little advancement has been made in the adoption of mechanical appliances; this is not unrelated to the small size of holdings and cheap family labour that goes with it.

3.1.1. Land Preparation:

Immediately after the reaping of the previous crop[3] the ground is ploughed up thoroughly some fifteen times either with wooden or iron (not very common) ploughs,[4] so that the land is levelled and no clods remain. For this purpose the most commonly used old-timed tool is 'mamoti'.[5]

3.1.2. Manuring:

"Sugarcane is a cropwhich is generally heavily manured and which also responds well to such manuring".[6] For basal dressing, i.e., before planting, cattle excrement, tank silt, sunhemp and other green manure etc., are mixed well with the earth.[7]

Chhani dhanicha matire choshi

Akhu kole labho miloi beshi, runs a local saying, meaning: proper and adequate manuring will add to both

quality and yield of cane and hence raise profits out of it.

The amount of cattle refuse used is approximately 15 to 20 cartloads per acre. Compost or stored manure like gingelly oil cakes may also be treated as good manure. The practice of growing green manure crops prior to or simultaneously with sugarcane, though known, is practised little for the trouble involved therein. In fact, to maintain soil fertility, resorting to diversified cropping in sugarcane is not essential. "A dense vegetation covers the soil for most of the year and large amounts of organic matter are conveyed to the soil in the form of trash and by an extended root system".[8] However to meet the full plant food needs along with the foresaid manures, nitrogenous fertilisers are also applied. Tentatively an acre of medium fertile land here would require 80 kgs of Nitrogen, 30 kgs of Phosphorous and 30 kgs of potash. For this, the factory has suggested the growers to use 115 kgs of IFFCO N P K 10.26.26. with 149 kgs of Urea or 147 kgs of Sona or 343 kgs of Ammonium Sulphate. The application of fertilisers at this rate is supposed to be carried out in the following fashion. At the time of planting the entire NPK should be given. Then for the early varieties the total quantity of Urea or Sona or

Ammonium Sulphate is to be divided into two equal doses; the first dose is applied after 45 days of planting and the second dose after 90 days. For late varieties, the same is to be split into three doses which will be applied after 2,4 and 6 months of planting respectively.[9]

3.1.3. Drainage:

Drainage is absolutely necessary for a crop like sugarcane which is grown mainly on flat wet fields and also is usually surrounded by paddy fields where availability of water is more. However, these factors worsen the moist condition of the subsoil by raising it. "A wet subsoil retards the growth of the cane, predisposes it to diseases like red-rot, 'pineapple disease' and so on, and tends to increase the salt content in the root zone which...affects the quality of the juice and the jaggery attempted to be made out of it"[10].

Hence, the next major task is the construction of drains, which are of two kinds - deep drains, 2 feet wide and nearly 2 feet deep, as well as shallow drains, 1 foot wide and nearly 1½ feet deep - the shallow drains running into the deep ones. The deep drains are, however, dispensed with when the land has a good natural system of drainage. On such lands, the shallow drains are made 30 feet apart, but, if they are used along with deep drains are made 30 feet poor natural drainage, they are made closer, being only 12 to 15 feet apart. The large drains are about 120 feet apart.

A highly effective system of drainage results from this method of consumption without which it would be impossible to grow cane on much of the lands of the area which seem rather susceptible to water-logging.[11] Soon after this drains are made, the digging of furrows of about 2 feet apart and 1 feet deep is begun. No harm results from working on wet land, "the soils are of such a composition that they do not pack nor dry into hard lumps as do the soils of the Gangetic plains.[12]

3.1.4. Planting:

The decision as to when to commence planting is determined by the varieties used, nature of the land, rainfall spread, availability of irrigation water, the rotation of crops and the factory requirements. Hence, late, medium and early varieties are planted between January to May, the late varieties earlier and so on. Where water supply by lift irrigation is secure, planting is preferred in March-April. If the field is occupied by another crop till March-April, cane planting is done in May. "Technically, when the planting time is cast over a longer period, it is a decided advantage for the sugar industry as it leads to a long crushing period..."[13]

The setts (cane seeds), with three 'eyes' each, are placed by hands in rows of furrows[14]. Water from irrigation canal is permitted to flow into these smaller

furrows and from these it flows into the cane furrows on either side one after another. Later, when cane sprouts come up and the cane rows finally earthed up, these small irrigation lines are given up and are converted into a dividing ridge between two beds by earthing up a little.[15] "The length of the beds depend much upon the slope of the land, being limited by the size of the terrace".[16] Usually, per acre about 80 noutis of cane seed is needed. The factory loans out seed at the rate of 60 noutis per acre. The excess requirement is purchased outside or procured from own farm.

3.1.5. Irrigation:

It has been confirmed by a number of studies "that during periods of rapid-vegetative growth, cane will respond best - in terms of final yield of high quality juice - to relatively low soil-moisture tensions".[17] As mentioned earlier, moisture affects cane in various ways - tonnage, sucrose content and quality of cane. Depending upon the permanent wilting point and field capacity, the choice of the most suitable frequency of irrigation, and the best amount to apply to a particular soil type at a particular stage of crop development are made.[18] A drought at the formative stage will reduce yields more than one at a later stage. Table 3.1 indicates

for Aska region, when and how many times irrigation is to be resorted to. Where irrigation water is limited, heavy soils are watered in preference to sandy ones.

Table 3.1: Water Use Efficiency of Sugarcane.

Phase of the Crop	Calendar period	Number of irrigations	Frequency of Irrigation
Formative Phase	February - March to June (120 days)	16	Once in 6 days
Grand Period of Growth	June to end of October (150 days)	2	-
Maturity Phase	November to March (90 days)	6	Once in 21 days

Source: Factory Pamphlets.

3.1.6. Weeding:

Competition with the crop for light, mineral nutrients and water probably causes the greatest loss from weeds. Combinations of cultivation and chemical use (which is generally omitted) are practised to control weeds. Weeding is done as often as is found needed, i.e., about 3 to 4 times. Though 'time consuming' and 'expensive'

in the initial stages, hand pulling or hoeing of individual plants is 'both practicable and efficient'.[19] Any earth falling in the furrows is removed with kodis.

3.1.7. Wrapping and Propping:

Wrapping (Bhela bandhiba) is another important operation that is to be performed periodically and with great care. It is a practice of "covering the sugarcane stalk with its own leaves by twisting them in a convenient manner round and round the stem. About six to eight leaves in the crown of the cane are left out and all other bottom leaves are twisted round firmly."[20] Propping[21] is done to keep the plant erect and to save it from lodging, due to heavy wind etc. Both these operations protect the canes from the attack of bears, jackals, rats, etc. There are three major stages of wrapping and propping. Eka bhelia (single plant wrapping), tini bhelia (4 plants wrapped at the top) and no bhelia (8 plants wrapped) are done with two, four and six months gaps respectively. Before one new wrapping old leaves are removed completely. This is a highly labour intensive and expensive job.

3.1.8. Tillering:

The mode of tillering in sugarcane is so intricate that its study needs a 'careful digging up and dissection of the underground parts of the plant. Some of the more important environmental factors influencing tillering are;

light, temperature, fertilizers, moisture, spacing and earthing up!.[22] Depending upon the speed and extent of sprout growth, tillering has to be carried on. Tillers or immature canes reduce the quality of the juice on account of their high content of glucose.

3.1.9. Disease Prevention:

Apart from the above forms of cane care activities, preventing the crop from variety of diseases, by spraying pesticides of different types as suggested by the factory, remains a persistent botheration with the grower. Because, besides personal attention it increases cost of cultivation. The cultivator has to remain vigilant enough to detect and curb its growth which is inimical to the profitability of the farmer. A locally prevalent Oriya couplet emphasises the essentiality of checking pests and other dise.

"Bela chinhi marile poko,
Aakhu fasalare nothae doko,
Aakhuro osolo boiri rogo,
Upay koribo tapain ago".

It says, careful and timely identification of pests - the real enemies of cane - killing them as early as possible are the best ways to keep the crop out of danger.

3.1.10. Harvest:

The culmination of planter's work is reached with harvesting, cutting, loading and transporting. The factory is interested in getting a regular flow of raw material supply and, of course, in the sucrose contents of the cane. So, the first essential thing is to ensure that the cane is matured properly. Though fieldmen from factory assisted by cane chemists determine the date of cutting, keeping in view the varieties planted and time of previous reaping in the case of ratoon crops, "considerable variations in the quality of cane from different parts of the same field often occur at harvest".[23] Again, a mix of experience, visual observation and knowledge of recent history of the field is of great significance in determining the ripeness of the cane. In accordance with the varieties grown, the early, medium and late varieties are harvested after ten, twelve and fourteen months of planting respectively. Harvesting is done round the clock so that freshly cut cane can be sent to the factory without delay. Cane is generally sent by bullock carts or from distant villages by factory trucks.

3.1.11. Ratooning:

When the cane is reaped, the underground parts remain alive in the soil; the dormant buds on these parts sprout after a few weeks giving rise to a new crop, known as ratoon or stubble cane. It is said:

"Saaloku saalo rohile muli,
Aakhu chasho labho nohue kali"

This means, when the ratoon crop remains on the field from year to year, cane cultivation becomes highly profitable. In order to stimulate ratoon growth from the lower portions of the part of the stalk left underground, most of the old roots are shaven off and the soil next to the stools is aerated to a sufficient depth by opening it. By this, the more robust and stronger sprouts are developed along with a deeper root system.[24] The practice of burning soon after harvesting is quite common here. This helps to destroy most of the trash and eases further field work. However, to control rapid weed spread at the very early stage of ratoon crop as well as to loosen the soil for facilitating further crop growth, several tillings are given. The requirements of ratoon crop are very much similar to those of the original crop. Of course, a higher dose of nitrogenous fertiliser has to be applied. "Delay in attention to the needs of ratoon crops costs money, but often occurs as a result of poor planning, insufficient labour and equipment, and divided attention arising from the concurrent harvesting operations".[25] As can be seen from Table 3.4 usually the yields are somewhat lower than from the first crop. One of the reasons for such inferior yields is, of course, shorter period of growth which normally

occurs. But other factors are, ryots' inability to employ sufficient labour, apply more fertilisers and pesticides, making arrangements for watering the field, till adequately and supervise field work carefully;[26] so that the poorer the farmer, greater is the loss of yield.

Still, "it is the cheapest way to produce a crop, and every measure directed to improve the ratoon fields and to keep them in production for a longer period is worth taking. There is no reason why with good treatment of the fields they cannot yield five to eight crops"[27]. But by the end of the first ratoon the grower starts thinking seriously about rotating the cane with paddy or ragi, because of decreasing yields and, therefore, income therefrom. The poorer growers use more of family labour to take care of the ratoon crop, so that better yield would compensate their meagre profit from the plant crop. But they fail to afford more on other cultivation expenses and their expectation dies. An attempt at a second ratoon is very infrequent here.

3.2. Varieties of Cane: Some General Aspects:

There is a saying in Oriya;

"Bachhi logaiba jatia akhoo,
Doro no rohibo roga pokakoo".

This means, " select and plant a high quality cane and you need not fear about diseases or pests". A formal

understanding of the sugarcane varieties is very important as it has a direct bearing on issues like cost, profit, relations with factory and so on. Technically speaking, the essential qualities of different varieties of sugarcane may be discerned on the basis of their variations in yield, period of cultivation, sucrose content over the crop-cycle, immunity (or, otherwise, susceptibility) to diseases and insect pests of local importance and millability.[28] All these broad features are interrelated and connected with a number of causative factors. Barnes, A.C. (1974) lists them as follows:

"a. Growth habit: good germination and tillering, rapid stalk elongation, general vigour, tolerance of dry conditions, absence of developing buds and roots on the stem, extensive root system, minimum production of late tillers (water shoots, bull shoots), early 'covering down' combined with reasonably erect stalks, uniform stalk length at maturity, absence of tendency to flower.

b. Regularity of maturing, persistence of quality at maturity, high sucrose content and high acreage yield, free trashing.

c. Good ratooning power, quick sprouting of ratoon shoots after the previous crop has been reaped, profitable yields, minimum fall in production of sugar for successive ratoons over full period of crop-cycle.

d. Immunity or high degree of resistance to the important diseases of cane in the region. Good response to protective treatment when it can be applied. Minimum of attraction to pests, e.g., hardness of rind as a deterrent to rats".[29]

For better millability of a particular variety of cane, moderately hard rinds, lengthy fibres, long internodes and a low fibre-pol ratio are required. Non-sugar like starch and gums should be low and soluble non-sugars normal.[30]

In any case, given the varietal superiority of one over the other on the basis of the above mentioned points, "sugar cane plants that are "happy with their environment have large, dark green leaves, long internodes of good sized diameter, and healthy, well-developed root-systems Plants not making satisfactory growth are stunted and frequently show symptoms of distress".[31]

3.3. Analysis of Survey Data:

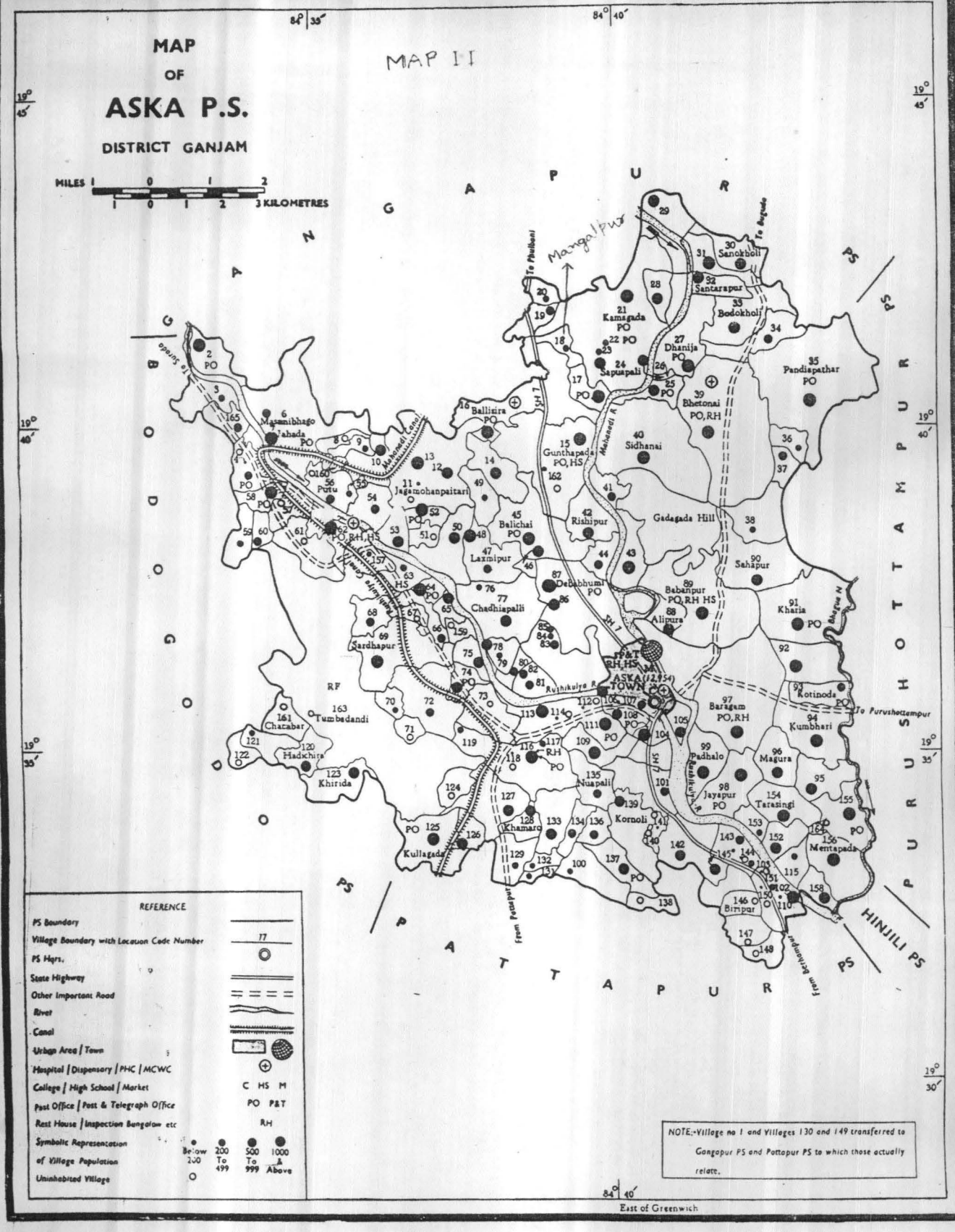
3.3.1. General Characteristics of the Village and the place of Sugarcane in the Survey Village:

Karnoli[32] is a small and typical village in Nalabanta Panchayat of Aska Block (See Map II). It is one of the major sugarcane growing villages in the district and from the factory's point of view it is one of the principal cane supplying villages in the

MAP II

MAP OF ASKA P.S.

DISTRICT GANJAM



REFERENCE

PS Boundary	
Village Boundary with Location Code Number	77
PS Hqrs.	
State Highway	
Other Important Road	
River	
Canal	
Urban Area / Town	
Hospital / Dispensary / PHC / MCWC	
College / High School / Market	C HS M
Post Office / Post & Telegraph Office	PO P&T
Rest House / Inspection Bungalow etc	RH
Symbolic Representation of Village Population	Below 200 · 200 To 499 · 500 To 999 · 1000 & Above
Uninhabited Village	

East of Greenwich

region. According to 1981 Census its total population was 1,019. Altogether 87 farming families (about 55%) out of a total of 157 households in the village grow sugarcane. The total geographical area of the village is 597 acres. The following Table 3.2 shows the land utilisation pattern of the village.

As we notice from Table 3.2 about one fourth of the net sown area is under sugarcane. Almost all households depend mainly upon agriculture, paddy and ragi being the most important subsistence crops. Among other crops, pulses, sesamum, groundnut and vegetables are also grown on small patches of land, usually not far from the housesite.

Table 3.2: Pattern of Land Utilization in Karnoli Village:

(In Acres)

Net Area Sown	476.97
a. High Land	162.75
b. Medium Land	169.26
c. Low Land	144.96
Uncultivable Area	60.76
Forest Area	32.98
Miscellaneous Trees	26.04
Area under Sugarcane	123.15

Source: Block Office, Aska.

Though village level official figures suggest that no less than fifty per cent of the cultivated area is irrigated, the actual situation invalidates such a high figure. Irrigation is one of the most serious problems facing the farmers. Barring a few dug wells and a small canal (that dries up during rabi season, i.e., from October to March), there is no irrigation facility. Also, during kharif season high land and parts of medium land remains unirrigated. Dug wells are utilised mainly for vegetables and for pre-paddy and ragi cultivation. Hardly any sugarcane land gets water from dug wells because of its inadequate supply.

It is important to note that sugarcane is planted during November-January when availability of water in plenty becomes an acute problem. However, special effort is made by the sugar factory (which is closely situated to this village) to provide water to the crop. A few households possess small water pumps, mainly kerosene-run. The major source of water is, then, rain water. The south-west monsoon lasts for about 4-5 months and small drains are dug in and around the cane fields so that each and every stump gets enough water. However, sufficient care is taken so that water-logging is prevented. To this effect, each plot of land opens narrowly to the adjacent lower level plot and the field remains marshy by allowing water to flow to another plot. This again is an economical

way of using whatever water is available, by all cane growers in the village.

The village is connected with the main road leading to Aska town (about 6 kilometres away), by a kutcha road of about one and a half kilometres. From the factory it is situated at a distance of no less than 8 kilometres. Saving four pucca houses, all others have thatch-roofs and mud walls, cowsheds forming the entrance to most of them. Half of the houses do not use electricity, considering it to be a 'costly affair'.

As mentioned earlier, cultivation is their single largest source of income and employment. 30 persons, two of them females, earn a sum, between Rs.50 to Rs.500 per month, from sources other than agriculture (household industry, small business and working as low-grade employees). Education is operating at a very low key, there being hardly a single matriculate in the village.

The entire village is inhabitated mainly by a single jati called Kalinja. Basically, this is a lower sub-caste of the Kshatriya varna and what may be termed as 'peasant-militia'. "This body of men (Paiks or armed retainers of the Goomsur family) were part of the feudal system which formerly prevailed in Ganjam, and were originally appointed to protect the plains against inroads of the Khonds (aborigines) of the adjoining hill

country. They also attended the Raja's person and his family, and assisted in the collection of the revenue by watching over the crops and seeing that the ryots did not make away with them before the zamindar's share was secured. The Paiks have a good knowledge of the country, are plucky and reliable, and have a supreme contempt for a Khond"[33]. In 1837, after the total suppression of the "disturbances" by the Khonds against the Raja of Goomsur, the British Government decided to award inam lands to a number of Paiks and a few 'Sirdars, Naiks and Peons' who were instrumental in putting down the grisly tribal revolt. This village was part of that 'Inam'.

Though Goudos and Telis may be categorised under backward castes as far as landholding is concerned we found that there were quite a few well-off families of these castes who even grow a costly crop like sugarcane. As some Goudos also worked for the British administration, especially, either as paiks[34] or peons, the otherwise backward caste could also obtain land on 'inam' basis. Hence, many Goudos also own land as big as or bigger than that possessed by the dominant Kalinja caste.

Table 3.3 presents the caste distribution of all the sugarcane growers of the village. It is obvious that Kalinjas constitute the largest single caste group (72%)

Table 3.3: Distribution of Cane cultivating households according to Caste and Size of Land-holding.

Caste	Size Class (acres) <1	1-3	3-5	5-7	≥7	Total
Kalinja	6	15	25	10	7	63
Teli	-	2	1	-	-	3
Goudo	5	5	7	2	1	20
Odiya	-	1	-	-	-	1
Total	11	23	33	12	8	87

Source: Field Survey.

of the total number of cane growers, whereas Goudos c the second place (23%) and a very negligible proportio (5%) belong to low castes like Teli and Odiya. This tab however, does not show any Scheduled Caste[35] household figure for none of the 13 families belonging to Scheduled Caste grow sugarcane. All these families live as agricultural labourers and possess no land for cultivation. Their residential locality is distinctly away from those of other households in the village. How and when they settled in the village is not clearly known. But some of them reported that their forefathers moved from distant hilly tracts (malah) even before the Kalinjas

occupied the inam lands. The main reason for such migration was to maintain their livelihood doing any possible odd job on daily wage basis as they did not have any land in their possession. They probably came in groups to the plain area and are now spread over almost all villages in the district and beyond. There is no Brahmin family in the village.

As in many other villages of the district, the size of landholding here, is very small. This is a reflection of gradual family formation and further fragmentation of land of the original inam land gifted earlier to a few inamdars. The area of land being little in size and staple crops like paddy and ragi occupying the bigger proportion of land, sugarcane is grown on small patches ranging from 20 cents to a maximum of 3.40 acres.

Small peasant production is, of course, discernible from Table 3.4: in the higher size classes the proportion of average area under cane to average operational holding is lower than that of the smaller size classes (below 3 acres). Specifically, in the highest size class (above 7 acres) this proportion is the lowest of all, notwithstanding the fact that average size of cane land is the largest here. This is in confirmity with our survey findings where the big landowners expressed their preference either to lease out land or to go for a simpler crop such as paddy or pulses, not 'bothering' about a

Table 3.4: Distribution of Cane Growers as per Operational Holding and Area under Cane.

Size Class (in acres)	Number of Holdings	Total operational Holding (in acres)	Average Operational Holding (in acres)	Average Cane Area (in acres)	Total Number of Growers
<1	11	9.3	0.85	0.35	11
1 - 3	32	53.1	2.31	0.98	23
3 - 5	48	128.9	3.91	1.50	33
5 - 7	29	65.9	5.49	2.21	12
≥7	19	65.8	8.23	2.60	8
Total:	139	323	2.32	1.42	87

Source: Field Survey

longstanding and 'difficult' crop like sugarcane. Even though bigger plots of land would have been more economical for cane cultivation, the provision of rather small extent of land for cane by most of the large landholders seems abstruse. Even they complained of not getting better varieties of seeds from the factory adequately. They were not very sure of the factory's functioning. They spoke of factory's expansion programme and anticipated a rise in its profit. But they still felt that factory was maintaining a certain 'distance' from them and that

very often their influences did not work. Rather the benefits go to some other people, who play finer tricks. The price paid by the factory for their cane was marginally higher than the costs incurred. Only a few of them spoke well of the factory. And they are the ones 'closer' to the factory, i.e., to the 'Babus' of the factory, who were the elected representatives.

3.3.2. Tenancy:

One of the most striking features of cultivation practices here, undoubtedly, is tenant cultivation. There are various types of tenants. We shall discuss each of them taking into consideration the specificities of each.

1. Pure tenants are those who lease in land and survive on its produce as they do not have land of their own.
2. Partial tenants are those who lease in land in order to meet the needs of their families, who do not get enough from their owned land.
3. Entrepreneurial tenants are those who lease in land, not because their owned land does not provide required income, but to make profits.

Leasing in of land (Guta) is in wide practice here and in all such cases land-lease agreements are done by oral assurances and the entire process of tenancy is based

simply upon, as they said, "faith". Period of tenancy varies from household to household. However, the general trend is that, the same tenant leases in, usually, the same plot of land, from the same lessor each year. There are a few tenants who have been leasing in land for the last 50 years or more from the same landlord. Hiring in land for sugarcane is generally done at least for two years. Because, the second year crop (or, the first ratoon) will reduce the expenditure on seeds and other initial costs. Growing a second ratoon is not very much in vogue here.

Here the holdings are so small that even the biggest landlord does not own more than 12 acres of land. But there are also households who do not have any land of their own. They lease in some land or work as agricultural labourers. For such pure tenants perpetual debt bondage, either due to non-payment of land rent (because of a crop failure or low price of the produce or sudden increase in consumption expenditure) or due to a time honoured practice that their 'saviour', the landlord, is to be served from generation to generation (for the latter is the only 'master-caretaker' of the former), remains a life-long hangover. They (or, their children) whenever asked to do any 'odd' job for the landlord, do so with alacrity, but not without displeasure. They grumble at their back, even at times

use filthy words to express their indignation, but never making it overt. They curse their fate for remaining obligated to their 'masters'. But many of them keep their feelings latent for the fear that once known, they might forfeit whatever inappreciable 'mercy' the landowner has for them. The big owners having better access to the factory provision, that is how they conceive it, might 'arrange' things for them without much of a trouble to them. Even when the sprayers for the cane fields are supplied occasionally by the factory to be used freely by all cane cultivators of the village, the few big and 'leading' landowners keep the stock at their homes. The poor, rather the debt-ridden, grower thinks he has to maintain cool relationship with the bigger counterpart to obtain sprayers (the same is true at times of free insecticides provided by the factory) in time. In case of a delay in and/or less-than-contracted-quantity supply (because of crop failure and the like) of cane to the factory, it is hoped, the master can help him out. Apart from all these issues, he is supposed to have a moral responsibility to honour his rescuer.

In our survey, we found, of course, only one case, where land leased in for sugarcane cultivation is as low as 20 cents. This tenant grows cane with the

Table 3.5: Tenancy position among Cane Growers in the Survey Village.

Size class (in acres)	Number of Growers	Number of Lessees	Cane Area	Leased in Area	Tenant Types		
					Pure	Par-tial	Entre-prene-urial
<1	11	8(72.7)	3.80	2.90(76.3)	1	7	-
1-3	23	13(56.5)	22.50	14.20(63.1)	-	11	2
3-5	33	12(36.4)	49.50	19.50(39.4)	-	3	9
5-7	12	-	26.55	-	-	-	-
≥7	8	1(12.5)	20.80	1.00(4.8)	-	-	1
<3	34	21(61.8)	26.30	17.10(65.0)	1	18	2
<5	67	33(49.3)	75.80	36.60(48.3)	1	21	11
≥5	20	1(5.0)	47.35	1.00(2.1)	-	-	1
Total	87	34(39.0)	123.15	37.60(30.5)	1	21	12

Source: Field Survey

Notes: 1. Figures in brackets show % of the total

2. All area figures are in acres

hope of making some 'extra' income, by utilising family labour intensively. Apart from land rent and other costs, he borrows sprayers and pumpset and, even ploughs, from the concerned lessor, who 'suggested' him to try cane for a change for the better. The cost calculation, dealt with later, however, shows what a meagre amount

of net income he gets. But it is to be noted that, even if he realises it after sometime, he is really trapped for at least two years, because of minimum of one ratoon crop. No doubt, he gets all possible loans (in kind) from the factory. But for inordinate needs (like saving cane from odd diseases, watering on and often, fencing, etc.,) he generally depends upon the landlord for a loan - cash or kind. Eventually, it adds to his disadvantages.

Tenants of the second category (i.e., partial tenants) are found more frequently (21 out of total 34 lessees) than either of the other two types, as far as land leased in for sugarcane is concerned. Especially, in two lower size classes (below 3 acres) we have the thickest clustering of such tenants. As is obvious from the size of operational holding in this class, these plots of leased-in-land are too small, more so in the lowest size class. In this size class, the need, hence the desire, to cultivate a lucrative crop is two-fold. First, the desperation to find a source of better income from land is intense. Second, their immobility, both physical and social, is almost ingrained in them. Whereas in the case of second lowest size class between 1 to 3 acres, the need to supplement their family income is the most important factor, for growing cane on leased plots. However, the amount of family labour used in both the cases (of course, far more in the lowest class) to compensate for

high land rent is significant and peculiar to these tenants only. In the third size class, between 3 to 5 acres, the causes for leasing in are quite different. It might be either to meet some future consumption needs (like marriage or job arrangements) or to try a more profitable crop, i.e., sugarcane, than any other cash crop like groundnut, sunhemp or castor).

Out of 12 tenants in the middle size class between 3 to 5 acres, we found about three fourth are cultivating sugarcane simply to add to their normal income. These tenants of the third category rarely use family labour for cultivation needs. They are not very much obliged to their respective lessors. They rather enjoy a special social status in the village as they themselves own a sizeable amount of land. When asked "Are you threatened to be evicted by the landlord often"?, the reply was "I've been leasing in the same plot of land for over 50 years. Now, because of pressure of other work, rather I want to leave the land. The landlord never thought of evicting me". In some cases, the landlord specifies the crop to be grown. Generally, he does not agree to the cultivation of sugarcane, especially of better varieties. All the cost of cultivation is borne by the tenant himself. When the period of tenancy is too long the cultivator develops some sort of attachment to the land and often makes some fixed investment on the land, like digging a well or repairing the borders (Hido).

The general impressions we got about the tenant-landlord relationship are not identical for all size classes. Also, in each size class, the relationship is very much conditioned by the type of tenancy, i.e., the sole purpose of leasing in a plot of land. The relationship, which after all is a form of power relationship, might be developing because of either or both the links(material and non-material) existing therein. Here, by material link we mean the relationship between two individuals as far as letting of land is concerned, whereas, by non-material link we refer to their social relationship arising out of and beyond the former link. Of course, overtime, with growing consciousness among the peasantry (of their social and economic situations) the degree and nature of dependency would have been different from those in earlier times. Because traditional moneylenders (Mahajanas), who used to charge very heavy interests (as high as 60%) on their loan, are absolutely non-existent these days in this village, the landlord by leasing out small plots of land to a number of tenants generally exerts his influence; the more he leases out the more secure he feels in terms of social status. As in one case, we found, a landlord in the highest size class, who happens to be the village head and holds a post of secretary in a Panchayat bank (and is an active member of some political party), has a steady hold over the political will of his tenants and others who borrow the tractor, sprayers or such other things from

him, He exerts his influence on them to the advantage of his party. He enjoys high social status and has an upper hand in every major issue within the village.

Since land owning (particularly farm land) is strongly associated with social prestige, even a slightly better-off landowner would make efforts to dominate over the less landed ones. Again, if not land owning, those who lease in more land enjoy more comfortable position in the village than both the small tenants or owners of smaller patches of land. This aspect was clear to us when, while approached, the smaller growers reacted, "Why are you interested to get information from us? We are just ordinary cultivators. There are big growers. They are big people - Go ask them. They'll tell you better". About one 'big' tenant (who generally leases in 3-4 acres of land from 'big' landlords), a few small cultivators remarked that he had 'high-level' connections with the factory and block officials through his landlords. It is interesting to note that this particular tenant has been 'fortunate' enough to be selected by the factory as the only demonstrator - cultivator in the village. Like any other demonstrator-cultivator, he has been given free fertilisers, pesticides and seven different varieties of seed by the factory to grow cane on one acre of leased land on the roadside. The water supply has been arranged by himself using a borrowed

pumpset. The grower is provided with all sorts of financial and kind assistance including better cultivation techniques by the factory. Offering a cool response regarding his selection, he told, "They considered me the best farmer with immense experience". The produce will be his own, notwithstanding the fact that he has to sell the same to the factory on the basis of a prior contract. Needless to add, he will make large income out of it as major costs incurred are borne by the factory.

The decisions regarding the ploughing method, work procedure, employment on hired labour, engaging pumpsets are taken by tenant cultivators themselves. However, in very few cases landowners would not agree to tenants growing cane. Landlords hardly visit their land except during the time of harvest. When rent is to be paid in kind, the landlord might even fix the time and method of cane cutting. The rent is taken then and there. As a matter of course, decisions on farming matters are very much up to the tenant-growers themselves.

3.3.3. Level and Forms of Rent:

As we noted earlier, in our discussion of the system of tenancy in the village, factors responsible for cultivating cane on leased-in-lands are different from tenant to tenant over different size classes. However, the high degree of tenancy does not imply that

the rates of land rent are low here. In fact, reverse is the case. Land rent is unusually high. We say this for that is a complaint almost every tenant made against his respective lessor. Though land-lease process does not involve any written/recorded statement/deed, the amount of rent to be paid is made very clearly known to the lessee much before the agreement is made.

What form the land rent should take is a matter of pure understanding between the lessee and the lessor. Table 3.6 below gives us some idea regarding this.

Table 3.6: Types of rent arrangement in Karnoli

Size Class (acres)	Total Money Rent (Rs.)	Total kind Rent (Rs.)	Total Rent (Rs.)
<1	340(20)	1,360(80)	1,700(100)
1-3	444(24)	1,406(76)	1,850(100)
3-5	780(39)	1,220(61)	2,000(100)
5-7	-	-	
≥ 7	2,000(100)	-	2,000(100)

Source: Field Survey

Note: Figures in brackets show percentages

We find a particular pattern across different size classes. The lower the size class the higher is the

prevalence of kind rent (converted into its cash equivalent) and the lower is the money rent. The possible reasons for this are:

a. expectation of better yield by using maximum possible family labour (more so in lower size classes i.e., less than 3 acres), or, by making improved facilities for irrigation (as in medium farmers having land above 3 acres generally) or, by taking extraordinary pain to keep the crop free from diseases (as in higher size classes, mainly in case of above 3 acres);

b. the general feeling amongst poorer ryots is that, crop rent is safer, for, if not this year, in the next season rent can be paid in terms of the same or some other crop which can be grown intensively to expect better yield.

Again, some observe that money rent is easy to pay, for one might have other sources of income, say, from other crops like paddy, ragi or pulses. Some even feel that a portion of their own land can fetch enough money, either when it is sold or leased out. Probably, that is why we find in the upper size class money rent is preferred to kind rent. In any case, it has to do a lot with the demand of the lessor himself. If for some reason or other, the requirement for cash is more urgent to meet some consumption expenses (than to withstand the delay and/or botheration to collect and sell the crop to realize the amount) the lessor would not agree to kind loan. And in that case he might even change his earlier tenant, who whould only pay rent in kind. However, this sort of practice of changing

tenants generally applies to new or occasional tenants.

The value of the land rent, either in cash or kind, or both, generally does not vary significantly across size classes. But the unpaid rent, due to crop failure etc., carries with it an element of excess value, which may not be uniform in each case; the tenant-landlord relationship and the period of deferment do matter here. Also, another factor that causes the rent to vary is the type (or, fertility) of land. The rent rate of a plot of land in the highlands would naturally be less than that of a low land (or, more fertile) plot. One reason that could explain the growing tendency among small cultivators to try cane (on leased plot), is probably that they have leased in tiny (that is to say, they can afford to pay low rent) plots of highlying lands. It is hardly the case that a bigger farmer leases in high lands where labour and water requirement would be greater.

In the case of kind rent, either paddy or sugar-cane (or, both) can be defrayed to the landlord. On an average, rent on an acre of cane land is 15 quintals of paddy. Otherwise, the tenant would be charged the money value of the same amount of paddy at the prevailing price (which was about Rs.130/- per quintal during the time of field survey), i.e., about Rs.2000/-.

The well-off share-cultivators pay the rent right at the time of contract either in terms of paddy or cash. However, the more general phenomenon is that the payment is made only after receiving the cane value from the factory. In case of inordinate delays in obtaining factory disbursement, the landlord may attach a small interest to the rent; but such cases rarely occur as it might affect landlord-tenant relationship and, probably, hamper his land-lease business in future. This does not, however, mean that delays of long duration, say, six months or more, would be put up with.

Under extraordinary circumstances, where the lessee does not own any land or possess a little land or meagre property, the landlord would let out some land to the former, only when he is convinced that the poor farmer is reliable and upright. However, in such a case, while making agreement with the factory, both the lessor and the lessee make a joint contract. According to this, when the factory pays for the cane of this field, the landlord deducts his rent share and the rest goes to the lessee.

3.3.4. Cost of Cultivation and Net Income of Cane Growers:

The estimation of cost of cultivation of any agricultural produce is a tricky business indeed. Though

the survey is carried out with utmost care and effort, we can only claim that the figures we arrived at are at best close approximations to reality. In the strict sense of the term such costs vary from one grower to another. Some might exaggerate, or, understate, or even fail to recollect every penny that has been expended on the crop. They rarely maintain records for such expenditure.

The analysis of cost on Indian farms is circumscribed by severe limitations of data that are inherent in the nature of agricultural operations in an underdeveloped economy. These limitations which considerably limit the accuracy of the cost studies are both conceptual and statistical.

Data collected through business survey of cultivators who are not familiar with modern accounting methods and are not accustomed to keep complete records of all their transactions, are deficient for the purposes of a systematic cost analysis. Very often it is quite difficult to identify clearly and quantify accurately all items of cost. A distinction has, therefore, to be made between cost incurred through out-of-pocket cash expenditure and those that are imputed to the inputs of owned resources. The former is certainly

traceable (though not fully), but the calculation of the latter depends overwhelmingly on estimation and judgment; and this can be very erratic. For example, family labour is generally employed on the farm, but no accurate record is maintained about the person hours expended. Its valuation is a ticklish problem. The principle of opportunity cost is suggested as a way out. According to the principle, family labour may be imputed at the rate of going wages of a similar class of labour. However, this principle, is a very rough measure for the valuation of family labour.

A similar problem arises in the case of rent on owned land. How far the principle of opportunity cost answers this issue? The obvious solution is to impute rent according to the rate of rent prevailing in the locality. There is no such thing as uniform rate of rent; payment of rent itself is questioned, as the land itself belongs to the tiller of the soil. In such a situation, imputation of rent to owned land on the basis of opportunity cost is only a pedantic exercise.

Then arises the knotty question of the estimation of the depreciation of assets. The assets of farmers are heterogeneous. The valuation of these assets with any reasonable accuracy is well nigh impossible. Data regarding purchase and longivity of the vast majority

of their assets (many of them are quite unfamiliar and odd to the surveyor's knowledge) are unknown even to the farmers themselves. Under such circumstances, only a 'wise' guess work can be made. By the same token, estimation of interest on capital is also a difficult task. Keeping these problems at the back of one's mind, let us look at the estimates of costs of cultivation of sugarcane.

We propose to make an analysis of cost of cultivation basingupon two distinct sets of calculations: first, for the owner-cultivators and second, for the lessees. This has become imperative, for, as we will see in a little while, the land-rent makes a big difference to the costs and, hence, how within a given size class the lessees suffer disadvantages as far as net income from the crop is concerned.

Another point we must mention here is that the following set of calculations has to be read vis-a-vis the variation in yields for different size classes (partly due to different varieties with varying yields grown by different size-classes).[37] This implies the gross revenue from cane sold can vary accordingly. Assuming that the factory would pay Rs.220 per ton[38], for the season under consideration, Table 3.7 has been constructed.

Table 3.7. Expected Gross Revenue per acre from different Varieties of Cane, Size classwise.

Size class (in acres) \ Variety	Early	Medium	Late
<1	-	-	5,720 (26)
1-3	8,360(38)	6,600(30)	6,160(28)
3-5	9,240(42)	8,140(37)	7,700(35)
5-7	10,120(46)	9,240(42)	8,360(38)
≥7	10,560(48)	9,240(42)	8,360(38)

Source: Field Survey.

Note: Yield figures (tons per acre) are given in the parentheses.

The table shows the gross revenues from different varieties of cane expected by different size classes.

The revenue figures correspond to average yields for a particular size class for a single variety. It may be noted that the yields do not necessarily confirm to Table 3.14. This explains the 'ideal' yield figures, at a disaggregated level, may not hold good when the crop is subjected to differential treatment. For instance, the late variety which is commonly grown,

can give yields varying from 26 tons per acre for the lowest size class to 38 tons per acre for size classes above 5 acres. Similar is the case with other two varieties, which give varied yields, favouring the higher size classes who grow cane on better land and adopt better culture for the crop. From the yield figures we have calculated the money value of the cane. Now, with this table in mind we proceed to see the cost aspects and then on to a comparison of net incomes.

Table 3.8: Per acre Cost of Cultivation for Owner-Growers, Size-classwise (in Rs.).

Cost Items \ Size class (acres)	<1	1-3	3-5	5-7	≥7
1. Labour	1,275	1,345	1,820	1,975	2,005
2. Seed	540	550	560	610	600
3. Fertilizer	613	690	742	723	768
4. Pesticide	600	650	695	650	817
5. Tractor (Fuel & rent)	-	-	-	200	260
6. Pumpset (Fuel & rent)	572	562	498	472	480
7. Sprayer (Rent)	370	380	345	320	300
8. Others	420	423	400	400	320
Total Cost	4,390	4,610	5,060	5,350	5,550

Source: Field survey
Note: 'Others' include expenses for fencing, guarding the crop against wild beasts, unanticipated cane care costs.

Table 3.8 presents average cost figures for cane cultivation per acre of land across size classes. Here we have considered owner-growers only; hence land rent does not come into picture. Before going into item-wise expenses, it can be seen clearly that the costs incurred by the lower size classes are much lower than those by their bigger counterparts. The difference is as large as Rs.1,000/- between the lower and higher size classes. The main item where the lower size classes, below 3 acres, could reduce their costs considerably is labour use. In fact, with rigorous and intensive utilisation of family labour they have reduced their labour costs to around Rs.1,300/- - an amount of Rs.700/- less than what the bigger growers spend. But as far as expenditure on pumpsets and sprayers are concerned they have spent more than that of higher size classes. The expenses on pumpset and sprayer were high because of the land quality and its distance from water sources. Also, they, unlike most of the farmers from the higher size classes, do not possess these implements. They have to hire them, besides the expenses on the fuel (usually, kerosene). Free sprayers by the factory, as noted elsewhere, are mostly used by the richer and influential farmers. Tractors, though not widely used, add to the costs of the higher size classes, above 5 acres, but that also

adds to their yields. Using tractors, for the lower size classes with small holdings, would have been both a dear and difficult proposition.

Basing upon varied yields (therefore different gross incomes from it)net incomes for different size classes, whose expenses on cultivation also are not the same, would also differ. Table 3.9 shows net incomes that accrued to various size classes from different varieties. As far as the owner growers are concerned, we can see the great degree of income variation across size classes: for the early variety it ranges between Rs.3,750/- to Rs.5,010/- for medium, between Rs.1,990/- to Rs.3,890/- and for late, between Rs.1,330/- to Rs.3,010/-.

The high incidence of tenancy, especially among the small cultivators,[39] and the exhorbitant prices prevailing in the land-lease market, make a lot of difference to their (tenant-growers') cost of cultivation. Rent as a dominant cost item enters into their calculus. It can be as high as Rs.1,700/- to Rs.2,000/- depending upon the quality of land. Table 3.10 below is an item-wise average cost schedule of the tenant-growers. The total cost figures are definitely much higher compared to those presented in the cost of cultivation table (Table 3.8) for owner-growers.

It is obvious from Table 3.10 that land rent has been too high (about one third of the total cost of production). Not only is the present rate is high

Table 3.9: Net income of Cane Growers from various types of Cane.

(Rs. per acre)

Size classes (acres) \ Variety grown	Owner-growers			Tenant-growers		
	Early	Medium	Late	Early	Medium	Late
<1	-	-	1,330	-	-	325
1-3	3,750	1,990	1,550	2,657	897	457
3-5	4,180	3,080	2,640	2,412	1,312	872
5-7	4,770	3,890	3,010	-	-	-
≥7	5,010	3,690	2,810	-	-	-

Source: Field Survey.

but also it has gone up substantially over the last decade or so. The rise again is grossly discordant with the rise in prices of cane offered over the period. For instance, in another survey of Nalabanta village (right adjacent to our survey village), Das, P.K. (1976)[40] noted that the level of rent (per acre of land for sugarcane cultivation) varied between Rs.520/- to Rs.1,000/- (average rent being Rs.760/-), the highest being paid by the smallest tenant. The present average rent (according to our survey findings) is Rs.1,850/-. If we compare the change in average rent (in cash terms) to the change in price paid for cane between the two time points (i.e., 1976 and 1984), we notice a big increase in the level of rent vis-a-vis price of cane whereas the price of cane (as paid by the factory see, Table 4.1)

has increased by only Rs.100/- (from Rs.120/- to Rs.220/-) or by 83.33%, the average rent has shot up by Rs.1,090/- (from Rs.780/- to Rs.1,850/-) or by 143.42%.

Table 3.10: Per acre Cost Structure of Tenant - Growers, size class wise (in Rs.)

Cost Items \ Size class (acres)	<1	1-3	3-5
1. Labour	900	1,030	1,760
2. Seeds	500	540	560
3. Fertilizer	568	608	660
4. Pesticide	580	534	710
5. Pumpset	530	540	460
6. Sprayer	337	335	360
7. Land rent	1,700	1,850	2,000
8. Others	280	266	318
Total	5,395	5,703	6,828

Source: Field Survey

In a move to minimise expenditure, the tenant-growers employ limited hired hands and compensate the same by depending excessively upon self exploitation of labour. While the growers of the two lowest size classes could reduce labour costs to a substantially

low amount (Rs. 900/- and Rs. 1,030/- respectively), the comparatively better-off growers having land between 3 to 5 acres, could hardly cut it down (they spent Rs. 1,760/- on it, only Rs. 60/- less than their owner grower counterparts).

The tenant-growers also try to curtail spending on various other cost items, though not as much as on labour (see Table 3.10). Every effort is made by them to maintain a 'reasonable' level of yield (at least, on par with the yield rate achieved by their corresponding owner-growers) so that they do not end up suffering heavy losses. That is the reason why they cannot take chances with dipping expenses on fertilisers, pesticides and pumpsets.

The point, however, is to know why ryots of such low levels of net income, prefer to lease in land at high price to grow cane. The explanation provided is that, though the first crop (plantation) is hardly worth the effort, the subsequent ratoon crops pay better, for on a number of counts cost comes down. The ryot does not incur land preparation costs and to some extent fertiliser and pesticide use is lowered. Also, he does not spend anything on seeds. The yield again does not go down. However, the tenant-grower's income (from the latter crops) stands at no comparison with the owner-cultivators and especially the bigger growers, who earn much higher profits.

3.4. Forms of Labour Use:

3.4.1. Family Labour:

Almost as a rule, the basic figures in agricultural operations are the heads of the farming households. The degree of involvement of other members of the family, is , however, conditioned by one or more of the following elements - age and sex of the person, nature of work, financial standing of the family, social status enjoyed in the locality and willingness to do manual job. If a person is either too young or too old, it will be difficult for him/her to do field work. Female members of every family take part in various agricultural activities. This statement, however, does not go without qualifications. Women from richer and 'high class' families never toil on the land, albeit, on various occasions they do manage the work from home, either by keeping track of number of labourers hired, their payment, quantity of fertilisers and pesticides on a particular day and so on. Again, fearing that their social status might be weakened, they would not even direct labour in public. That is to say, the labour on the verandah receive instructions from inside the master's house. This, of course, is not the case with poorer ryot families where economic strains compel female members to labour on their own fields. Children from upper class cultivating households are generally hesitant to go to the land in spite of the fact

that they rarely remain busy with their studies. Most often they are seen idling. Unlike them, child labour participation in small landholding families is quite high. Though not ploughing the land, they do all sorts of odd jobs including wrapping and propping the cane.

The job of all the male members is also not of the same type in the field. For poorer families, where capacity to hire labour is definitely low, men have tough time growing cane, starting from tilling the land to watching the grown crop to supplying the same to the factory. Though for certain operations use of hired labour becomes indispensable, the ryot himself, along with other male members, contributes the maximum possible toil to reduce the cost. For the meagre profit he makes out of his small patch of cane land, intensity of effort made is unmistakably stupendous. On the other hand, the bigger growers exert themselves the least and by using both hired labour and tractors on their easily cultivable large, comparatively fertile lands, hopefully look forward to a handsome harvest.

Size class wise distribution of family members involved in cane cultivation activities has been presented in Table 3.11. We see that the average family size varies, approximately, between six to seven, the lower size classes (below 5 acres) having larger

Table 3.11: Extent of participation of Family Members in Field Labour, Size Classwise.

Size Class (acres)	M	WM	F	WF	C	WC	TP	TWP	No.of families	Average Family Size.
<1	17	14(82)	21	19(90)	41	29(71)	79	62(78)	11	7.2
1-3	42	34(81)	40	31(78)	78	49(63)	160	114(71)	23	7.0
3-5	52	44(85)	60	12(20)	124	25(20)	236	81(34)	33	7.1
5-7	18	14(78)	19	-	42	9(21)	79	25(32)	12	6.6
>7	14	9(64)	18	2(11)	19	7(36)	51	16(31)	8	6.4

Source: Field Survey

Notes: 1. Figures in brackets show percentages of working members to the respective totals.

2. M: Males; WM: Working Males;

F: Females; WF: Working Females;

C: Children(below 15 years);

WC: Working Children;

TP: Total production (in each size class) and

TWP: Total Working Population (in each size class).

families. Evidently, in the two lower size classes about threefourths of the total family members are doing field work, whereas for size classes above 5 acres this proportion is as low as one third. This striking difference can, to a great extent, be understood if we look at the proportions of both females and children working in the field to their respective totals, in the upper size classes, above 5 acres.

Out of a total of 97 females and 185 children in this group (3 acres and above), only 14 (about 14%) and 41 (about 22%) respectively, contribute their labour to the farm work. In the two lower size classes, we find a substantial number of females (about 82%) and children (about 65%) are engaged in cultivation activities. As an accepted practice, women from 'respectable' families avoid going to the fields and even if they go they never do anything more than overseeing and directing the field labour. Children also do the similar type of job. For lower size class families, however, it is just the reverse.

Though there is excess dependence upon hired labour by big landowners, they (the latter) very often do some amount of manual labour besides supervising the field work. Of course, the great intensity and strain with which small peasants manage growing the crop can in no way be visualised from our present

table. However, the high proportion of male participation in all size classes is quite conspicuous in the table.

In our survey of cane growing households, the not-so-uncommon practice of small farmers rendering their service as wage labour to the big landowners, irrespective of whether the former lease in land from the latter, was nowhere to be found. But for certain operations like ploughing, irrigating, or, even cutting cane the cultivators work on the basis of 'labour exchange'. They assist each other by sharing both labour and farm implements. Only in case of small holders such a thing is prevalent. Such an act of cooperation, it should be noted, is based more on mutual need and areal proximity, rather than on immaculate fellow feeling.[41]

3.4.2. Hired Labour:

Sugarcane is a highly labour intensive crop needing special care and skill for certain operations. Depending upon the nature of cultivation practices the division of task between family and hired labour is quite distinctive. Over and above, the participation of family members in different cultivation operations,

the requirement of and dependency upon extra family labour is clearly manifest in the very high ratio of hired labour to total labour used. Especially, for operations like watering, tillering, wrapping, harvesting[42] and loading labour is invariably hired in. A tentative impression about the extent of hired labour used in different size classes can be formed by referring to our earlier tables on cost of cultivation (See Tables 3.8 and 3.10). Implicitly, the variation in labour cost across size classes reflects the fact that the lower size classes use less of hired labour (i.e., the minimum possible) so as to keep the total cost at a manageable level. This, it must be noted, might even be done at the cost of better crop yield; whereas in the case of bigger cultivators, for whatever reasons, the amount and intensity of family labour engaged is comparatively small and hired labour is relatively more. And that has a positive impact on the quantity of cane produced. However, we would like to qualify this.

It will not be out of context to mention a little about the nature of substitutability of family labour for hired labour.[43] Notwithstanding the specificities of cultivation practices of sugarcane, which are time bound and require technical expertise, the hiring in of labour by any grower, big or small, is to a great extent influenced by factors which are not necessarily

economic. As a common practice, a cane grower enjoys a more respectable position in the village because only a few farmers can cultivate such an expensive crop. By virtue of its attaching a semblance of prestige to the cane cultivator, it prevents the ryot, especially when he is economically not well-off, to hire himself (or even his family members) out as a wage labourer. Apart from this, their relatively upper caste status also does not allow them to work as wage labour on someone else's farm.

This is obvious, for we see in the village that there exist about fifteen low caste households that live on selliing their labour power in and around the village. They hardly have any land of their own. Even in such a small village, their hutment stands apart as it is a bit cut off from the cluster of cultivator households. These agricultural labourers (muliyas) work both as seasonal and daily wage earners. For field work the male labour gets Rs.12 per day whereas the female labour gets a very low amount only Rs.5 per day. For this low rate of wage for female labour, they are generally preferred to their male counterparts, excepting for few operations like tilling the soil and tillering. Table 3.12 shows the amount and types of hired labour used on a typical cane plot of one acre for major cultivation operations:

Table 3.12: Average Labour Requirement for various operations:

(Per Acre)

Name of the Operation	Number of Hired Labour used
1. Land Preparation	60 F
2. Planting	40 F
3. Watering and earthing up	10 M
4. Wrapping and Propping	60 F (or) 40 M
5. Tillering, fertiliser applying etc.,	25 M
6. Harvesting	25 M and 90 F
7. Loading on Cart	15 M

Source: Field Survey

Notes: 1. M: Male F: Female

2. Use of male and female labour would also depend upon availability of a particular type of labour during the period in question.

3. Extent of labour use would also vary from size class to size class depending upon family labour used and financial ability to hire.

It is essential to note here that these labourers are early settlers of the village and for operations like harvesting and loading, no migrant labour is used. Whereas in Gujarat[44] and Maharashtra[45] the complexities of migrant labour recruitment and their control by factory management via mukadams[46] have been stressed upon, the very absence of this system here makes

our case conspicuously specific. Neither from adjacent cheap-labour abundant districts like Koraput or Phulbani nor from Andhra districts like Srikakulam or Vijayanagaram labour migrate to this district for employment in cane fields. It has been pointed out that migrant labour, apart from being a rich source of cheap labour, is subdued and lowtoned by nature, because of the adverse conditions which caused his/her migration. As Castells, M. notes "the strategic role of immigrants is to be explained not in terms of technical demands of production, but by specific interest of capital in a particular phase of its development"[47]. Further, Matson argues, "with the migrants, the cooperatives had a system of labour control which cheapened the wage and strengthened the factories' position in dealing with labour"[48]. Why a similar migrant labour use system does not prevail here can be partly explained by the small plots of cane land which do not require huge labour force, and if used, the management of the same by the factory would not have been expedient.

A few big cane growers have permanent agricultural labourers (halyas) who stay with the family of the former and get monthly payments and other articles of use occasionally on festive days. Some of them have been working with the same landowner for more than thirty to forty years. We also came across two households where the halyas' earlier generation had also worked.

It was learnt that many cultivator households, whom we did not cover, also have such permanent labourers for more than two generations. This, however, does neither 'guarantee' permanency of job for himself nor ensures future security for his sons. The halya lives in a state of utter desperation as he is not sure of finding another employment opportunity elsewhere. The landowner seems to be his only saviour as the former provides him with money or kind 'help' to meet the latter's urgent consumption needs. One does not know exactly the amount and nature of work done by a halya, because he plays a dual role of farm labour and domestic servant. In cane cultivation apart from other field work, the job of guarding the field during night hours against jackals, bears and even at times elephants, is his exclusive concern. The payment made to these halyas is extremely low and are generally paid in kind. Table 3.13 below is a detailed account of the halyas' earnings.

Taking the average daily earnings of the muliya and the halya, it may be noted that the former gets a higher wage rate compared to that of the latter. However, as far as the state of living is concerned, the ensuing comment made about such labour in Madras Presidency, more than a century back, in 1877, needs no rewording either: "These two classes of labourers (occasional and permanent) differ very much in their

Table 3.13: Wage Structure of Attached Labour

Halya	Halya's Son
1. Paddy -- 16 nautis (or) Rs. 200/- to Rs.250/- per month.	1. Paddy -- 5 nautis (or) Rs. 60/- to Rs.75/- per month.
2. Cloth -- cheap variety, once a year	2. Cloth -- cheap variety, once in a year
3. Mung, black gram, til, groundnut, kolotho (grains other than paddy) -- as the master pleases on various pujas or festive occasions	

Source: Field Survey

Notes: 1. Usually cash payment is not made.

2. Regular monthly payment is also not common. At times he is given food, mainly, pokhalo (watered rice).

circumstances. The latter have little liberty, being usually in debt to their employers on account of the advance made to them on first taking service. The casual labourer, on the other hand, finds living precarious; he meets with regular employment only at the busy seasons of the year and during the remainder of the year has to depend upon such work as he can secure on the roads, and other public works, or upon small earnings to be made by selling fuel, grass & c, in the large villages and towns. It is usual for the

wife and other members of the labourer's family to contribute their earnings"[49].

Especially when a large number of hands are sought for, casual labourers are available in groups which may not necessarily come from the same village. The above discussion on both types of labour in the locality is not to conclude that factory does not recruit casual labour for harvesting operation, though not in great numbers. We will touch upon this aspect elsewhere, in the next chapter.

3.5. Varieties of Cane Grown by the Surveyed Cultivators:

In our survey, we found the following varieties are grown and Table 3.14 gives us a comprehensive notion about the specialities of each.

However, it must also be noted that the same variety of cane may give different yields when it is subjected to differentiated cultural treatments. That is, when the land is more fertile, or ploughed well, or watered adequately, or given timely fertilisers and pesticides, or weeded properly, the yield will be positively influenced (as seen in Table 3.7, figures in parenthesis).

The matrix of varieties grown and its distribution across size classes gives us interesting inferences (See Table 3.15). Undoubtedly, the late varieties still

Table 3.14: Ideal Characteristics of Various types of Cane.

Variety	Period of cultivation	Recovery (%)	Yield/acre (tons)	Vulnerability to Diseases
Early (C0.6907 & C0.527)	10 to 11 months	10.5	40 to 45	Least
Medium (C0.7602 & C0.975)	11 to 12 months	10.0	35 to 45	Less
Late (C0.72175)	12 to 14 months	9 to 9.5	25 to 30	More
Ratoon	11 to 12 months	10.0	25 to 30	Less

Source: Factory Pamphlets and Village Survey.

Note: Figures in brackets are the names of each varities.

occupy a little more than three-fourth of the total area under sugarcane in the village. This clearly reflects factory's inefficiency and laxity in introducing and popularising better varieties of cane in an area which has all favourable agro-climatic factors for cane cultivation. The frequently met general indifferance towards such a 'profitable' crop might to some extent be explained by the fact that the late varieties are not very promising as far as expense of both money and

Table 3.15: Area under different Varieties of Cane across Size classes (in acres)

Variety	Total Cane area	<1	1-3	3-5	5-7	≥7	<5	≥5
Early		0	4.44	3.84	15.44	28.85	3.83	21.33
	13.00	0	1.00	1.90	4.10	6.00	2.90	10.10
	10.56*	(0)	(7.69)	(14.62)	(31.54)	(46.15)	(22.31)	(77.69)
Medium		0	2.67	11.92	8.29	25.96	8.57	16.05
	14.10	0	0.60	5.90	2.20	5.40	6.50	7.60
	11.45*	(0)	(4.26)	(41.84)	(15.60)	(38.30)	(46.10)	(53.90)
Late		100.00	92.89	84.24	76.27	45.19	87.60	62.62
	96.05	3.80	20.90	41.70	20.25	9.40	66.40	29.65
	77.99*	(3.96)	(21.76)	(43.41)	(21.08)	(9.79)	(69.13)	(30.87)
Total	123.15	3.80	22.50	49.50	26.55	20.80	75.80	47.35

Source: Field Survey

Notes: 1. Figures underlined show the proportion of area under a specific variety to the total area in that size class.
2. Figures in parenthesis indicate the proportion of area under a particular variety to the total area under the same variety.
3. Figures with asterisks (*) represent proportion of total area under each variety to the total cane area.

time is concerned. In case of an early variety a farmer can pretty well save about eight months, over the late varieties, taking single ratoon into account; he could even grow another crop during that time.

A quick glance at the last two columns of Table 3.15 suggests that, more than three-fourth of area under early variety is in the higher size class, i.e., above 5 acres and about 70% of area under late variety is in the lower size classes. The medium variety, which occupies a modest proportion of little more than a tenth of total cane area, is also equally biased against the lower size classes.

An even clearer picture regarding the distribution of varieties emerges when we examine the same under individual size classes. The lowest size class, surprisingly, grows neither early nor medium variety at all. In the second lowest size class also, the proportion of area under both the early and medium varieties together is too small, 7% only. Of course, in the middle size class (3 to 5 acres) where we have well-to-do growers, about one-sixth of the cane land is under better varieties, (of which again, three-fourth area is covered by medium variety alone), albeit the late variety grown is no less in significance compared to the aforesaid size classes. The early varieties occupy about one-sixth and one-third of total cane land in the two higher size

classes (about 5 acres), respectively. And less than half of the area in the biggest size class is under the late variety.

Conclusion:

Our intention in this chapter has been to examine a micro unit (village) of the region in connection with cane cultivation so that we can appreciate the forms of control operating within agriculture and relate it to the role of the factory in engendering and sustaining the same. For this we could not have done away with a description of the detailed method of growing cane, which gives us an idea about labour use, other material input costs incurred and needs of the growers at different stages of cultivation.

The analysis has centred around two major variables: size classes and varieties of cane. These factors determine total revenue accruing to different categories of growers who plant different varieties of cane. The concentration of better-yielding varieties with the bigger growers reflects factory's policies in favouring a particular section of the cultivators. We have seen how costs can be significantly higher for those who lease in land and what kind of control the lessee be subjected to. The high incidence of tenancy

especially among small landholders, remains a special feature of the region.

A detailed cost calculation and analysis of hired and family labour use, read together shows that though the small growers save a lot on labour costs (of course, by high self-exploitation) their net incomes turn out to be quite low due to the inferior varieties of cane they grow, poor land they use and insufficient inputs they apply. The big peasants and the factory's management have a role to play in it.

Notes and References

1. William, C.N. (1975), p.61.

2. Replies to the Questionnaire by Anstead, Rudolf.D., Director of Madras, Royal Commission on Agriculture in India, Vol.III, Evidence taken in the M.P. (1927), p.48.

3. In wet lands sugarcane is rotated with rice and in garden lands it is rotated with either ragi, sorghum or vegetables leaving an interval of at least two years. Conventionally, paddy fields are referred to garden lands for the former's fertility is enriched after cane cultivation.

4. "Deep tillage is believed necessary for the production of optimum yields of sugarcane. Poor yields are often associatied with those sugar-producing areas that do not have tillage implements or adequate power to till deeply. The bullock-drawn wooden plows used in India and many other producing areas can do little more than scratch the surface of the soil. Shallow tillage, and particularly where the underlying subsoils are infertile, encourages shallow rootings which commonly reduces yields, particularly where droughts are experienced". Humbert, R.P. (1968), p.61.

5. "...the short-handed, broad-bladed hoe, which serves also as spade, shovel, fork, rake and trowel". See, Slater, G. (1936), p.241.

6. Aiyer, A.K. (1966), p.208.

7. "Sheep-folding was common, and this was supplemented by stored manure, generally oil cake, earth containing nitre or rotten straw of green or black gram, according to local custom" Ganjam District Manual (1882), p.13, Quoted in Raju, Sarada (1941), p.84.

8. Ruthenburg, H. (1976), p.250.

9. 'Chinishilpa' (1984), Vol.2, No.5.

10. Aiyer also refers to the fact that about 50 years before the sugarcane industry of the Northern Circars (or, Ganjam district, mainly) of Madras was "threatened with ruin" and was "saved by means of adequate and extensive drainage of the fields". See, Aiyer, A.K. (1966), p.192.

11. For drainage component in water balancing, see, Jackson, I.J. (1979), p.170.

12. Ghosh, H.H. (1934), p.93.

13. Memoirs (1954), p.441.

14. "Planting may be done by hand or by mechanical planters. Hand planting is to be preferred as evidenced by the fact that this operation was one of the last to be mechanized in those producing areas with high labour costs. Hand planting usually means less damage to the seed, more uniform planting and depth of covering and finally, better stands". Humbert, R.P.(1968), p.109.

15. The importance of earthing up operation has been captured by the following vernacular saying:

    "Aakhu mule dio matiki teki
    Doro norohibo baa paniki"

    This suggests, raise earth at the roots of the cane and that will take care of strong winds or rains.

16. Aiyer, A.K. (1966), p.212.

17. See, Jackson, I.J. (1979) for findings of various experiments conducted at different regions of the world regarding soil type, irrigation and sugarcane yield. p.163.

18. Permanent wilting point means a stage of soil moisture level beyond which plants can no longer replace water, which is evaporated from their leaf surfaces, and so wilting occurs. Field capacity means the maximum amount of water which can be held by a soil against the force of gravity. For details, see, King, N.J. et.al. (1965), pp.140-41.

19. See, King, N.J. et.al. (1965), pp.194-195.

20. Memoirs (1954), p.450.

21. Here, unlike the old method of using bamboos as props, propping is done by trash twist method. In this procedure, the leaves of four or more cane plants are twisted into a rope like thing and two adjacent rows are brought together and bound up at about four to five feet level.

22. For individual effects of each of these factors, see, Senewiratne,S.T. and Appadurai, R.R. (1966), pp.209-10.

23. Barnes, A.C. (1974), pp.358-9.

24. Barnes, A.C. (1974) p.264.

25. Barnes, A.C. (1974), p.279.

26. Humbert, R.P. (1968) observes, 'poor supervision' is usually responsible for normal ratoon crop growth See, p.127.

27. Ochse, J.J. et.al (1961), p.1242. They add further that, "there are even cases of fields which have been harvested 20 times or more and still produce a satisfactory crop".

28. It may be understood as "a measure of the ability of a cane to yield the maximum proportion of its sucrose by normal methods of processing in a commercial form having good keeping qualities and capable of being refined by standard processes to a final product of the highest quality". (Barnes, A.C. (1974), p.39.).

29. Barnes, A.C. (1974), p.39.

30. Barnes, A.C. (1974), p.40.

31. Humbert, R.P. (1968), p.133.

32. Literally it means "Gun in hands".

33. Maltby, T.J. (1918), p.6.

34. Vernacular name for 'soldiers'.

35. The Scheduled Castes in this village are Hadi, Bauri, Bano and Dandasi.

36. For some useful discussions, see Yang, W.Y.(1961), pp.64-70.

37. See Section 3.5 of Varieties of Cane Grown by the Surveyed Cultivators.

38. This is by no means a 'wild guess' for that is what the growers expected to get, understanding that there was little scope for enhancement. For the reasons for such an impression, see Chapter 4, especially the section on 'Member-growers' Protest'.

39. In the lowest size class 73% growers are tenants. For the second lowest size class it is 57% and for all the three lower size classes it is 49%.

40. Das, P.K. (1976), "Aspects of Tenurial Conditions and Agrarian Transformation in Selected Villages of Orissa", Ph.D thesis submitted to JNU. See, especially, Table IV-3-(B) (pp.130-33) and also the discussion on pp.127 and 136-7.

41. A very similar system of labour exchange (called palusong) prevails in Central Luzon. For details, see Akira, T.(1969), pp.61-62.

42. "In harvesting periods, in order to ensure that the yield is not adversely affected, operations may have to be conducted within a very small period. This urgency to complete a certain volume of work may necessitate the hiring in of labour even on small farms particularly in the case of crops like sugarcane". Bharadwaj, K. (1974), p.26.

43. A.K. Sen's (1964) dual-labour system, based upon marginal productivity of labour concept, argues that the small cultivators try to maximise output by optimum use of family labour, whereas the big ones, in order to maximise their profits hire labour. On the other hand, Bhagwati, J. and Chakravarti, S.(1969) contend that even small holders hire in labour reflecting the equation of marginal productivity of labour to the going wage rate. However, for a critical discussion of these two extremely simplistic views and for a more convicing standing, See Bharadwaj, K.(1974), pp.26-9.

44. Breman, J.(1978).

45. Matson, J.(1983).

46. Labour contractors who arrange to provide a certain number and type of work teams each season for operations like harvesting and transporting cane to cooperative factories.

47. Castells, M.(1975), p.44.

48. Matson, J.(1983), p.21.

49. Maclean, C.D.(1877), "Standing Information regarding the Official Administration of the Madras Presidency In Each Department in Illustration of the Yearly Administration Reports," p.232.

CHAPTER 4

SOME ASPECTS OF THE RELATIONSHIP BETWEEN THE COOPERATIVE SUGAR FACTORY AND THE CANE GROWER

Introduction:

In keeping with the analysis of the emergence of a sugar unit at Aska and its taking the present shape of a cooperative factory, we now go into details of its functioning and politics. This chapter begins with a description of various steps taken by the factory over time which either directly or indirectly have a bearing on the growers. The above account being the result of decisions taken by the managing body of the cooperative factory we have examined how this board of management is constituted, how the 'representatives' are chosen and the politics involved. This is relevant in the context of cooperative movement's thrust upon 'democratic' principles and fair decision making. We have, then, tried to relate it to the differential experiences of cane growers in order to find an expression for the relations between the cane producers and their 'takers' in the light of various practical aspects of their nexus, such as loan sanctioning, seed distribution, payment for and transportation of cane, and so on. However, we propose to devote some more space and time on a very crucial subject of their relationship - the

formal agreement the grower enters into to supply the cane. A thorough anatomy of this throws up some interesting questions.

The irregularly published annual reports, however, never spared an effort to portray an 'all-okay' picture of the factory all through, given the fact that it really faced serious crisis for almost a continuous period of 15 of the 20 years of its existence. A brief description of the major 'developments' in this factory up to the present time would be useful in following some of the pertinent issues. Hence, we will continue here this discussion which infact was initiated in the earlier chapter. This may give us a retrospective notion about its working and assurances, however shaky, given from time to time. We will go about it chronologically.

4.1. Early Functioning of the Cooperative Factory:

The first five years constituted (1963-68) the 'formative' period for the factory. As a matter of fact, only from 1967-68 onwards did the factory start paying more than the minimum statutory price fixed by the Central Government (See Table 4.1).

Table 4.1: Minimum Cane Prices (Rs./tonne) fixed by Central Government and the Actual Prices paid by the Factory to the Growers.

Year	Central Government Statutory Minimum Price (Rs.)	Actual Price paid by the Factory (Rs.)	Difference (Rs.)
1963-64	50.40	50.40	-
1964-65	53.60	53.60	-
1965-66	53.60	53.60	-
1966-67	56.80	56.80	-
1967-68	73.70	80.00	6.30
1968-69	75.30	100.00	24.70
1969-70	79.10	79.10	-
1970-71	73.70	79.10	5.40
1971-72	73.70	85.00	7.30
1972-73	93.20	95.00	1.80
1973-74	88.80	100.00	11.20
1974-75	91.00	115.00	24.00
1975-76	90.00	125.00	35.00
1976-77	89.00	120.00	31.00
1977-78	88.00	125.00	37.00
1978-79	104.70	143.00	39.00
1979-80	132.40	140.00	7.60
1980-81	131.50	230.00	98.50
1981-82	140.70	207.00	63.30
1982-83	134.60	210.00	75.40
1983-84	140.90	235.00	94.10

Source: Factory Records.

The first important decision that the nominated Board of Management took was in 1968, when some amendments were made in the existing bye-laws of the factory of which the following are the important ones:

i. As advances of loan on the security of sugar made out of cane supplied by the growers was not possible, the provision was deleted.

ii. It was not possible to procure cane from all parts of the state of Orissa, hence, the area of operation of the factory was demarcated along boundaries of the Revenue District of Ganjam excluding Parlakhemundi sub-division. However, for all commercial purposes, the area could extend to the whole of India.

iii. For better types of cane, the factory decided to provide seeds to the growers on a loan basis without any "surcharge" of interest. For "efficient" cane cultivators, it introduced a price scheme of Rs.300/- per acre.

iv. Pesticides as well as insecticides, it was agreed upon, were to be loaned out to the member-growers.

During the season of 1970-71, the crushing period was reduced to only 58 days, the same being 162 days the previous year (See Table 2.10). The Annual Report of the year attributes this to the farmers' reluctance to sell their cane to the factory, although they were making use of the "advantages" provided by it. Due to fluctuations in and low levels of prices prevailing in the open market for sugar, the factory suffered heavy losses.[1]

The same year i.e., 1970-71 the management decided to set up a distillery, in order to utilise the byeproducts, especially molasses, which were sold out at very nominal rates till then. The distillery establishment needed Rs.34 lakhs of initial cost and it was expected to produce 2,000 gallons of rectified spirit per day. This undoubtedly, was a profitable proposition which was realised with the assistance of the National Cooperative Development Corporation.[2]

Requisite quantity of cane could not be made available to the factory in the succeeding season (1972-73), because of the unforeseen cyclone and the flood that had severely affected all the nearby cane growing areas. The factory worked for only 52 days during that season. The factory claimed to have repaired roads by providing "all expenses for it", for convenie transportation of cane from the villages. This, however, was an obvious exaggeration, for the author had been to at least five villages spread over a radius of 8 to 10 kms of the factory where road condition was found to be awful. For the survey was conducted during rainy season the plight of transportation was experienced while narrowly escaping ditches and getting into thickly-spread mud on the roads to the villages. Wretched condition of roads prompts cane growers to use bullock

carts more frequently than motor vehilces provided by the factory for transporting their produce. As far as irrigation of cane fields is concerned, the factory tried to coordinate between authorities of both Lift-irrigation department and Orissa State Electricity Board and deposited fund to instal 30 lift irrigation projects in the area. A subsidy of 35% was also provided for setting energised dug wells.

The Annual Report of the factory (1972-73) mentions that it had spent Rs.8,520/- as awards to hunters to ensure protection of cane from wild animals. However, during our survey last year, a decade after the presentation of awards to hunters, we came across many a household whose crop was destroyed by bears, jackals and occasionally elephants. They were never sure whether any such preventive step by the factory was taken then.

Among the other major changes that have been effected or are conceived of during the last five years or more the following may be relevant to our further study:

1. Three pucca rest sheds were built for the farmers who brought cane to the factory.
2. Press-mud, a by-product of cane having fertility value was sold to the growers at supposedly lower rates.

3. 35% of total expenditure on lift irrigation is being provided by the factory.

4. The factory acts as mediator for those grower members, who want to supply cane by trucks or tractors and need loan from the United Commercial Bank.

5. The factory provides iron shafts for carts on 50% rebate.

4.2. The Management:

Joint participation by the farming community in its "self-amelioration" is indicated as a condition of success. This is supposed to provide a 'status' of full participation or involvement in the larger interests of the community. This status, as suggested by Karve (1966)[3], may be imparted to the ryots in the following ways. First, the farmer groups may be subsidiaries of a governmental unit "assumes specific responsibilities and receiving specific benefits" with the power to decide remaining totally with the State authorities, Secondly, they may form into purely business clusters, where each member has rights corresponding to his "economic stake".

Both the methods, mentioned above clearly fail to meet the essential requirements of freedom and equality, "the driving forces behind the social and agrarian movement

which they should primarily aim at. The choice left may be "...organising farmers' group, the cooperative, where all members have an equal opportunity to participate in programmes of economic development. Sponsored but not enforced by the national community, the cooperative is the only type of institution on which a democratic society can rely".[41]

In the above context, therefore, the principles of management becomes cardinal to the basic cooperative ideology and, hence, is distinguishable from other forms of business units either in private or public sector. "Cooperatives are planned to be run on democratic lines, so that the basic decisions about their organisation and operation are made by the members themselves".[5] This essentially entails a certain degree of "sacrifice of the managerial sovereignty of individuals for their weaker counterparts, or, in other words, for promoting common well-being.[6]

But this by itself does not confer every possible right upon the members, to take any form of decision they would like to. Certain rules and regulations rather curb their freedom to decide; for the law, very often, empowers the Registrar to hold the reins.[7] In any case, theoretically speaking, each member has the same and equal rights as any other. Each member has one vote, regardless of the number and value of shares he may hold.

Apart from the provisions in the Acts and Regulations made thereunder, the cooperative factory has to function according to its byelaws which are subject to amendment. The byelaws are binding on the members and spell out their rights and obligations vis-a-vis the factory and among themselves.

The supreme authority, according to bye-laws, in all matters relating to the administration of the cooperative is vested in the general meeting of the members. The meeting has to take place at least once a year and also within three months from the date of receipt of audit report.[8] General meeting can also be convened if necessary for the disposal of business or if directed by the Registrar. Decisions are made by majority vote. As the general meeting is supposed to take place only a few times a year, the entire administration of the factory has been left to an elected committee known as the 'Committee of Management'. This came into being in 1978.

The Committee of Management is run by the board of directors. There are 15 directors of the board, out of which 6 representatives of producer-members are elected from separate constituencies of such members and one representative of ordinary members[9] is elected by them from among members holding more than 20 shares. Also, five directors are nominated by the State Government, including the

Registrar of Cooperative Societies or his representative. Both the financing bank and the Industrial Development Corporation of Orissa Limited have one nominee each. The Committee may co-opt an expert as a member with the approval of the Registrar. The managing director, usually a salaried employee appointed by the board, is an ex-officio member of the committee of management.

The President and Vice-President are elected by the members of the Committee from amongst themselves. The nominated representatives of the outside agencies and the co-opted member are neither authorised to contest for these posts, nor do they have any right to vote in the election for such posts. The nominee of the State Government cannot vote on any issue, though his views may be noted in the book of minutes. As a standard convention, the representatives of various agencies do not interlope in the decision-making process of the Board. Moreover, they hardly attend its meetings. The Board is accountable to the general body of shareholders, and some of the decisions of the former are subject to the ratification or approval of the latter. The general body, as mentioned before, meets at leastonce a year.[10] It may also meet to transact special business such as amending the byelaws by the factory[11].

Subject to the consent of the general body in certain matters, the Board enjoys wide-ranging decision making powers. Specially, all policy decisions are taken by the Board. It has a final word on all matters pertaining to the recruitment of staff, sale and purchase of goods, construction and maintenance of various units of the factory, and all other important issues. To facilitate its work for different sections, the factory has a: (i) Distillery Manager; (ii) Chief Engineer; (iii) Materials Manager; (iv) Chief Chemist; (v) Cane Development Officer; (vi) Office Secretary; (vii) Labour Welfare Officer and (viii) Medical Officer. The Committee of Management, however, heads over all of them.

4.2.1. The Committee of Management:

The present Committee of Management took charge on 6th December 1982. As the Appendix I to this chapter shows, all the seven elected directors are large shareholders, their shares ranging between Rs.600/- to Rs.6,500/-. The President is an ex-Rajasaheb of Dharakot and also an ex-state Cabinet Minister; the Vice-President is the Chairman of Sheragada Panchayat Samiti. One director is an MLA and another is an ex-MLA. Three of the present directors were also elected in the last committee of Management. Three directors are in their fifties, two in forties and the rest in their thirties. It is equally

interesting to note that most of them were holding different important positions (like President or Vice-President) in the management Committee for the past so many years. Not even a single director is/was without holding one or more office(s) of status in the locality. They are all active members/sympathisers of the ruling party and are known political figures. None of them has any industrial background. Three are graduates, one under-graduate and the rest never went beyond high school education. Among the so-called "grower-member-directors", ironically, no one is a direct cane cultivator. All of them are financially well-off and most of them are rich peasants.

4.3. Contract between the Factory and Growers:

We would initiate this section by quoting a few relevant byelaws of the factory.

One of the objectives of the cooperative factory is, as per the bye-law 2.5 (d), "to purchase from members... sugarcane... and to arrange cultivation of sugar-cane for the manufacture of sugar". Another objective, as described by bye-law 2.6, is "to give advances to members on the security of sugar-cane or sugar made out of their sugar-cane and loans for raising their crops and the development of agriculture".

Again, bye-law 11 states that:

> "Members shall be bound to carry out instructions of the Committee of Management in respect of every matter connected with the method of cultivation, production, protection to crops, marketing of produce etc. No member shall manufacture jaggery from out of his sugar-cane without the previous written permission of the Committee of Management".

Added to this, bye-law 12 says:

> "A member shall sell, when required by the Committee of Management of the Society, or any agency approved by it".

These interrelated pieces of legal stipulations suggest the factory's outright efforts to promote cane cultivation by providing financial and other support to its members. They also impose restrictions on growers on every possible aspect of cultivation. As we will see further, the strictures are more stringent than the bye-laws suggest.

Every grower-member had to enter into a contract with the factory so as to ensure supply of cane for a particular season. The contract form he signs is lengthy and cumbersome (See Appendix II to this chapter). The language, more often than not, is legal and the format highly technical. Many sign it without really going through the details in it and few have the knowledge that

the form is one of the most significant instruments controlling them.

The grower (meaning thereby the grower member unless otherwise mentioned, in this section) has to have two other growers as sureties while signing the contract. He has to state clearly how much of his land will be brought under cane cultivation, which variety to be grown and total cane to be produced, estimating the expected yield. He must add for what season he is growing the same and when he will supply the raw material to the factory.

Earlier, in Chapter 3, we have presented a detailed description of the process of cane cultivation in the region and also we have talked about the scanty water supply due to poor irrigation and limited rainfall here. Also, we have noted in the section on 'varieties of cane' that yield is not an independent factor and is greatly conditioned by the vagaries of nature and other circumstantial problems. The form demanding a clear figure of total produce, even before plantation commences, does put the grower into confusion and he willy-nilly agrees to the usual notions of a particular variety yielding a 'pre-determined'[12] amount of cane. This aspect is important, for, as we will see a few steps below, a shortage/cut in the supply of agreed amount of cane can have serious implications for him.

Though the factory is supposed to provide loans and other assistance to the grower, who, after getting into the fold of a cooperative, naturally expects the same, the former does not 'guarantee' it and leaves everything to its own 'convenience'. Further, the statement agreed upon by the grower - "I understand that even if the factory fails to provide me with the above mentioned production credit, the said contract to supply cane shall remain in force and the factory shall not be responsible for my (grower's) inability to provide the contracted cane on the ground of its failure to supply credit" makes him bound to supply cane whereas the factory does not admit of the least answerability. It is rather strange that a 'cooperative' organisation, for all legal purposes, refuses to bear the brunt of any possible negligence/fault on its part.

According to the contract, the factory has the right to make good for its losses, in the event of a grower's failure to provide the agreed quantity of cane, by charging a fine of Rs.10/- per ton not supplied. He even has to pay for all the expenses the factory might incur towards the legal suit and other issues in this regard, apart from the amount loaned for cultivation purposes. The amount can be recovered from the property, movable or immovable, of the grower or his successors. This burden

of paying back does not end with the grower; when the above source (property of the grower and/or of his successors) dries up the factory can hook on to the wealth (including their cane on the fields) of the sureties or even their successors should such a situation arise.

Notwithstanding the grower's vulnerability to a legal trap, in case of a shortfall in supply, the most formidable affliction lies in the issue of fixation of price for cane. As has been discussed elsewhere in this chapter, the factory does not state the price it is going to pay for the cane, at the time of signing the contract. Though the form has a separate clause (1) in its 'Terms and Conditions' regarding the price at which the factory would purchase the product, "as a rule" it is left blank. And the grower, until his produce is ready on the field to be cut, does not have any clear cut idea about the value of his product.

The growers, as the survey revealed, are highly critical of it and their repeated requests and complaints have gone unheeded over the years. It is noteworthy that this is the only subject that the factory does not state in advance and decides the same in a Committee of Management meeting held towards the end of the season. Once the crop is in a harvestible stage and given the

rigors of the agreement the grower cannot take chances with not supplying the cane on the grounds of non-remunerative prices. This, clearly, is a clever move by the factory to ensure its input on time.

A further elaboration on the above point becomes inevitable here in view of a recent news item published in an economic daily. Only in a fresh policy change, reads the news, " for the first time in the history of the sugar industry, the Government has announced the minimum cane price for the next season 1986-87 also in time for the sowing period."[13]

The above piece of information hints that such a maleficent practice has an all-India character, for a factory's price announcement must be preceded by the Centre's declaration, which, for whatever reasons, has been delayed for all these years of growth of cooperative sugar industry in the country.

Depending upon the varieties to be grown the factory has made provision for awarding cash prizes;[14] the better the variety, higher is the reward. If we relate it to our village survey findings (Chapter 3), it follows logically that the prize money, if at all distributed, only to the richer growers for both the early and medium varieties are more or less concentrated in their fields.

The discussion on the contract may seem complete if we quote the following from the form: "According to this agreement, we (the grower and the sureties) shall be liable to be punished under the Indian Penal Code and Orissa Cooperative Societies Act, 1962, Section 125, if we do not cultivate cane in the contracted area of land and/ or fail to supply the contracted quantity of cane".

4.4. Transportation of Cane:

Even at the cost of repetition, we must mention that sugarcane, unlike any other field crop, has to be processed within a very short period (generally not more than 24 hours after its harvest) to obtain the best results. Delays would cause serious losses in terms of weight, sucrose content and its overall quality. Hence, it is important that the harvested cane is sent fast to the factory, which during the crushing season, works practically non-stop. Whereas the factory's concern lies in its producing best possible sugar and other by-products, the grower worries about the loss of weight (due to evaporation, mainly) of the cane if not transported early to the factory gate.

Cane is transported either by carts or by trucks. Villages within a radius of about 10 km. from the factory prefer sending cane by their own or hired carts. They do both the loading and unloading of cane themselves

with the help of a few labourers they hire. However, for distant villages factory sends trucks, the cost of transportation being borne by the growers.

Each year the factory engages about 50 truckers from outside (for the period under study total number of trucks engaged was 48) who are entrusted with the task of transporting cane from the truckable field points to the cane carriers (Nali). A contract is signed between every trucker and the factory for the purpose well in advance of the harvest time. What we learnt from few such truckers whom we met near the factory premises during our survey, was that each year, generally some of the persons who are supposed to be close to factory people get contract without fail.

The agreement, however, is no less rigorous than that between the grower and the factory. The most glaring feature of such an agreement is that the factory shifts every responsibility of transporting cane to the truckers' shoulders, including arranging labour for cutting, loading and unloading cane. In a sense it does not remain answerable to the growers for any lag in transportation.

To elaborate our point we would quote a few pertinent clauses from the agreement form whenever required.[15]

Clause 9 of the agreement says:

> "That all the sugarcane while being transported by the second party (Trucker) shall be deemed to be under his care and custody and he shall be responsible for any loss, shortage and damage during the transit and in such cases, the second party shall pay to the first party (Factory) compensation on assessment of the first party."

Again, Clause 10 states:

> "That it shall be the responsibility of the second party to engage labourers for loading of sugarcane on to the truck from the field point and unloading the same into the cane carrier of the first party and the second party shall ensure timely availability and satisfactory performance of these labourers during the transportation work."

Both the above clauses are enough evidence to show how different is the case of this factory from those discussed by Breman and Matson. Both of them, in some detail, point out the existence and evils of the factory - mukadam[16] - migrant labour nexus in such cooperatives. However, our case suggests rather a dissimilar situation where every trucker 'arranges' a handful of labourers and does not 'boss' over a huge gang of 'koytas'. The labour contractor is not a separate or a prominent entity here and thus definitely has a limited role to play. Moreover, he is subjected to strict stipulations regarding the

'conduct' of the labourers, work rhythm and cutting schedule and so on. Again, the factory does not bother about the wages and allowances to be paid to the labourer, which, of course, was just the reverse in the case of Maharashtra or Gujarat. Instead, it has a fixed chart of rates for the truckers based on the distance covered and it is a flat rate that includes loading and unloading charges (See Table 4.2)[17]. Each time a truck is allowed to bring 6 tonnes of cane, normally. The limited role of the contractor does not rule out the possibility of his paying a lower wage to the labourers he engages. But there being no such common settlement for these labourers, who come from various parts of the region, just for this purpose and during harvest season, one is handicapped to make any generalised statements regarding the degree of appropriation by the contractor (trucker), as the two above mentioned studies emphasize.

The factory (as per Clause 11) can charge a penalty of Rs.50/- per occasion, if any pilferage of cane from the truck occurs enroute. Even the truckers, who are formally made members of the cooperative, have to bear compulsory deduction of 5% from each of their bills which amount is added to the security deposit in his account (according to Clause 20).

The stringent form of control over the truckers and, of course, over their hired hands, by the factory

Table 4.2: Rates of Transportation of Cane including Loading and Unloading charges for 11th to 60th Km. distance from Factory to the field for the crushing season 1983-84.

Distance (km)	Rates (Rs.)	Distance (km.)	Rates (Rs.)
11	20.32	36	47.49
12	22.16	37	48.81
13	24.00	38	50.13
14	25.88	39	51.44
15	27.70	40	52.19
16	29.44	41	52.76
17	29.55	42	53.47
18	31.18	43	54.75
19	32.91	44	56.02
20	34.64	45	56.49
21	36.38	46	58.57
22	36.70	47	59.02
23	38.10	48	59.83
24	38.17	49	60.21
25	39.64	50	61.11
26	29.84	51	61.41
27	41.11	52	62.40
28	41.56	53	63.83
29	42.58	54	65.04
30	43.53	55	66.24
31	44.04	56	67.45
32	45.52	57	68.64
33	46.16	58	69.85
34	46.53	59	71.06
35	46.91	60	72.26

Source: Factory Records

can be easily made out from this lengthy but terse Clause 16:

> "That the drivers, cleaners and labourers of any truck shall show satisfactory conduct, discipline and decorum while engaged in the transportation work. They shall abide by all the lawful instructions of the officials of the 1st party in charge of procurement of sugarcane and crushing. Any indiscipline conduct and refusal to carry out lawful instructions on the part of the driver and the labourers shall entail the second party to a penalty which may be upto Rs.200/- (Rupees two hundred only) for such incidence. In case of repetition of such misdemeanour, the second party after being given reasonable opportunity to explain, may be expelled from the assignment of transportation with or without forfeiture of his security deposit".

It may be added that, when for every 'fault' (in most of the cases the factory has the final word over its definition) of the trucker or its worker a penalty is due, the factory on its own side refuses to commit anything. Its hands are always kept clean by the legal terminology of the contract. For instance Clause 22 says:

> "That if due to rains, natural calamities or other factors beyond the control of the 1st party, there is temporary dislocation and stoppage in crushing, no claim shall be made against the first party by the second party on account of non-engagement of his truck."

4.5. Harassment and Delays in Payment:

"Come tomorrow", "Come next week", "What's the big hurry?" and so on are the oft-used phrases heard by the growers on whatever occation they go to the factory. Urgent loans like those for insecticides, pesticides, fertilisers or even sprayers are also delayed, for the poor farmer would not know where to get forms, how to fill them up, whom to submit and finally from whom to collect the loan material. We have seen many so called grower-members who would keep coming to the factory for days together to ask for a loan or to report a sudden spread of red-rots, borers, mosaic or smuts[18] or just to seek some suggestion on mode of irrigation or time of planting for a particular variety of seed. As there is no provision of a rest house/waiting room for the farmers in the factory premises, they sit and, quite often sleep, on the dusty floors of the administrative block. Quite often we found the growers would be awaiting for hours outside on the verandah when the concerned office staff would be busy chit-chatting with others or would have gone out for a tea break (which might linger for even three/four hours). Even while conversing with the growers most of the office staff, barring a few, use discourteous

language implicitly hinting at the former's ignorance about official procedure or jargon like 'foolishness' to raise 'silly' queries.

The growers once inside the office block generally get confused and definitely feel uncomfortable and irritated. We have rarely seen them reacting overtly and even if they do, their work would be postponed further or their requests would fall on deaf ears.

Deferment in payment for cane supplied is very much an accepted state of affairs for the growers. From the day of supply to the day of actual receipt of money would be a long time (4 or 5 months or more) marked by several weary visits to the factory by the growers concerned. The vindicative explanation for such delayed payments, however, runs as follows: 'The final payment has to be paid after deducting the loan amount taken. So many loan records are in so many books. You have to calculate the rate of interest on each loan. You have to check the contract form and so on and so forth.'

But apart from causing physical strain and psychological despondency, it destabilises the grower's financial standing and clutters his economic calculus, at least for the next crop to be grown. The problem gets further snarled up if a particular grower has failed to honour the contract by supplying less than the agreed amount and/or has some arrears accumulated from the past.

The growers are also unhappy over the weighing system of the factory. There is a restriction that the canes should be properly dressed (this meant removing leaves from the top and earthen clods from the bottom), for otherwise it would add to the weight and the factory would have to pay more. There, however, is no clarity about how many leaves should be cut or how clean the cane should be. The growers felt that 'dressing' meant extra cost of harvesting and very often they enter into bickerings with the weighing people at the factory.

Another problem is related to its poor maintenance of records. Most of the files or documents are so carelessly arranged that it becomes a tough task to find out some past accounts, etc. Even the share amounts were not properly recorded. For instance, by 1984, full share list was prepared only till 1976. Rest of the information for all these eight years were in bits and pieces, almost impossible to find out in a day's time. In most of the cases interest calculations and deductions were not up-dated. This is not a trivial issue as it added to growers' confusion and delayed payments.

4.6. Seed Distribution:

In our earlier discussion, in Chapter 3, we found that the big growers occupied the major proportion of the total area under early varieties in that village.

On the other hand, in the lower size classes (below 3 acres) the proportion of both early and late varieties is highly negligible. Strictly speaking, there is no justification for such a distinctively skewed allocation of seeds favouring the big farmers, who also happen to be the holders of large shares in the factory. It was learnt from the factory people that though, supposedly, the soil type of each individual plot of land should be one of the basic decisive elements in the provision of a particular seed variety, in practice, this is hardly ever observed.

The decision regarding allocation of seeds is a matter that lies fully in the hands of the Committee of Management. And the Committee has a responsibility towards the factory's 'welfare' in the sense that the varieties should be distributed in such a fashion that the factory would get uninterrupted supply of cane for the entire crushing period, which again hinges upon when and how long cane can be fed to the factory machine. So, the decision in this regard, it is understandable, should be taken, apart from the chemical property of the soil criterion, on the basis of the available quantity of seeds to be loaned out and proper provision of other field improvement measures like irrigation facilities. However, from an enquiry we made in two other cane growing villages, we understood that such considerations rarely enter into the decision regarding the allotment of seeds.

Some in the factory claimed that sufficient option was given to the growers who could choose whatever variety they thought suitable to them. But the very fact that many growers, especially the smaller ones, who did not get better varieties, generates doubt about it. However, a very reliable source in the factory made it clear that, practically, the growers are 'forced' to take those seeds as settled by the Committee, whose decision is binding, though not free from predilection.

4.7. The 10-year Permanent Deposit Scheme:

In the first section of this chapter it was made more or less clear that the factory was making profit for the last four/five years. With a view to expanding the unit, especially for setting up of a distillery, from 1983-84 onwards work was started in this regard, after the Central Government gave permission to the unit. The Rs.4 crore project would be funded in the following manner: by borrowing Rs.2 crore from recognised financial institutions and the rest from the shareholders in the form of a compulsory deposit scheme.

A certain proportion of the value of the cane is deducted every year from the growers' revenue which is deposited in the 10-year scheme. Raising additional funds from the growers in the form of 'forced shares'[19] to increase the working capital meant further financial

strain on the payers, who again do not know clearly what its terms and conditions are.

4.8. Member-growers' Protest:

Before concluding this chapter, it is important to refer to a recent phenomenon reflecting the fact that the member-growers as a body are not fully satisfied with the treatment of the cooperative management of the factory, namely, an attempt by a section of the member-growers to organise themselves by forming a 'Sellers' Board' in 1982, primarily around the issue of better cane prices.

The 'Sellers' Board' was an independent conglomeration of grower-members of the factory and, in principle, had no base in any political party of the locality. Notwithstanding the organizational quandaries faced, they could manage to discuss few issues of concern regarding the factory in many 'general body meetings'. They made it a point to appraise their elected 'representatives' (the directors of the Committee of Management of the factory) of their problems and demanded higher prices (Rs.250/- per ton) for their cane. They stressed that cost of cultivation had been rising fast and since the factory had been making profits since last three/four years after recovering from its growing loss situation, they should be given

better value for their produce. After all, they felt, it was because of their sustained and committed endeavour that the factory could progress by getting the required cane supply on time.

They pointed out that no major step had been taken by the factory to promote irrigation facilities in the locality and that added to their cost by affecting the crop yield negatively and increasing labour and chemical use in the field. The cost of transportation was mostly borne by them as they had to carry cane to the factory by their own or rented bullock-carts.

It was even realized that the growers had no freedom and scope to make gur on a commercial scale for the reasons described elsewhere (Chapter 5). Again, due to factory's repeated warnings and threats[20] (both direct and indirect) the prospect of making gur had died down. They discussed about the harassment they had to face due to inordinate delays in getting their cane payment and loans for chemicals and pumpsets.

The elected 'representatives' agreed with the concern of the Sellers' Board and promised to 'fight' for it in the Board of Management meetings. Unfortunately the actual price paid finally was as low as earlier, i.e., Rs.190/- per ton.

The fiasco of the Sellers' Board was a severe blow to both the growers' unity and their faith in the 'representatives' motivations. The next year, i.e., 1983, when again the problem and pinch of low price was felt the excitement of discussing the issue by the 'Sellers' Board' was no more there. Though few were still hopeful , it became difficult to gather together all the growers. Many of the growers had serious doubts about the success of the 'Sellers' Board' this time. Majority of them told, "Why should I go ? What difference does it make if I am absent?"; "We are poor people; we are destined to remain suppressed. Why should big people in the factory listen to us"; "Last year we all decided and the representatives nodded their heads saying 'yes,yes'. And what did they do?" "When everything failed last year, this year no point repeating the failure", and so on.

Again, those who had still enough confidence, yet were distressed by the cold response of their fellow-growers, were disgruntled and remarked, "They (the growers who lost hope) will rather carry stones on their heads but not cotton". What this actually meant was that they would rather prefer to suffer than to find a better solution through protest.

Another version of the failure of the 'Sellers' Board' was explicated in terms of the politics involved therein. The 'representatives', as described elsewhere, were influential political leaders of the locality. The benefits they were deriving in terms of status and power being directors in the factory management committee could only have been maintained, if they behaved in favour of the factory decision. The 'connections' they nurture through their office with the state politics could only have been sustained by seeing to the fact that the factory did not face closure or other problems due to peasant agitation. As we have described in Chapter 3, due to small farmers' (tenants or owner cultivators) allegiance to their bigger counterparts, who enjoy superior status in the village and, hence, can dictate terms, the politics of power from the factory 'representrative' operates very effectively. To demoralise and, in effect to suppress the protest by the 'Sellers' Board', the 'representatives' furtively instructed the few big and influential landowners of each village to dissuade small growers from fighting for higher prices. As one big owner put it, "we advised the small chaps that we must keep our representatives happy. Fighting for higher price may put them in trouble in the Board meeting. And they (small growers) never would like to displease their masters."

Realising what further complications it might lead to , namely non-securing of land on rent or other farm

implements like ploughs, sprayers, pumpsets, tractors, etc., and even monetary assistance and, above all, 'favours', most of the small growers hesitated to do it again.

But many continue to complain about the factory's mode of functioning as they remain completely in the dark about most of the things happening their, what and how decisions are being taken, etc. They complained that factory was making huge profits but a very meagre amount was distributed to shareholders as bonus. Last Year, instead of granting a bonus, Rs.10/- per ton supplied was deducted from each grower compulsorily for depositing in the factory's ten-year fixed deposit fund, as we have seen above.

Those who have chosen to remain indifferent towards factory's attitude towards them, consider it as a matter of fate. Their feelings have been expressed thus: "We are cultivators, we cannot leave this profession. So whether it's sugarcane or groundnut or cotton we have to grow something. We thought the factory would help improving our situation. That's why we chose cane. We never know what's going on in the factory, how much money they make. Compared to rising costs the little increase in prices offered overtime have made us no better off. Things are as usual".

The growing listlessness and passivity of resistance coupled with indigence and ignorance of the growers have, in essence, caused the failure of the 'Sellers' Board'.[21]

Conclusion:

By way of concluding this chapter, the main point which emerges is the comprehensive nature of the control exercised by the cooperative factory on the small grower-members who supply the bulk of the cane to the factory. This control is superimposed on the kinds of constraints operating on the small cultivators within the process of production, in particular, a very high level of rent, predominant use of late varieties of cane, etc., as we have seen in the last chapter. In the next chapter, we shall highlight an important aspect of such constraints on the small cane growers that is not unrelated to the policies of the factory, namely, the alternative available to the cane growers of making gur and the possible reason why this alternative is not effectively pursued.

A P P E N D I X - I

COMMITTEE OF MANAGEMENT OF ASKA COOPERATIVE SUGAR FACTORY, 1983-84.

1. Anant Narayan Singh Deo, President
   Age: 52; Educational Qualification: BA,LLB;
   Share in Cooperative: Rs.600/-
   Past Background: Ex-State Cabinet Minister;
   Ex-Raja Saheb of Dharakote;
   Present Occupation: Agriculture and Social service;
   Industrial background: Nil.

2. Goura Ch. Pradhan, Vice President
   Age: 44; Educational Qualification: B.Sc.,AMIE;
   Share in Cooperative: Rs.6,500/-
   Past Background: Was an Engineer at Burn & Co.,
   Calcutta, for 5 years.

   Continuing as Vice-President since last 5½ years. Was the President for 9years in a Service Cooperative Society.

   Present Occupation: Chairman, Panchayat Samiti, Sheran
   Agriculture and social work;
   Industrial Background: Nil.

3. Raghab Parida
   Age: 47; Educational Qualification: High School
   Share in Cooperative: Rs.2,050/-
   Past background: Ex-President, Urban Development
   Cooperative Bank Ltd., for 4 years.
   Ex-Secretary, Ganjam Sugarcane Growers Association, for 5 years; Present Occupation: Local MLA;
   Agriculture and social service;
   Industrial Background: Nil.

4. Bijoy Polai
   Age: 35; Educational Qualification: B.Sc.,LL.B;
   Share in Cooperative: Rs.770/-
   Past Background: Director in the Cooperative Societi
   for many years.
   Present Occupation: Working President of Ganjam
   District Cane Growers Associatic
   since 5 years; Director in this
   industry since last 5½ years;
   Advocate;
   Industrial Background: Nil.

5. Balabhadra Arukha
   Age: 55; Educational Qualification: Intermediate;
   Share in Cooperative: Rs.800/-
   Past Background: Was a Director in Regional Marketing Cooperative Society for 8 years.
   Present Occupation: Agriculture and Social service
   Industrial Background: Nil

6. Surendra Nath Pradhan
   Age: 36; Educational Qualification: High School;
   Share in Cooperative: Rs.600/-
   Past Background: Ex-Director in the nominated Board of this factory;
   Present Occupation: Continuing as the Director since 1½ years
   Agriculture and Social service
   Industrial Background: Nil

7. Tarini Charan Patnaik
   Age: 57; Educational Qualification: High School;
   Share in Cooperative: Rs.2,100/-
   Past Background: Ex-MLA, Vice-President of this factory for 2 years
   President of the same for 4 years;
   Present Occupation: Director since 3 years; President of the House Building Cooperative Society, Berhampur, since 3 years, social servic

First six members are elected from grower-members whereas the last member is elected from non-grower-members.

Government Nominees:

8. Registrar, Cooperative Societies, Orissa, Bhubaneswar (I A S Officer)

9. Collector, Ganjam District (I A S Officer)

10. Managing Director, ASCI, (OCS-I-Officer)
11. Other Members:
    Expert Member, (Director of Agriculture and Food Production, Bhubaneswar)

12. Financing Institution, (Representative of Aska Central Cooperative Bank, Aska)

13. Representative of Industrial Development Corporation of Orissa

Share of Sl.No. 8,9,10,11 is Rs.37,60,000
Share of Sl.No. 12 is Rs.1,00,000;
Share of Sl.No. 13 is Rs.3,00,000

(Source: Factory Records)

A P P E N D I X - II

Contract Form for Supply of Sugarcane (translated from Oriya)

ASKA COOPERATIVE SUGAR FACTORY LIMITED; J1091,ASKA (GANJAM)

AGREEMENT

First Party (Contract Grower and his Sureties)

a. Cultivator's Name

Membership No.

Age

Father's Name

Village

Post

Police Station

(Ganjam District)

b. First Surety's Name

Membership No.

Age

Father's Name

Village

Post

Police Station

(Ganjam District)

c. Same information for a second surety

Second Party (Secretary, Aska Cooperative Sugar Factory Limited)

I, the undersigned, hereby agree to enter into a contract with the Aska Cooperative Sugar Factory Ltd to supply during the year 19__ to 19___, the produce of _____acres of the early variety (at the rate of ____ tons per acre); ____acres of the late variety (at the rate of _____ tons per acre) and ____acres of ratoon vaiety (at the rate of ___tons per acre), totalling _____ acres of land under sugarcane cultivation and ____ tons of cane, to the cane development officer or any other authorised officer of the factory during the cane crushing season of the years 198__/198__ after removing the upper and lower portions of the cane (gaja and chera) as specified in the cane cutting instructions at the price fixed by the Board of Management of the factory. If the transport lorry provided by the factor is sent back empty, I shall be obliged to pay the hire charges of th. lorry.

The factory may advance loans for the purchase of seeds, fertilizer, insecticides, pesticides, the required irrigation charges and other expences according to the factory's convenience. I am obliged to use the loan so advanced by the factory only for meeting the cultivation expenses of the contracted cane. The loan charges, including the interest payment at the rate of approximat.. _____%, shall be deducted from the sale value of the pro.. supplied by me. I understand that even if the factory fail.. to provide me with the above mentioned production credit, the said contract to supply cane shall remain in force

and the factory shall not be responsible for my inability to provide the contracted cane on the ground of its failure to supply credit.

In execution of the contract entered by me, the factory is free to lay claim on the movable and immovable property owned by me or my successors, for compensating the losses incurred by it due to my inability to supply the contracted quantity of cane (at the rate of Rs.10 per each ton not supplied) and for realising the unpaid loans as well as all the court and allied expenses, if any, incurred by the factory. We, the undersigned, second and third person of the first party, hereby affirm that we and our successors shall be separately and jointly responsible and there shall be claim on all our movable and immovable property, for realising all the money due from the first person of the first party arising out of his contract in the event of his failure to honour the contract. We understand that for realising all the money due to the second party, the latter will have the first claim on our sugarcane crop.

Terms and Conditions of the Contract:

1. The second party will remunerate, the cane supplied by the first at the following rates; and if the first party does not supply at least 85% of the contracted quantity of cane, the second party shall charge a fine at the rate of Rs.____ per ton for the shortfall in supply and the fines shall be deducted from the gross receipt of the cane actually supplied.

2. If the first party grows on the early variety of cane within a radius of _____ km of the factory and agrees to supply to the factory during the crushing season, he shall be given extra reward according to the following specifications: if supplied by the month of November, the reward would be at the rate of Rs._____ per acre; by December, Rs._____per acre; between January and 31st March Rs._____per acre, etc.,

3. The second party shall deduct at the rate of Rs._____ per ton from the value of cane supplied to be put into the share capital of the first party.

4. If the first party uses more than 10 kg of 'noli' (cane binding material, i.e., the top unused cane leaves) per tonne of cane supplied, then it has to pay a penalty as would be determined by the second party.

According to this agreement we shall be liable to be punished under the Indian Penal Code and Orissa Cooperative Societies Act, 1962, Section 125 if we do not cultivate cane in the contracted area of land and/or fail to supply the contracted quantity of cane.

The Details of Sugarcane Cultivation

A. Land Details

Owned Land	Area under cultivation	Leased in Land
Survey No. or Plot No.	Early Late Ratoon	Early Late Ratoon

B. Details of Loans taken for Cane cultivation

Items	Amount
1. Seeds	
2. Pesticides etc.	
3. Irrigation and other charges	
4. Fertilisers	

We hereby agree to supply ____tons of cane
Contract Grower's Signature

Signature of the First Surety
Signature of the Second Surety

The agreement was finalised in our presence

Field Man on duty
Agriculture Officer/A.S.O
Cane Development Officer

Checked by:

Countersigned
(Secretary)
Date:

(Source: Factory Records)

Notes and References

1. The factory was selling 65% of sugar under levy and 35% in the open market.

2. A loan of Rs.28,36,000 was provided by the National Cooperative Development Corporation and the rest was arranged by the factory itself.

3. Karve, D.G. (1966), p.35.

4. Karve, D.G. (1966), p.35

5. Ghai, Y. (1972), p.54.

6. Dore, R.F. (1971) p.45.

7. Even the supposedly 'ultimate' authority, the General Body Meeting, as far as one of the prime powers "to add, alter, vary and/or amend bye-laws as and when necessary", (Bye-laws, p.13) is concerned can go in for it only with previous approval of the Registrar.

8. Bye-laws, p.13.

9. Ordinary membership is open to cooperative societies, Gram Sabhas (Gram Panchayats), Panchayat Samities and other persons and institutions interested in the welfare of the cane-growers and sugar Industries (Bye-Laws, p.6).

10. Surprisingly, the report of the Committee for the years 1976-77 to 1979-80 were presented, all at a time on 8th November 1981. Again, such 'annual' reports for the years 1980-81, 1981-82 and 1982-83 were presented on 23rd November 1983. Hence, between 1976-77 & 1982-83, the 'annual' reports were brought out only twice, instead of for, at least, seven times, as would have been expected.

11. During last three years, viz., 1980-81, 1981-82 and 1982-83, the managing committee was met for 4 and 6 times respectively.

12. Estimated under normal conditions of production by the factory.

13. "Sugar Co-ops Hail Policy", in Financial Express, Nov.19, 1985, p.2

14. We do not know if it is observed.

15. We have not included the 8-page, verbose transport contract form in this work to avoid adding further weight to it.

16. Labour contractor.

17. The rates are telegraphic in nature, for with the increasing distance rates have gone up less than proportionately

18. Common sugarcane diseases and pests

19. That is how the growers conceive it.

20. A few villagers told the author that the factory had taken 'disciplinary' action against two growers of the region in connection with their making gur out of the contracted cane.

21. Even elsewhere the situation does not appear to be cheerful for the small farmers. For instance, although the so-called peasant movement "won its game" in Maharashtra (especially Nasik) in November 1980 in getting higher prices for cane, it had almost nothing to do with the poor and middle growers' interests. For not only is the movement being led by "rich peasants", it is also a movement basically of the rural rich which is in contradiction to the interests of the majority of rural poor families". The role of small peasants in the stir was that they were "sent into battle as shock troops" by influential big growers who pocketed whatever benefits "in ample measure". Omvedt, Gail (1980), p.2042.

    In Champaran district of Bihar 'prolonged' agitation by cane growers' organisations in 1974 could succeed in obtaining higher prices for cane supplied, when at one stage of the stir it was observed by the authorities that "Bihar factories are already suffering due to uneconomic working caused by inadequate cane supplies, shorter duration, poor sugar recoveries and have no assured markets...". See ISMA (1974), pp.61-64.

    Earlier in 1972, in Western and Central UP, similar growers' agitation for 'much higher' cane prices resulted in closure of some factories. However, after many a meeting with the authorities a hike could be possible. For details, see, ISMA (1972), pp.93-96.

CHAPTER 5

ECONOMICS OF GUR MAKING: ANALYSIS OF VILLAGE SURVEY DATA

Introduction:

Here, in this chapter, we will be dealing with various aspects of gur making in the region, especially through our observations from a village (Mangalpur) survey. The significance of gur economy vis-a-vis the growing impact of the sugar factory has been highlighted here.

Starting with a note on the usefulness of gur as a popular food item we move on to the process of its manufacturing. We have discussed the problems with the current backward technology adopted and low scale operational disadvantages. An estimation of the costs of producing gur has been made and then we have estimated the net income that accrued to the ryots. A comparison with the net income generated by converting the cane into sugar clearly shows that gur making has potentials of a thriving enterprise.

How systematic policy prescriptions over more than four decades have been at work in debilitating this industry is also our concern here. These policies, among other things, have been very particular about ensuring sufficient cane supplies to the sugar factory

and have spelt out in clear terms against gur making on a commercial scale.

The village surveyed is amongst few of villages in the region now producing gur in a limited quantity. The survey findings are based on discussions with various groups of villagers, and not on a door-to-door data collection exercise. We have stressed more upon their reactions rather than on quantitative details, for the former, as we will see, becomes worthwhile in the context of understanding the process of decline of an erstwhile major concern.

The importance of gur in a rural economy need not be overemphasized. It has been used "not only as a sweetening agent, but principally as an article of diet in the villages for several generations." [1] Apart from its wide use on ceremonial and auspicious occasions, gur is "a perfectly wholesome food and there can be no objection to its consumption on hygienic grounds."[2]

Equally interesting is the fact that gur is in no way an inferior item of diet compared to white sugar. Gur has got the following average composition:

Sucrose	63 per cent
Fructose	19 per cent
Insoluble matter	3 per cent
Moisture	12 per cent
Salts	3 per cent

Thus the nutritive value of gur is said to be 30 per cent superior to that of refined sugar.[3]

5.1. Manufacturing of Gur:

The following is an account of how gur is made in the village surveyed.

The crushing of cane is done in an iron roller mill[4] (known popularly as kelua) driven by bullocks. Before the operation begins, each and every roller set and the earthenware containers (konto) are cleaned properly with hot water for removing souring organisms as far as practicable. The milling is started only when the entire cane to be crushed is cleaned properly and kept ready. Two or three people would keep feeding cane to the rollers, which would be worked by bullocks continuously. The milling is conducted, preferably, in the cool hours. The juice thus extracted is boiled then and there without delay. Because the fresh juice as it comes out of the mill is to some extent acidic in reaction, sufficient lime is added to neutralise the growing acidity from the beginning. This liming is very essential if the juice is to be kept for long after extraction in earthenware pots.

The coction of the juice is conducted in massive shallow iron pans (Korei)[5] over a huge earthen oven (Bhati) flaring from all the sides. Copper or brass pans are rarely used. For the entire process of boiling the one and the same pan is used.

First, the fresh juice is poured into the pan, straining it through a thick piece of cloth (to exclude trash, dirt and bagasse bits etc.). Soon freshly slaked lime water is added and then the solution decanted to free it from grit. Fire is started gradually and after some time a dark brownish scum rises from the juice and thickens on the surface spreading like a "blanket" (Soro). The heating is kept under control, so that at this stage of blanket firming, the juice does not get ebullient to break the blanket. Removal of the scum is done by skimming it with a wooden skimming ladle. All the scum is put into a wicker basket lined with a coarse cloth which is placed over the pan supported on a bamboo frame, or dumped into a separate receptacle. Over time more and more scum is formed and accumulates here and there in patches. These are skimmed off regularly and reverted back to the scum baskets. By this arrangement whatever juice is there in the scum flows filtered to pan. A good deal of the non-sugar contents in the juice curdles and comes up in the form of scum and the removal is a form of "defecation" of the syrup. The juice gets more and more concentrated as boiling proceeds vigorously. Milk is also added to help coagulating the remaining impurities and, hence, cleaning further. The syrup now starts thickening and the boiling is brisk. The

consistency of the syrup is frequently tested from now onwards. By the help of a stick a little syrup is taken and the dropping observed; otherwise, a little of the hot syrup is taken between wet fingers and kneaded under water to see if it will solidify properly. This part of the testing is a very delicate job and only experience can make one know what density of the syrup to reach and when to reduce fire.

At this stage, continuous stirring up of the boiling syrup is maintained all through with a long handled stirring board. This accentuates evaporation and prevents "caramelisation".[6] The charge is taken out or the pan is removed, while stirring is not stopped. This semi-liquid mass is poured into earthenware pots (pimpa) where it cools down and crystalizes to form gur .

5.2. Cost of and Net Income from Making Gur:

Once a crusher (kelua) starts operating, it becomes a prolonged and unfaltering process till the entire cane is fed to it. It may go on day in and day out when the raw material is abundant. But as we have been pointing out on earlier occasions, because of small and scattered cane fields and other impending restrictions against gur making imposed by the factory (see below), a particular kelua does not work for more than 3 days at a stretch. The duration of the process

becomes relevant in the context of cost estimates which we detail below.

Under normal conditions of manufacture, including plausible weather, a kelua can squeeze 3 tons of dressed cane over a period of 24 hours. The animal power for turning the rollers would be provided by three pairs of bullocks or buffaloes, as the case may be.

From 3 tons of cane of medium variety, on an average, 18 kontos (approximately 360 kgs) of gur can be obtained. Remissibility regarding constant labour use including supervision of the boiling and storing activities can only be entertained at the cost of better quality and and quantity of gur produced. Therefore, workers generally do things on shift basis. For one shift of half-a-day or for crushing 1½ tons of cane, 8 persons are needed. Their main tasks would include leafing and cleaning of canes, cutting them into standard lengths, feeding and refeeding them into the kelua, cooking the juice and keeping the final product separately. The nature of the job demands skill, heedfulness and brawn. Conventionally, males do it. Per shift, per labour wage rate is Rs. 10. In other words, a day's work would pay Rs. 160 for 3 tons of cane crushed. The rent for the crusher per day is Rs. 20.

The above calculus does not make any allusion to two important items of cost, viz, fuel for the furnace and fodder for the beasts. In fact, dried cane leaves

Table 5.1: Comparative Income from Selling Cane and Preparing Gur from 1 ton of Cane, 1984.

(in Rs.)

Value of 1 ton of cane (at factory gate)	220.00
Value of 120 kg of gur (from 1 ton of cane) at Rs.3.50 per kg.	420.00
Cost of crushing 1 ton of cane for gur making:	
a. Labour charge	27.00
b. Crusher rent	20.00
c. Fuel	Nil
d. Fodder	Nil
Net income from gur per ton of cane	420.00 - (27.00+20.00) = 373.00
Difference between income from gur and cane sold at factory gate	153.00

Source: Field Survey

(tamuli) are used up totally to fire the chula, whereas for the animals semi-sweet bagasse (the cane waste after juice extraction) is provided from time to time. Hence, no extra expenses are incurred for both the purposes.

We have estimated, as shown in Table 5.1, from our above details that per ton income from gur turns out to be Rs.153.00 over and above what the factory would have paid for it. This, most unequivocally, justifies the villagers' asserting that they would have preferred converting their cane into gur than to feed it to the factory, had there been no other complications, which we touched upon in this and earlier chapters.

5.3. Policy Restrictions against Gur:

With the growing stress upon sustained development of sugar industry in the country it has become highly imperative on the part of the government to evolve policy measures which would ensure maximization of sugar production. Curbs on gur and khandsari have been exercised since long so as to warrant adequate and continuous supply of its basic raw material, cane, at a fixed minimum price to the factories and prevent its diversion for manufacturing of gur or khandsari by either the growers or local manufacturers.

As the World War II was under way Government thought it essential to "discourage" gur manufacturing and initiated steps towards regulating its production. The Gur Control Order (1943)[7] was the first of its kind that bestowed the following powers upon the Gur Controller of India:

> "(i) to fix maximum prices for gur in any specified area;
>
> (ii) to prohibit or restrict cane movement from any particular area;
>
> (iii) to direct cane growers in that area to deliver cane to a particular sugar factory, in such quantity, at such prices, and at such time as may be specified by the Controller;
>
> (iv) to prohibit or restrict manufacture of gur;
>
> (v) to issue gur quotas to states or areas and direct producers and dealers to deliver the same; and
>
> (vi) to regulate movement of gur".[8]

As a follow-up action, export of gur to other states by private parties was banned and the monopoly of inter-state trade was assumed by the Government. According to this, gur could be transferred only by surplus states to deficit ones or their authorised agents as instructed by the Gur Controller.

Such restrictions on gur were, of course, lifted only for a short period (December 1947 to 1949) when the sugar factories were performing 'satisfactorily'.

However, soon after this the sugar industry faced problems and Government turned back to gur and khandsari units to put a bridle on their production, prices and distribution. The Sugar and Gur Control Order (1950), which was promulgated as a consequence, was quite significant. Amongst other controls it fixed statutory ceiling price for gur and urged bullock-driven crushers to get licenses.

Again for over a decade (June 1952 to March 1963) gur production and marketing were made free from any strict regulation. Rather during 1961-62, in order to avoid surplus sugar production, many state governments tried to promote crushers in their respective regions for proper diversification of excess cane for gur and khandsari making. It is to be noted that, it led to a fall in area under cane and heavy diversification of cane to gur producers. Output of sugar marked with sharp declines during 1961-63 perplexed the authorities and sugar was subjected to control. This meant gur and khandsari prices would go up. In fact, further diversification of cane for gur due to the above reason, asked for a ban on forward trading in gur which was imposed in January 1963. The Gur (Movement Control) Order of October 1963[9] fixed quotas upon the amount of gur to be exported from the surplus to the deficit state and the product could be moved only with permits. In addition to

this, the states were authorised to delineate areas for sugar units, to control cane supplies to crushers in factory areas and to restrict their operation period.

The most remarkable move to control gur production was, no doubt, inspired by the pronounced recommendations of two Central sugar enquiry committees-(i) Sugar Enquiry Commission (Sen Committee) and (ii) Committee on Rehabilitation and Modernisation of Sugar Factories in India (Gundu Rao Committee) -- both of which submitted their reports in the same year, 1965.

The important recommendations which are relevant to our present context are cited below:

a. The Sen Committee suggested:

(i) Re-delimitation of reserved areas so as to

(a) make them compact, and

(b) either exclude existing khandsari units and power crushers (for gur) completely from reserved areas; or provide adequate cane supply both for the sugar factory concerned and such khandsari units or power crushers as already exist in the reserved areas;

(ii) Licensing of all the existing khandsari and power-crusher units and banning of new units reserved areas of sugar factories, or within the radius of 15 to 20 kilometres of a sugar factory;

(iii) Shifting of all the existing khandsari and power crushing units from the Intensive Development Blocks;

(iv) Imposing excise duty or some other suitable levy (if necessary on a compound basis) on khandsari units and power crushers (and, if possible, kolhus above a certain size) upto such a level that their ability to pay a price for sugarcane higher than that fixed by Government for sugar factories is restricted; and

(v) Enforcing the existing procedure for regulating the supply of sugarcane grown in reserved areas to sugar factories through Co-operative Cane Unions, where they exist, also in the case of cane supplies to khandsari units and power-crushers. Once the cane supplies to the khandsari units and power-crushers are regulated, it would be possible to get a fair idea of the volume of their production and, if necessary, also to control their production and prices"[10]

b. The Gundu Rao Committee observed:

"....As far as possible no large scale manufacture of gur and khandsari should be permitted in factory areas. Licenses for new power-crushers should not be given in factory areas and the existing licenses should be encouraged to shift to places outside the factory zones. An effective system of long term bonding of cane coupled

> with penalties, strictly enforced in case of breaches, would go a long way in preventing diversion and avoiding fluctuations in sugar production. During periods of control on while sugar, restrictions on the stocks and movement of gur and khandsari would also be a means of preventing diversion". [11]

The above policy prescriptions concerning gur control, presented in no uncertain diction, notwithstanding some alterations of wordings here and there, are followed in principle till today. Time and again, memoranda have been given to the authorities by the sugar mill people. Their plea for exercising more control over gur manufacturing has also a role to play in the sustainance of the similar stipulation.[12] Naturally, the measures are so adopted as to favour the interests of 'organised' cooperators.

Article 11 of the bye-laws of Aska factory mentions that, "No member shall manufacture jaggery from out of his sugar-cane without the previous written permission of the committee of management."[13]

Also their limited cane production would leave no scope to keep back a major portion to make gur, which would be both difficult and uneconomical. The factory people make every possible effort to dissuade growers and foil any attempt to prepare gur in a commercial scale. Their logic, as pur subtly by an

official, was simple: 'How do we grow if they grow?'

5.4. Obsolete Technology:

The delicate process of manufacturing of gur that we described with step-by-step details, though involves a definite degree of technical virtue, can readily be criticised on the ground of discernible inefficiency. As the celebrated authority on sugar in India, M.P. Gandhi observed:"... the method of production(of gur), it must be admitted, is yet very primitive. Its manufacture consists of two main processes, namely crushing of cane and subsequent boiling of juice ... and is manufactured in small quantities. Extraction of the juice from cane is about 60 per cent in the case of bullock-driven mills, and upto 70 per cent in the case of power-driven mills".[14]

The Imperial Department of Agriculture (IDA) in India, in its 'Report on the Survey of Sugarcane Research in India' noted in 1945 that,"... majority of the Desi furnaces are primitive types in which fuel consumption is very high and the quality of gur produced is poor, and the main problem is the evolution of efficient small units (furnace and pans) which are self sufficient in the matter of fuel consumption, and in which there is least charring and caramelisation."[15]

It is of paramount significance to mention here that there has occurred not even the slightest improvement in either the machinery or the process of gur making in this region for over a century.[16] Of course, even towards the end of nineteenth century wooden-mills were quite popular. (There were as many as 1,310 wooden mills in Ganjam district in 1892 as already mentioned in Chapter 2.)[17] These mills were discarded gradually with a growing preference for iron roller mills.

That is not to say that there was little or no technological progress in the process of gur making. In fact, a number of well-designed and better-performing bullock-driven mills were being produced by different firms in the country. As early as in 1908 successful experiments carried on by Agricultural Department in the United Provinces showed that gur machinery could be modified for the better.[18]

However, the major innovative step taken by S.M. Hadi[19] in this regard attracted wide attention. The method suggested being quite simple and inexpensive any average Indian farmer could afford it. As far as quality of gur was concerned, it was very pleasant light colour with sucrose content above 80 per cent. Hadi's suggestions stressed that the furnace should be of special design with the main oven (7 ft x 7.2 ft x 3.65 ft) connected to the fuel section by a circular

orifice, known as bilaiya, located above the pardah, a semi-circular arch at the bottom of the brick wall between the fire and the fuel. Again, the boiling plant was supposed to have two (instead of one) pans --- the clarifier (nikhar) and the concentrator (parchha)--- the former had a flat-bottomed base while the latter had a shallow bowl-shaped structure. The concentrator, he suggested, should be made of wroght iron for uniformity and greater retainment of heat than usual sheet iron.

There were other suggestions for improvement by the IDA research authorities. The practice of adding lime for neutralisation, they said, affected the quality of the product. They also stated that, "The present methods of Gur manufacture are defective in the sense that all the constituents that interfere with the production of good quality gur are not removed by the clasificants generally used."[20]

Another major defect associated with the bullock-driven crushers, no matter how much lighter and more efficient was it, was that "the strength of the cattle is inadequate to turn a properly adjusted mill and in consequence the rollers are deliberately slackened off to bring them within the capacity of these animals." [21] Even the burning of trash as fuel had been described as waste as it could have been converted into a more valuable use - compost.

The issue of technological stagnation in gur making in Aska cannot be slighted over because of the following reasons. First, the improved method would have been a more lucrative proposition to the grower who could have prevented 'invertion' or loss of a substantial amount of gur caused by the indigenous process. Secondly, the colour, texture and hardness would have been bettered and, thus, would have ensured higher price of the product. Thirdly, the better quality gur, thus obtained, could be stored for a longer time to be sold whenever price increased.

The ignorance of local farmers regarding technological improvement yoked with consistent policy measures to discourage gur production have sapped prospects of gur making in the region.

5.5. Uncertainty in Gur Prices:

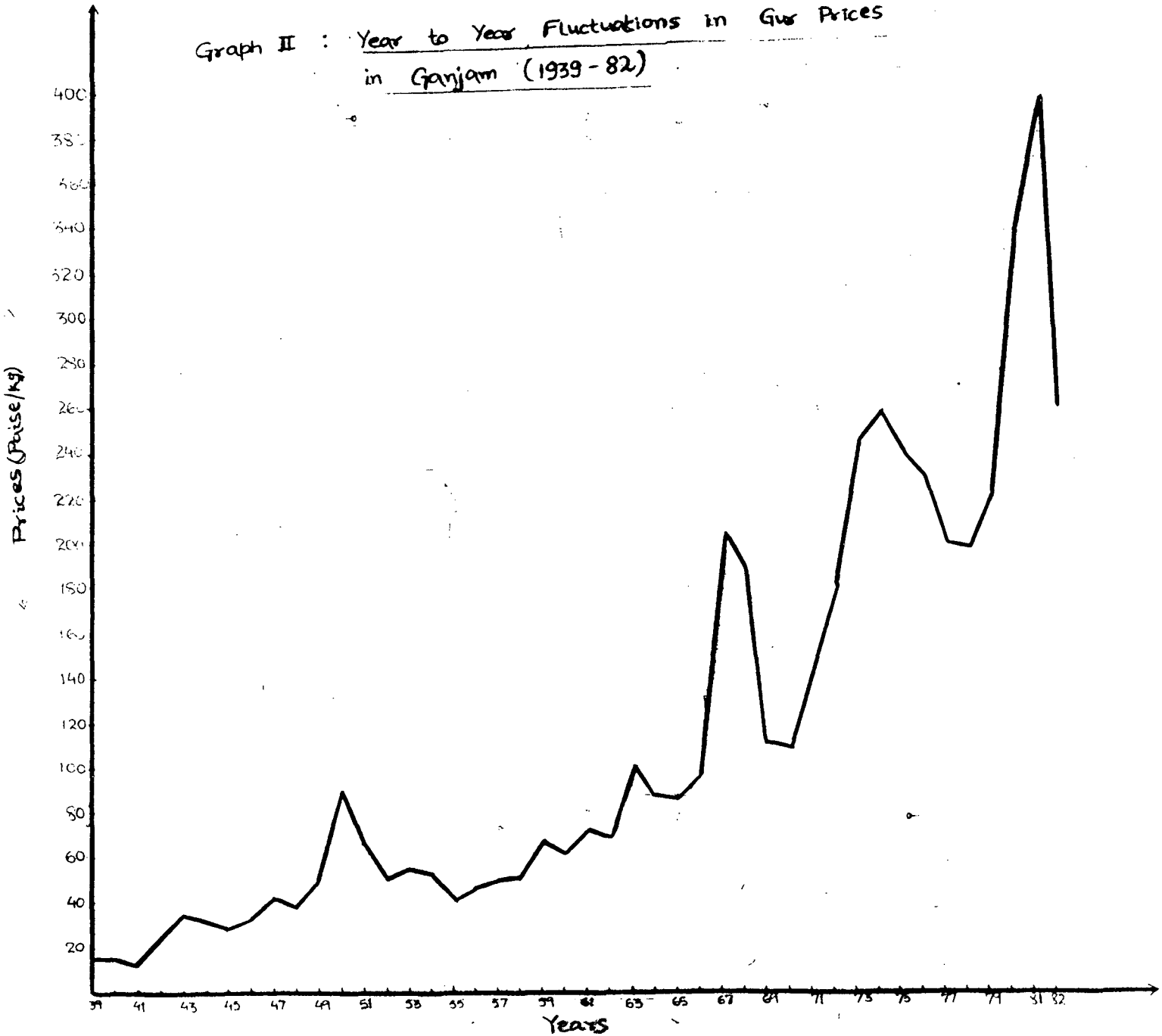
Now a look at the trend of gur prices in the region. We could find yearly price figures for a period of over four decades, 1939-82, as was prevailing at the district main market centre (See Table 5.2). To understand the implications of price change over such a long period of time we proposed to divide the same into two periods, the year of division being 1961. It may be recalled that from this year onwards the cooperative sugar factory started operating here.

It can be seen clearly from Figure 5.1 that both the periods have witnessed increasing trends in gur prices, and on the whole pre-cooperative prices have remained at a lower level than those of post-cooperative period. The rising trend in prices are, of course, not without prominent fluctuations. But the most striking feature regarding the fluctuations is that of their degree in both the periods. The fluctuations in the pre-cooperative period are definitely more or less low-ebbed. On the other hand, the post-cooperative period is marked with violent ups and downs, almost annihilating any scope for predictability (See Graph II).

It must be noted here that in the absence of the cooperative factory there was never a perfect stability in gur prices and that to some extent would have adversely affected bringing more area under cane. This period can be termed as no-factory period for the region, as by 1943 the old factory was hardly functioning. And it will not be wrong to presume that almost the entire cane was being used for gur manufacturing. We, however, are not intending to deal with the process of such gur making including relations of production thus existed thereupon in the region during the pre-cooperative period.

As noted earlier, the coming of the cooperative factory had a very imposing role to play in shattering

Graph II : Year to Year Fluctuations in Gur Prices in Ganjam (1939-82)



the gur economy of the region as reflected in the massive fluctuations in the prices of gur during the post-cooperative period.

The field survey gave us the impression that such vacillating prices very often rendered their usual profit and loss calculus useless and they were exposed to the vagaries of the market badly. This acted against their sensible notion that gur manufacturing would have been a more profitable avenue than to sell cane to the factory by entering into cumbersome contracts.

Even at the face of highly fluctuating prices, one may argue that the prospects of gur would not have been hampered as the prices were at much higher level than those in the earlier period. But this reasoning would not hold good at least, for two reasons. Firstly, with the factory came the curbs on gur making and production was brought down allowing the prices to rise; but not everyone could produce gur nor was the individual cane area so big as to cater to both factory and personal needs, like gur making. Hence, the benefits of price rises, if any, could not be enjoyed by one and all growers. This meant for getting the benefits of higher prices

Table 5.2: Yearly Gur Prices (Retail) in Ganjam District (1939-82)

(Rs./kg)

Year	Price	Year	Price
1939	0.15	1961	0.72
1940	0.15	1962	0.69
1941	0.12	1963	1.02
1942	0.23	1964	0.87
1943	0.34	1965	0.86
1944	0.31	1966	0.95
1945	0.28	1967	2.05
1946	0.32	1968	1.89
1947	0.42	1969	1.12
1948	0.39	1970	1.09
1949	0.49	1971	1.42
1950	0.89	1972	1.81
1951	0.66	1973	2.45
1952	0.50	1974	2.57
1953	0.54	1975	2.40
1954	0.52	1976	2.30
1955	0.42	1977	2.00
1956	0.47	1978	1.98
1957	0.50	1979	2.22
1958	0.51	1980	3.60
1959	0.67	1981	4.00
1960	0.62	1982	2.60

Source: Various issues of Agricultural Prices in India

Note : Up to 1962 figures are for Berhampur, a nearby town (about 35 km from Aska). Rest of the figures are for Anakapalli, a town in Visakhapatnam district of AP (Near Ganjam district). Prior to 1963 all figures were given combinedly, hence same, for both Anekapalli and Berhampur.

gur had to be stored properly for a long time. But this could not be done here because, as mentioned in the section on technological backwardness, it was very difficult to preserve the comparatively poor quality gur for a longer time.

The high degree of price fluctuation leading to unstable market situation has further dampened growers' desire to go into the 'botheration' of gur making.

Conclusion:

Our intention was to examine the factors that have been affecting a rural enterprise so as to nearly destroy it. The factors responsible include backward technology and policy impediments. Given superior nutritive value of gur and growers' preference for it, we found it was losing ground in the face of highly unstable prices, which have been severe after the cooperative factory was set up. Going by the cost calculations we have seen that gur making is more profitable than selling the cane to the factory. Nevertheless the opportunities have been throttled down gradually and very carefully by the State policies operating through the cooperative factory agencies. To what extent gur manufacturing on a commercial scale can provide a formal alternative to the sugar cooperative in the region, as far as organisational and marketing issues are concerned, is beyond the scope of the present study.

Notes and References

1. Gandhi, M.P. (1938), p.58.

2. Ghosh, H.H. (1934), p.183.

3. Singh, S. (1935), p.75.

4. This consists of two vertical cylinders wrought on a perpetual screw between which the canes are passed as they revolve upon each other, Maltby, T.J. (1918), p.190.

5. These may be, generally about 15" deep with 6' diameters at the top and at the bottom, respectively.

6. Formation of a dark-brown substance due to boiling the juice. Unless clarificants are used this is a source of wastage.

7. This was enacted on July 24, 1943.

8. Referred to by Sugar Enquiry Commission, 1965, p.29.

9. Restrictions under this Order were withdrawn towards July end of the following year.

10. Report of the Sugar Enquiry Commission (1965), pp-51-52.

    For a full text of 'Recommendations of Sen Sugar Enquiry Commission', See, 'Indian Sugar Year Book 1965-66, pp.231-269, and especially pp.232-235 for recommendations on gur and khandsari.

11. For details of Gundu Rao Commission Recommendations, See, Indian Sugar Year Book, 1965-66, pp.270-296.

12. For an instance of such pressing memoranda See, ISMA Report (1974), Appendix 7, pp.54-55.

13. Bye-laws, pp.7-8.

14. See for further discussion, Gandhi, M.P. (1949), p.41.

15. Imperial Department of Agriculture in India (194.. p.77.

16. For an exactly similar description of process of manufacturing gur from native two-roller iron mills, as we found in our field survey last-year, 1984, see Maltby, T.J. (1918) which discusses the issue as was prevailing in 1882 in Ganjam, pp.190-91.

17. See, 'Sugar Mills, Bulletin No.26(1892), Agricultural Branch, Madras, p.246.

18. Ghosh, H.H. (1934), p.186.

19. For an elaborate and informative discourse on improved gur making process See Hadi, S.M. (1929) especially Chapters X, XI, and XIII.

20. Imperial Department of Agriculture in India (1945), p.77.

21. Ghosh, H.H.(1934), pp.183-84.

CHAPTER - 6

CONCLUDING REMARKS

The empirical core of the present study has been a village level analysis of sugarcane cultivation and of gur manufacturing in Aska region of Ganjam district in Southern Orissa, against the background of the functioning of a cooperative sugar factory in this region. The purpose was to see the current state of the sugarcane economy of a region which has had a long history of high quality cane cultivation as well as sugar and gur manufacturing. Our starting point was a brief and rather incomplete (mainly in terms of the production conditions of sugarcane in the 19th c.) account of this history, mostly constrained by the availability of information.

The analysis of the present socio-economic condition of cane cultivation for a major cane growing village of the region brought out the small peasant basis of cane cultivation with the following characteristic features: high self-exploitation of family labour; high rent; cultivation of lower yielding and late varieties as well as relatively lower yields for the same variety for the smaller cultivators; limited spread of early varieties; lack of suitable irrigation facilities, etc., some of which were of course not unrelated to the policies of the cooperative sugar factory.

The above conditions within agriculture were, so to say, supplemented by the highly stringent terms and conditions of cane procurement by the factory which underscored the comprehensive nature of control exercised by the factory over the predominantly small grower-members. The resulting dissatisfaction found formal manifestation in the formation of a 'Sellers' Board', mainly around the issue of higher cane prices. But the limited involvement of the small growers in this and the ultimate failure of 'Sellers' Board' really brings out the extreme indifference and apathy the small growers are reduced to, given their entrenched dependence on the factory for meeting the working capital requirements.

A striking example of the disruption of peasant options seems to be the dwindling importance of gur manufacturing on a commercial scale in this region, which takes on a special significance in the light of the above picture of the relationship between the factory and the small grower-members. A combination of factors has led to the diminishing importance of gur manufacturing: little state support and in fact positive discouragement; increasing fluctuation in gur price and little development of gur making technology all this when gur making appears to be more attractive than selling cane to the factory.

All this seems to lead up to one crucial question: the adequacy and effectivity of cooperative sugar manufacturing organisation in bringing about socio-economic changes in sugarcane cultivation, given that the latter has evolved over time in a particular waywith its specific social-organisation features. Thus, the historical study by Shahid Amin on sugarcane cultivation in Gorakhpur district of Eastern U.P. for the colonial period concludes, quoting a study of the same region for a more current period, that even after a much more active state intervention into sugar production and co-operativisation of marketing of sugarcane, "...for the smaller peasants cane cultivation moves in the same old grooves; loans are given on the surety of the crop and the purzis (a receipt promising payment for the amount of cane supplied) are still preempted by money lenders for the reckoning of yearly accounts".[1]

Of course, the <u>specific</u> nature of economic dependence of small peasants in our region of study vis-a-vis other cane growing regions needs to be underlined. For one thing, the subordination of the small peasantry, here is not mediated through local moneylending capital, unlike in Gorakhpur, nor is there any tension arising out of the separation of sugar mills from cane supply cooperatives. At the same time, here there is no

significant emergence of a rich peasant stratum, though the relatively larger growers enjoy certain advantages with respect to level of yield and cost of cultivation.

On the other hand, we would like to suggest that the way in which the cooperative factory was established from above, and how its internal mode of functioning was largely a continuation of the mode of organisation of the early factory in this region, has something to do with the nature of the present relationship between the cooperative factory and the small grower-members.

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