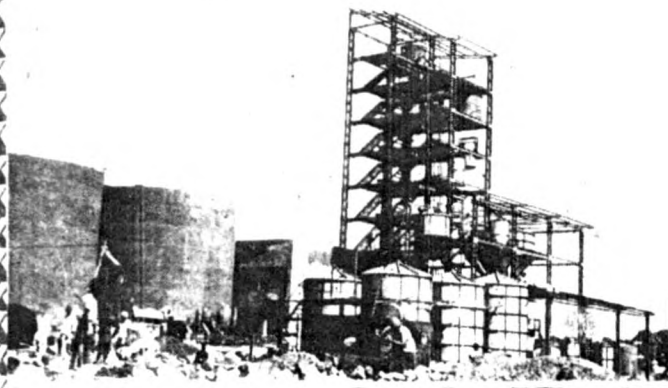
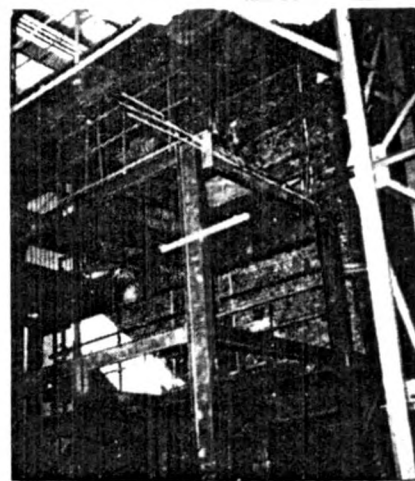


CHAPTER

III



DISTILLERY PLANT



BOILER

CHAPTER III
EXPANSIONS CARRIED OUT AT
GADHINGLAJ KARKHANA

Gadhinglaj Karkhana is located at Harli Khurd which is about 7 km. away from Gadhinglaj. It is on Kolhapur - Chandgad Road -- a State Highway.

Gadhinglaj Karkhana had 71 villages from Gadhinglaj Taluka in its jurisdiction right from the inception of the Karkhana till the end of 1983 - 84. Gadhinglaj Karkhana had the installed capacity of 1250 MTD right from its inception till 1986 - 87. In 1983 Gadhinglaj Karkhana submitted ^a proposal for expansion of its capacity to crush sugarcane of 2500 MTD. In March 1987, Gadhinglaj Karkhana took a trial season on the expanded capacity of 2000 MTD. From 1987 - 88 onwards it has operated with this expanded capacity.

Gadhinglaj Karkhana had submitted a proposal to set up distillery of a capacity of 25,000 litres in July, 1983. It received the State Government licence for the distillery in February 1984. In

March 1987, Gadhinglaj Karkhana could start the operations of the Distillery.

It is proposed to give a detailed account of how both these expansions were carried out by Gadhinglaj Karkhana. The period actually taken right from the date of submission of the proposal for expansion till the beginning of actual operations with the expanded capacity was almost identical (i.e. 1983 to 1987) in both the expansion plans carried out by Gadhinglaj Karkhana. To facilitate presentation, the expansion of crushing capacity is detailed the Part I below while the diversification into distillery business is narrated in Part II of this chapter. Utilisation of resources is discussed in the next chapter.

PART I : EXPANSION OF THE CRUSHING CAPACITY

Gadhinglaj Karkhana had to think of expansion of its crushing capacity as it had to rely more and more on the sugarcane produced by non - members from out of ^{its} jurisdiction in the state and outside the state. The relevant figures for 4 years, i. e., 1980-81 to 1983-84, are given in the following table.

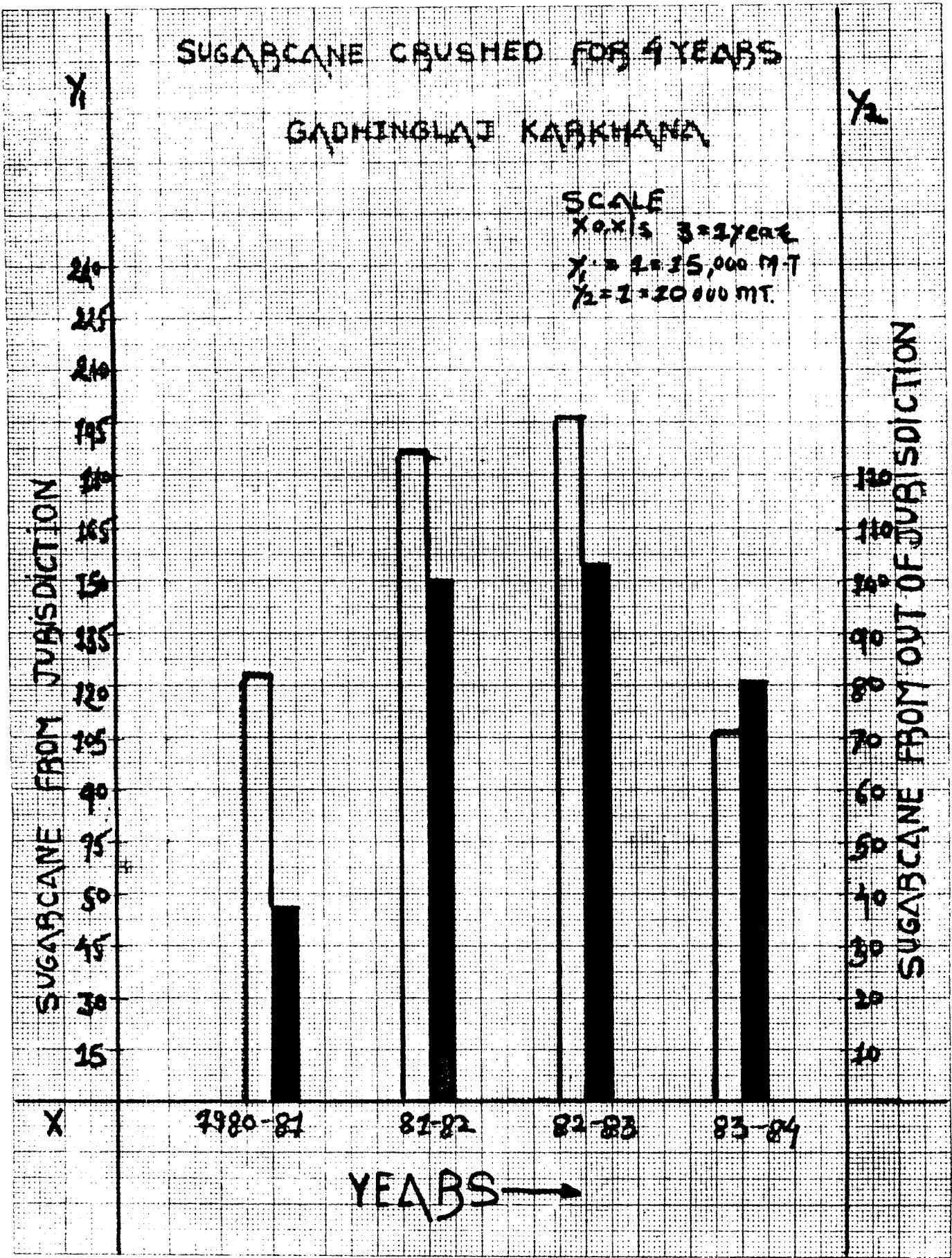
TABLE NO. 3.1 :

SUGARCANE CRUSHED FOR 4 YEARS BY
GADHINGLAJ KARKHANA

Years	Members, & Non-mem- bers Sugar- cane (Metric Tonnes) ('000) (from Jurisdiction)	Non-members sugarcane from the state and out of state (Metric Tonnes) ('000)	Total Sugarcane (Metric Tonnes) ('000)
1980-81	123.7 (76)	37.4 (24)	161.1 (100)
1981-82	186.9 (65)	100.5 (35)	287.4 (100)
1982-83	197.8 (65)	103.2 (35)	301.0 (100)
1983-84	106.8 (54)	81.2 (46)	178.0 (100)

Source : Annual Reports of Gadhinglaj Karkhana.

The above Table shows that the reliance on sugarcane from " outsiders " increased from 24 % in 1980 - 81 to 46 % of the total sugarcane required in 1983 - 84. This put pressure on the Karkhana management to think about the expansion of the crushing capacity.



EXPANSION PROPOSAL & ITS SANCTION :

Gadhinglaj Karkhana initiated the expansion plan and submitted its proposal for expansion of the curshing capacity from the then 1250 MTD to 2500 MTD on 20/04/1983. In 1981 - 82 Gadhinglaj Karkhana had utilised its capacity to 144 % while it could achive 150 % utilisation of the same in 1982 - 83. The track record in respect of recovery was also good. The sugar recovery was also good. The sugar recovery ranged between 11.01 % in 1980 - 81 to 11.77 % in 1983 - 84 with the continuous increasing trend. The expansion proposal was to get favourable response from the authorities because of these reasours and more and more dependence for sugarcane on the outsiders during 1980 - 81 to 1983 - 84. A step in that direction was taken by the Government of Maharashtra by increasing the number of villages in the jurisdiction of the Karkhana to 101 (89 of Gadhinglaj Taluka and 12 of Ajara Taluka). The expansion proposal was cleared by the Government on 22/09/1984.

STATE LEVEL PURCHASE COMMITTEE :

Next step was to execute the expansion plan. For that purpose a sugar factory has to approach the

State Level Purchase Committee and got approval for the project and the decision in respect of the machinery suppliers ^{is} ~~was~~ also taken. The project, itemwise cost and the machinery suppliers approved are shown in the following table.

TABLE NO. 3.2 :

DETAILS OF EXPANSION PROJECT

Nature of work	Estimated Cost Rs.	Agency/Supplier to execute	Estimated Time
Foundation	18,00,000	Karkhana	3 Months
First Phase : Machinery, i.e. mill section material	50,00,000	National Heavy Engineering Co-operative (NHEC), Pune	6 Months
Second Phase Plant and Machinery	1,80,00,000	N.H.E.C., Pune	1 and $\frac{1}{2}$ Year
Boiler	60,00,000	Texmaco Co.Ltd. Calcutta	1 Year
Turbine	45,00,000	Trivani Co.Ltd. Banglore	1 Year
Supervision transport & Other charges	2,00,000	Karkhana	
Total	<u>3,50,00,000</u>		<u>1 & $\frac{1}{2}$ Years</u>

SOURCE : Compiled from the Office Records of
Gadhinglaj Karkhana.

AGREEMENTS FOR MACHINERY :

Three agreements, Viz.,

- (1) With National Heavy Engineering Co-operative
Pune.
- (2) With Texmaco Ltd., Calcutta &
- (3) With Triveni Ltd., Bangalore

were entered into on 19/8/1985, 14/10/1985 and
19/8/1985 respectively.

Relevant details of these agreements follow.

(1) Agreement with NHEC, Pune :

Agreement was entered into on 19/08/1985. It was for supply of machinery in two phases. In the first phase, machinery worth Rs.5000000 was to be supplied within 6 months from the date of signing the agreement. NHEC completed the work within 5 months against 6 months targeted. Payment for the work was to be made like this :

25 % at the time of agreement.

75 % to be paid in 5 equal instalments on mobilisation of the required tools at site.

In the second phase, plant and machinery worth Rs. 1,80,00,000/- was to be supplied and installed by NHEC within 1½ years from the date of signing the agreement NHEC completed the work within one year as against 1½ years provided for in the agreement payment was to be made as detailed for that in first phase.

(2) Agreement with Texmaco Ltd., Calcutta :

Agreement with Texmaco Ltd., Calcutta, was signed on 14/10/1985. It was for the supply and installation of " Boiler " as per the specifications given in the agreement. The estimated contract price was fixed at Rs.60,00,000/-. The contract was to be completed within one year after the agreement and it was actually completed within one year and 2 months.

Payment, as agreed upon, was to be made as under :

Rs.3,58,000/- at the time of agreement,

10 % within a month,

10 % in another 4 weeks.

Balance to be paid after the boiler is erected and is starts functioning.

(3) Agreement with Triveni Ltd., Bangalore :

Agreement with Triveni Ltd., Bangalore, was signed on 19/08/1985. It was for the supply and installation of "Turbine" as per the specifications provided for in the agreement. The estimated contract price was Rs. 45,00,000/- The work was to be completed within a period of 15 months from the date of signing the contract. Triveni Ltd., completed the work within one year of signing the agreement.

Payment was to be made, under the agreement, as detailed below :

5 % of the contract price at the time of agreement.

10 % within one month

10 % in another four weeks.

Balance on fitting the turbine plant.

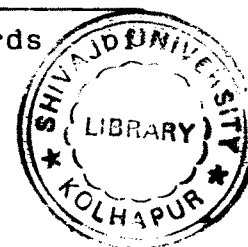
IMPLEMENTATION OF THE PROJECT :

As mentioned earlier, all the three contracts have been completed in the allowed time span. Payment made were as under :

(i) Agreement with NHEC :

<u>First Phase</u>		<u>Second Phase</u>	
Particulars	Amount (Rs)	Particulars	Amount (Rs)
At the time of agreement	3,36,000	Plant and Machinery	1,50,00,000
Cane Carrier	10,64,590	Substitute (but necessary)	24,35,000
Underfeed Roller	2,54,400	Machinery	
Vapour Cell	3,97,500	Errection Charges	3,36,000
Plate-pack Heater	61,568	Transportation & Other Charges	6,00,000
Transport Charges	71,000		
Total	31,85,058	Total	1,83,71,000
Payment made		payment	
Contract Price	50,00,000	Contract Price	1,80,00,000

Source : Complied from the Office Records
Gadhinglaj Karkhana.



(ii) Agreement with Texmaco Ltd., Calcutta :

Supply and installation of the Boiler was completed by Texmaco Ltd., Calcutta, within a period of 1 year and 2 months. Payments made were as under :

<u>Particulars</u>	<u>Amount (Rs)</u>
Main Plant	54,60,000
Painting & Lubricating	3,00,000
Packing Charges	2,00,000
Transport Charges	2,00,000
Tools and Substitute Parts	5,97,070
Total Payments	<u>67,57,070</u>
Contract Price	<u>60,00,000</u>
	=====

(iii) Agreement with Triveni Ltd., Bangalore :

Turbine fitting was done by Triveni Ltd., Bangalore, within the stipulated time. Payments made were as under :

<u>Particulrs</u>	<u>Amount (Rs)</u>
Main Plant	48,87,000
Transport Charges	95,000
Other Charges	10,238
Total Payments	<u>49,92,238</u>
Contract Price	<u>45,00,000</u>

(iv) Other Items :

Foundation work and supervision, and transportation of certain items were to be done by Gadhinglaj Karkhana. The Karkhana could complete the foundation within the stipulated time period of 3 months. The details of expenditure incurred on these two items are as under :

	Actual Amount Paid (Rs)	Estimated Amount(Rs)
Foundation	21,00,000	18,00,000
Transportation etc.	1,00,000	2,00,000
Total	<u>22,00,000</u> =====	<u>20,00,000</u> =====

The actual total cost on the expansion work was as under :

<u>ITEMS</u>	<u>ACTUAL COST</u> (Rs)	<u>ESTIMATED COST</u> (Rs)
(1) NHEC, First Phase	31,85,058	50,00,000
NHEC, 2nd Phase	1,83,71,000	1,80,00,000
(2) Texmaco Ltd., Calcutta	67,57,070	60,00,000
(3) Triveni Ltd., Bangalore	49,92,238	45,00,000
(4) Foundation, Supervision, Transportation etc.	22,00,000	20,00,000
Total Cost ..	<u>3,55,05,366</u> =====	<u>3,50,00,000</u> =====

Source : Complied from the Office Records of Gadhinglaj Karkhana.

Considering the project cost, the duration provided for implementation, and the actual duration required, the escalated cost of Rs. 5 lakhs was within tolerable limits.

Gadhinglaj Karkhana could start trial season on the expanded crushing capacity on 14/03/1987.

PART II : DIVERSIFICATION INTO DISTILLERY

Gadhinglaj Karkhana decided to go in for diversification into distillery unit in 1983-84. To be specific, a proposal to set up a distillery unit of the capacity of 25,000 litres per day was submitted to the Government of Maharashtra on 08/07/1983. On 14/02/1984, the Government of Maharashtra gave permission to set up the distillery.

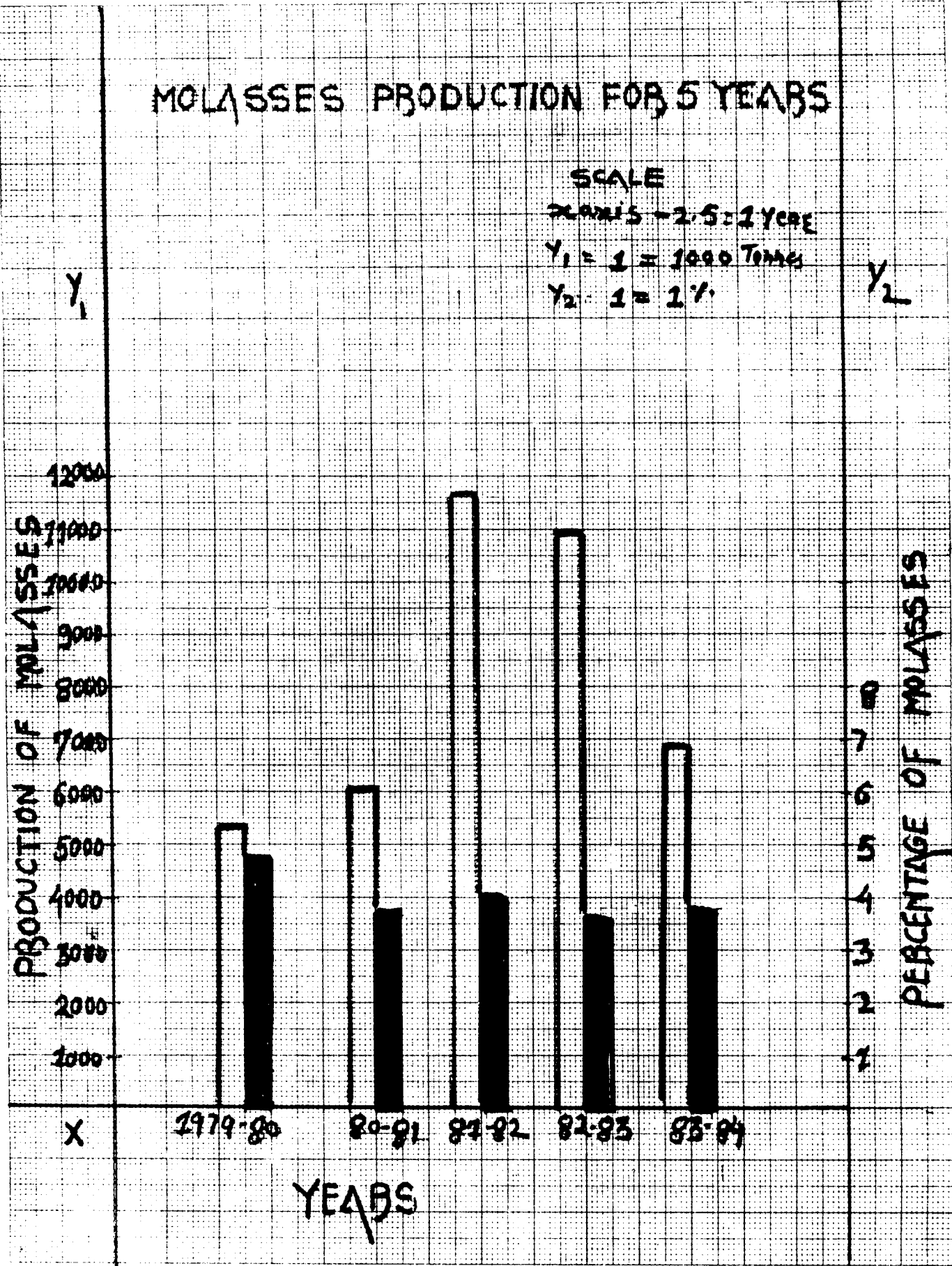
The forces behind this decision to diversify can be understood in the context of the following facts and figures.

(1) Molasses production for the five years ending 1983-84 was as follows :

Year	Production of Molasses (Tonnes)	Percentage of molasses to the sugarcane crushed
1979-80	5,393	4.48 %
1980-81	6,120	3.79 %
1981-82	11,755	4.09 %
1982-83	11,015	3.64 %
1983-84	6,936	3.83 %

MOLASSES PRODUCTION FOR 5 YEARS

SCALE
X AXIS - 2.5 = 1 YEAR
Y₁ = 1 = 1000 TONNES
Y₂ = 1 = 1%



(2) Sale of molasses could be made at the rate of Rs.60/- per tonne upto 1986-87, ^{from that year} onwards, the Karkhana could sell the molasses at the rate of Rs.120/- per tonne.

(3) The distillery started operations on 22.4.1987, from that time onwards the karkhana obtained a "transfer price" of Rs.97.89 P. per tonne of molasses sold to the distillery. In 1986-87, the distillery unit could use its 25.73 % capacity, use 191 tonnes of molasses and produce goods worth Rs.1,46,160/- (without taxes). Value added, therefore, can be calculated thus :

Value of production	<u>Rs. 1,46,160</u>
Less - Cost of molasses	18,697
used (191 X Rs.97.89)	
Value Added	<u>1,27,463</u> =====

The contention that distillery will enable the karkhana to pay more price to the sugarcane - growers for the sugarcane supplied was, therefore, correct.

PROPOSAL FOR DISTILLERY :

Distillery with a capacity of 25,000 litres per day was proposed by Gadhinglaj Karkhana in 1983. The proposal was submitted on 08/07/1983. It received the Government sanction on 14/02/1984 with the condition that the molasses produced by Gadhinglaj Karkhana only must be used as raw material.

STATE LEVEL PURCHASE COMMITTEE :

There were two options before the Karkhana. One option was to go in for a conventional type distillery project and second option was to have a distillery using continuous fermentation technique and having an in-built mechanism to ensure disposal of polluted water. In the modern method, productivity of the machinery was also found to be better. Gadhinglaj Karkhana asked for the expert opinion on this issue and as per the expert advice decided to go in for the modern method.

State Level Purchase Committee was approached to complete the necessary procedure. Tenders were invited and the Committee approved the name of Praj

Construction Pvt. Ltd., Pune as the suppliers of machinery and contractors for the project. Details of the project ~~were~~^{are} given in Table 3.3.

TABLE 3.3 : DETAILS OF DISTILLERY PROJECT :

Nature of work	Estimated Cost (Rs)	Agency/ Supplier to execute	Estimated Time
Foundation	20,00,000	Karkhana	4 Months
Distillery Plant : Building	35,00,000	Praj Construction Pvt. Ltd., Pune	6 Months
Machinery	2,05,00,000	- " -	1 Year
Transport & Other Charges	5,00,000	- " -	--
Total	<u>2,65,00,000</u> =====		

Source : Complied from office Records of Gadhinglaj
Karkhana

AGREEMENT WITH PRAJ CONSTRUCTION CO. LTD., PUNE :

Agreement to the above effect was entered into with Praj Construction Pvt. Ltd., Pune on 12/02/1986. The Project was to be completed in

one year from the date of agreement. Payment was to be made as under :

25 % of the contract price at the time of agreement.

10 % within the next three months.

Balance to be paid in five monthly instalments thereafter.

IMPLEMENTATION OF THE PROJECT :

Praj Construction Pvt. Ltd., Pune, started the work immediately on signing the agreement. It completed the project on 31/03/1987, i.e. it took about 13 months to complete it.

Payments made to the contractor supplier were as under :

<u>Rs.</u>	
6,00,000	At the time of agreement.
24,00,000	After next three months.
1,50,00,000	When the machinery was brought in.
60,00,000	After installation of the machinery.
4,50,000	For transport & other charges.
<hr/> 2,44,50,000	
20,50,000	Foundation work done by Karkhana
<hr/> 2,65,00,000	Total Cost
<hr/> 2,65,00,000	Estimated Cost

The distillery started operations on 22/04/1987. During that year, however, production capacity utilised was only 25.73 %. In subsequent years, capacity utilisation of the distillery plant showed improvement.
