CHAPTER - 1

INTRODUCTION
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1. INTRODUCTION

A fair amount of literature dealing with aspect of transport in India is now available. The topics like history, economics and management of road, rail, shipping and other passenger as well as goods transport have been subjected to empirical analysis in the last few years. However there are very few studies dealing with the specific transport problems of sugar industry in the country.

Transport is concerned with a movement of persons or goods for some particular purposes. Transport as such does not really produce a tangible product but it provides a service and is referred by economists as being a factor of production. Most of the people live away from their working places so transport is demanded to get quickly and safely form home to work.

The goods producers requires transport in order to move goods from his factory depots to the wholeseller and retailers who sells goods. It carries ideas and inventions to the people. And has contributed to the evolution of civilisation. Now people reap the advantages of territorial division of labour, and operation of theory of information trade the indispensatibility of transport of a master factor in the development of economies has now come to realised by all countries of the world.

Efficient transports system is the life and blood
into one organised unit. Though the demand for transport is not so fundamental in human nature as, the demand for essential commodities yet "it is an indispensail part of culture, as the hallmark of civilisation" economic and commercial importance of the greatest magnitude is now - a day attached to the development of transport."

The Transport industries which undertake nothing more than the mere movement of persons and things from one place to another, have constituted one of most important activities of men in every stage of advanced civilisation".

In fact the whole structure of industry and commerce rests on the well-laid foundation of transport. It is transport which helps human beings in removing this unwarranted berrer of physical separation and "enable a given flow of resources to produce greater results."

There are different modes of transport i.e. railways, road ways and air ways. Each of them has its own importance and specialised characteristics. Agriculture plays an important role in the development of Indian economy. The Indian farmer is handicaped by the absence of good transport system. Transport does not yield itself to any material benefit but without it, the richest resources remain unablized. Transport cost is thus an important element in the total cost of production. If the transport cost increases it affects producers as well as consumers. And hence major importance should be given to it. No nation can reach on advanced stage of development without adequate facilities for moving goods and people. It is
said that, if agriculture and industry are the bones and body of national organism, transport and communication are its nerves.

An improvement in transport has mainly two elements namely, reduction in unit cost and the increase in speed. "Transport is one of the tools acquired into every phases and facet of our experience, vivid form every standpoint, economic, political and military, it is unquestionably the most important industry. In the world you can no more operate a grocery store, or a brewery than you can win a war without transportation. The more complex life becomes, the more indispensable are the things that makes up our transportation system."

Transportation can be defined as an act of transport.

1.1. ROLE OF TRANSPORT BUSINESS

Transport ensures quick and speedy movement of Materials, manpower and Machinery from the place of availability to the place where they are needed, in other words transport creates place utility, Transport helps to carry goods and materials from the place of production to the place of consumption. Transport brings rapid economic development of the nation. Following points clearly show the role of transport in the modern business.

1. LARGE SCALE PRODUCTION

Large scale production requires constant flow of raw materials may be available at cheaper, rates in distant areas. Transport plays a vital role in such conditions. It provides smooth and constant flow of raw materials at cheaper rates.
2. WIDENING OF MARKETS :
Due to facility of transport markets have been expanding in respect of different types of goods. Today the markets for the different types of commodities have not remained local, they have been expanded from local to regional markets regional to national markets to international markets.

3. REDUCTION IN COST :
Transport makes the goods available from distant markets at cheap rates. Similarly it provides goods in quantities which facilitates large scale production. Large scale production brings about reduction in cost of production.

4. STABILISATION OF PRICES :
Transport brings about stability in prices of goods and commodities. Transport helps equal distribution of goods and commodities. It carries goods from surplus areas to the areas of scarcity. Naturally the increasing demand for goods in the area of scarcity can be met at right time which restricts the increase in prices. Similarly the excess supply of goods in the surplus area can be removed at the right time which restricts the fall in prices, thus transport helps in stabilising the prices.

5. GROWTH OF INDUSTRIES :
Many new industries are being established and existing are growing and developing due to efficient means of transportation. Production of perishable goods has also increased due to the help of transport industries producing marine products, poultry products dairy products, etc. are
flourishing due to quick services provided by transport.

6. OTHER SERVICES:

   (a) Transport helps the quick carriage of perishable goods and develop their trade.

   (b) It increased the mobility of man moves the unemployed labour to centres of production, Thus it helps in reducing unemployment.

   (c) It strengthens national defence, because and efficient transport system ensures a speedy movement of arrangement.

   (d) It helps people of a country and of the world to come into contact with one another and encourage to co-operate at national and international level.

7. LOCALISATION OF INDUSTRIES:

   An industry is said to be localised at a particular place when large number of units engaged in similar production activities are concerned, due to transport, raw material and other requirements are brought to the place of production and finished goods are taken to other places for consumption of Industries. Industries are localised at places where transport facilities like railways and roads are available of efficient transport facilities.

8. SPECIAL BENEFITS DURING EMERGENCY:

   Transport gives certain advantages during the period of natural calamities like floods earthquakes etc. Urgent help in the form foodgrains, medicines etc. can be provided quickly with the help of aeroplanes and helicopters. Thus, transport has a special significance. When country is facing
such natural calamities. Friendly countries can also provide
timely assistance due to quick transport facilities among
different countries. Transport plays an important role in all
aspects of our life. It acts as a life line of the nation. It
touches all aspects of our life. It is useful for the expansion
of trade, commerce and Industry. Transport has brought the
world closer and has solved the problems of distance progress
and prosperity of the country depends on transport facilities.
Transport brings mobility of life and create proper background
of economic growth. Today it is rather difficult even to imagin
life without transport. Transport was wheel which is useful for
moving ahead, Transport is like the veins in the human body,
which carry blood to all parts of body. Transport brings rapid
economic and industry development. It also facilitates balanced
growth.

1.1.1 TRANSPORTATION AS A ORGANIC BUSINESS ACTIVITY :

Following chart showing a organic business activity of
a transportation.

TRANSPORTATION

- Finance (Time element)
- Distribution function of Marking
- Mobility of plant and Machinery
- Aid to Trade (Ancillary industries or services)
- Cost (Fuel, labour, space equipment)
- Value addition (Price)
- Engineering Aspects (mechanism tools
  manufacturing)
- Risk insurance.
From the above it is clear that transport is the main function. All the developments depend upon development of transportation in the nation.

It is therefore, abundantly clear that effective transport is important for the economic progress of the world. Manufacturing, Merchandising, Banking, extracting and the like businesses all depend upon transport activity.

The most important problem of India today is that of food shortage. It is transport which brings foodgrains purchased in distant countries, like the U.S.A., Canada, Australia etc. to the shares of our country and hence internal transport agencies take the same foodgains to ultimate consumers. More than a century ago due importance was not attached to transport because people generally believed that only manufacturing industries, banking and agriculturs could develop national economics. The indispensability of transport a major factor in the development of national and international economics, has now come to be realised in nearly all countries, of the world.

1.1.2 TRANSPORTATION ACTIVITY IN AN INDUSTRY:

Each and every type of industry involves transportation activity. Success of any industry depends upon facilities available for transport activity. In order to increase its production activity a production must be transported but the amount of transportation depends upon the nature of the commodity and distance it is carried. In early time production of goods in large quantity, it requires large number of workers
and huge investment. Transport is required at several stages in the process of production. An increase in efficiency and sufficiency of transport lowers the cost of production and reduces the selling price of the commodity. Reductions in transportation rates have further increased production as an account of low and reasonable price prevailing in the national and international markets demands for commodities have considerably gone up. Transport has facilitated mining and manufacturing activities also.

A transport helps in getting raw materials and finished product in large quantities and varieties. Steam industry, sugar industry, cement industry, Textile industry, requires good and sufficient transport system. Location of Industry depends upon transport facility available in that area.

1.2. NATURE OF TRANSPORTATION ACTIVITY IN SUGAR INDUSTRY :

Sugar industry is agro based industry. Sugarcane is the basic raw material of the sugar industry. It is said that sugar is produced in the farm not in the factory. There is only chemical reaction on cane and sugar is produced through different chemical reactions and processes. Being sugarcane the basic raw material. The sugarcane carried from field to factory gate for crushing by Bullock-carts, tractors and trucks. After the production of sugar in the factory it requires good transportation facilities for marketing.

Location of the sugar industry generally depends on the availability of sugarcane transporting from field to factory gate is the important aspect. If sugarcane is not available in
the working area, factory will have to spend more money on sugarcane transportation. Ultimately production cost increases and reduces benefits of the factory and sugarcane growers.

For transporting sugarcane from field to factory gate it requires good transport facility. Recovery of sugar factory depends upon freshness of sugarcane. After harvesting sugarcane starts deterioration. If the cane is not crushed within eight hours after harvesting it increases fibre percentage in cane, as well as purity of juice percentage. Therefore transport plays an vital roll in sugar industry.

1.2.1 SOME CONCEPT IN SUGARCANE TRANSPORT:

GADI CANTRE:

Gadi centre is an essential need of truck transportation. Truck is unable to take the delivery directly from the field. When the harvesting of sugarcane is over, the same sugarcane is brought up to road by an agency which is known as "Gadi centre". Transportation from the field up to the kutchha road is done by this gadi centre. The management of the factory labour union and Government determines the rates of gadi centre. The rate was Rs. 46.97 per tonne in 1992-93. The gadi centre generally carries the cane about 2 to 3 km. from the field to the nearest road.

DOKI CENTRE

Doki centre means the transportation of sugarcane from the field to the nearest road. In this system of transport workers carry the sugarcane on their shoulders. The rate is determined by the management of the factory labour union, and Government. The rate of Doki centre was Rs. 42.09 per tonne.
1992-93. When bullock carts are unable to enter in the field and carry the cane doki centre becomes useful. The labours carry sugarcane on their shoulder for a distance such as 200 to 300 feet. Generally a large proportion of sugarcane is carried by the truck to the factory gate for crushing. One of the important problem of the truck is unable to take the delivery of the cane from sugarcane field. Therefore gadi centre and doki centre plays a vital role in truck transportation.

**DIRECT BULLOCK-CART IN SUGARCANE TRANSPORTATION :**

Co-operative factories in Ahmednagar district employing bullock-carts for sugarcane transportation. Direct bullock cart carries the sugarcane from field to the direct factory gate. It carries sugarcane form 15 to 20 Km. distance away form factory gate. It provides fresh sugarcane for crushing. Compared to truck transportation direct bullock cart transport is very cheaper. Every bullock cart engaged in sugarcane transportation provides employment in the village to the men and women and also children. Factory in this district gives rubber tyre carts on hire basis to the employees; and charges a very few amount as a bullock-cart rent. Existing hire charges of bullock cart is Rs. 10 per day.

In sugar Industry transport requires for carrying sugarcane from fields to factory gate & transporting sugar from factory to market places.

1.2:2 **TRANSPORTATION IN SUGAR INDUSTRY :**

1) Transporting sugarcane from fields to factory.

2) Transporting white sugar bags etc. In market places
BULLOCK CART TRANSPORTATION:

Bullock - cart transporting sugarcane from field to factory gate is known as Direct bullock cart transportation.

SUGARCANE TRANSPORTATION BY TRUCK:

1. Sugarcane in Field.
2. Sugarcane carried to nearest road by bullock cart from field.
3. Loading of sugarcane in trucks.
4. Sugarcane carried to the factory gate for crushing.

1.2:3 TRANSPORTATION OF SUGARCANE AS RAW MATERIALS:

Transportation of sugarcane is an important activity in sugar industry because of following reasons.

1. NATURE OF SUGARCANE AS RAW MATERIALS:

As sugarcane is an extremely perishable commodity. Sugarcane is different from other agricultural raw materials such as Cotton and Jute. Sugarcane cannot be transported at every distant place out of the area as the haulage will considerably reduce the sugar content. After harvesting sugarcane should be crushed within eight hours. If the time taken for crushing more than eight hours it leads to increase fibre percentage in sugarcane, purity of the juice is reduced and finally it results into decrease in sugar recovery.

The Bhargave commission had suggested that as far as possible no cane should be allowed to transport his sugarcane by bullock cart over a distance of more than 8 Kilometers.
2. FEATURES OF SUGARCANE:

It is said that sugar is produced in the farm and not in the factory. Sugarcane crop is weight losing. If the sugarcane is stale it reduces sugar recovery and thereby reduces profitability of sugar industry. Therefore it is essential that sugar factory should manage quick good transportation facilities. After harvesting sugarcane, should be crushed within 24 hours.

1.2:4 NATURE OF MANUFACTURING PROCESS:

In India production of direct plantation white sugar is practised by following double sulphitation or double carbonation and double sulphitation process. The aim of Sugar Technologist is to extract maximum possible sugar in the form of crystal and lose minimum in byproducts, like bagasse, final molases and pressmud. To acheive this end continuous efforts are being made to modify the equipment and process in all fields including milling, classification, filtration, boiling and curing. The manufacture of sugar is comprised of different processes which are briefly as follows.

a) Separation of the juice from the fibre by pressure.
b) Classification and removal of impurities that interfere with subsequent evaporation and crystallisation.
c) Removal of high percentage of the water by evaporation.
d) Conversion of sugar from a dissolved condition into crystal form.
e) Separation of crystal sugar from the mother liquor or molasses by centrifugal.
f) Drying and packing of sugar bags.

In the view of above reasons the productivity and economy of sugar industry is likely to efficient movement of sugarcane transportation.

1.2.5 ORIGIN OF SUGARCANE:

Sugar has been known to India for about 2000 years and there is ample evidence to show that India is the original home of sugarcane as also of sugar manufacture. Sugar has been mentioned in the epics as one of the five "Amritas" i.e. celestial Sweets. Nothing tastes so sweet as "sugar". Even the English term "Sugar" is a derivative of the Sanskrit world "SARKARA". The world "Shakkara" was in voyage in Prakrit literature for sugar. Thereafter, the mention is found in many languages with the different names varying in pronunciation though resembling in some way. It has mentioned as "Schakar" in Persian Sukkar in Arabic, Suicar in Assyrian, Saccharum in Latin, Azucar in Spanish etc.

Mention about sugarcane is found in the Atharava Veda in 5000 B.C. There is perhaps no earlier description of sugarcane than this in the history of the world. Reference of sugar are found long long ago in the Institute of Manu and the treatises of Charakar and Susruta dealing with medicine. Its mention in the records of Megesthenese and in Arthashastra of Chanakya is also traced back to the period 321 - 296 B.C. Alexander, the great and his soilders were the first foreigners (EUROPEANS) to find sugarcane in India. When they came over to this country in 327 B.C.

Sugarcane (Saccharum Officinarum) is a native of
southern Asia first grown in India. The details of sugarcane in India as given by Watt in 1893 were as follow -

(1) Mauritius Cane
(2) Otaheite Cane
(3) Bourbone cane
(4) Batavian Cane
(5) China Cane
(6) Singapur Cane and
(7) Indian Cane.

Historically it is said that the modern process of sugar manufacture was introduced in the West as early as in 1853, but the same process came to India as late as in about 1903. When the first sugar factory with Vaccum Pan Process and modern milling method was commissioned in saran at Marshwrch in Bihar in 1904.

1.3 HISTORICAL BACKGROUND OF SUGARCANE AND SUGAR :

Sugar is of an ancient origin. It may be accepted that not later than 400 B.C. and perhaps earlier a knowledge of sugar became general throughout India. Sugar and sugarcane in its different forms were also mentioned in ancient epics of India. The reference of sugarcane appears in Atharava Veda, the scared book of Hindus. In Indian Literature, the first mention of sugarcane varieties occurs in the "Charaks - Samhita" and later in the "Susruta - Samhita" these varieties of sugarcane were used for chewing purpose medicine and also making wine. The south Pacific is believed to be the birth place of sugarcane from where it was carried in a race migration to the South - East Asia and India sugarcane spread from India to Persia in the 6th century and then in the hands of Arabs through the mediterranean notably to Egypt, Morocco, Spain, Sicily, and by the 12th
century to Zanzibar During the time, however sugar was essentially a luxurious commodity and it was being used a medical purpose. Sugarcane also spread to China probably Via Assam.

In the 15th century it was carried by the Portuguese and Spanish to madeira and so to the West Africa, finally reaching the new world in the Second voyage of Columbus. The cultivation of sugarcane spread through the West Indies to America. In Maritius and Australia, sugarcane was established in the 18th century.

The cultivation of sugarcane was promoted in all tropicas colonies of the European nations after the discovery of America. The plantation of cane first introduced in, Hayati, was failure but later on succeeded on a large scale. It spread to Cuba in 1511, Mexico in 1522, porto rico in 1523, Java in 1527 and Peru and Brazil at about the same time.

The production of sugar and syrup was known in India perhaps a few countries before chirsttain era by 400 AD. for sweetening purpose the teations, Greeks and Romans used honey almost exclusively. The growth of sugarcane and its use in the form of sugar has spread from India Cylon, Java, China, in the east and to persia in the 6th century and to spain in the 8th century. In the course of their conquests from 7th to 9th centuiunes the Araba introduced the growing of canes and making sugar in cyprus.

The Egyptians so perfected the refining process that their wied sugar enjoyed the highest reputation in the middle ages. North eastern Europe was acquainted with the use of sugar
owing to the crusaders who themselves promoted its production in Syria palestine and syrups.

When Venice imported sugar from Syria as early as 996 AD. The refining of sugar was venetian monopoly for 100 years or more later on it spread to England, Germany and Holland. In the 17th century the refining of sugar was practised on a considerable scale in France where it was encouraged by the Government cane plantation. Which was first introduced Haiti was first a failure, but subsequently succeeded in large scale by the end of the 18th century almost the entire was dependent mainly upon American sugar.

1.4 THE PROBLEM SELECTED FOR STUDY AND ITS NATURE:

"A study of transportation of sugarcane with special Reference to Co-operative sugar Industry in Ahmednagar District of Maharashtra state " is undertaken.

Ahmednagar district is selected for the proposed study, because Co-operative sugar factories plays a vital role in Ahmednagar district. The Co-operative movement in sugar factories started with the establishment of the first co-operative sugar factory known as "Pravara Co-operative sugar factory" at Loni in Ahmednagar District of Maharashtra state. In those days the Government scheme was that wherever the sugarcane growers collect rupees ten lakhs on their own accord, the government Financial corporation will provide the rest of the finance for the establishments of co-operative sugar factory. Late Shri. Vithalrao Vikhe was the first promoter of Co-operative movements.

Ahmednagar district having 14 Co-operative sugar
factories. This is largest number in the state, land and wheather
in the district is suitable for sugarcane crop.

Being availability of irrigation facility farmers are
taking large sugarcane crop. This crop is treated as cash crop, therefore large number of sugar factories are established in the
Ahmednagar district.

Nature of the proposed study is to study sugarcane
transportation problem of Co-operative sugar factories in
Ahmednagar district. In this study attempt is made to analyse
the problem of sugarcane transportation, Relationship of
sugarcane transportation and sugar recovery. To study sugarcane
transportation cost by bullock carts and truck transport.
Proposed study aims to analysis productivity and technical
efficiency of the sugar factories. Factors affecting the
economy of sugar industry. Crushing capacity of the sugar
factory and to find out wheather there is shortage of the
sugarcane in the working area. To study different schemes
implemented by sugar factories to increase the production of
sugarcane in the working area. Nature of the proposed study is
also examine share of sugarcane transportation of different
means of sugarcane transportation.

A need for immediate transporting the sugarcane to
factory:

The quick transporting and unloading activities are
absolutely necessary for the maintinance of sucrose in sugarcane
and preservation of its inversion and loss in sugarcane and loss
due to this deterioration is heavy in sugar economy. If the
efficient system of sugarcane transport is not existent after
harvesting sugarcane there is bound to be the losses for farmers and sugar factories. Quickness of cane transport is thus very important. Sugarcane should reach factories from the field within 24 hours of its harvesting. Once sugarcane is cut it starts deteriorating due to weather, the temperature etc. The result is increase in fibre and reduces purity of juice and finally reduces sugar recovery.

Sugarcane is grown in farms. After a specific time cane is removed from the root and cut from the bottom. The upper leafy portion is removed. This make sugarcane stump open from both ends. Unless sugarcane is immediately rushed to factory from farm it losses weight. Therefore the sugar factory has to arrange proper sugarcane supply. It must ensure that fresh sugarcane is made available at right time in right quantity and at right cost.

1.5 OBJECTIVES OF STUDY:

Sugar industry is agro based industry and therefore adequate and timely supply of sugarcane plays a vital role in the economy of the unit. The adequate and timely supply of sugarcane is dependent on the performance of sugarcane transportation activity in the unit concerned. This is ultimately related to productivity of the industry.

The study is mainly aimed at identifying and analysing transportation activity in sugar factories located in Ahmednagar district in its all dimensions viz. technical, financial, and Managerial with this main objective in mind, the present study is to achieve following.
a. To indentify the factors affecting the economy of sugar industry in general and with reference to Ahmednagar district.
b. To collect and analyse productivity and technical efficiency, relating to sugar industry in Ahmednagar district.
c. To undertake studies in total cost analysis including cost of sugarcane transportation.
d. To study sugarcane transport and its management in the related units.
e. To identify and analyse the problems of transportation of co-operative sugar factories.
f. To study problems and make suggestions to overcome these problems of sugarcane transportation.

1.6 SELECTION OF THE AREA AND THE SAMPLE:

For the purpose of this present study of sugarcane transportation the Ahmednagar district of Maharashtra state is selected because first co-operative sugar factory in India established at Loni in Ahmednagar district of Maharashtra state.

There are 14 co-operative sugar factories in the district. Some sugar factories are selected on sample basis of different taluka’s of Ahmednagar district. Previously area under sugarcane cultivation is large when rainfall is sufficient, therefore large number of sugar factories are established in the district. The district is already famous for Jaggery many sugar factories in the district facing a problem of sugarcane shortage. Some factories closing the crushing before season is over due to shortage of sugarcane. Therefore Ahmednagar district is selected for study.
1.7 HYPOTHESIS:

In the light of the above objectives, following hypothesis were set for study.

i) Most of the sugar factories in Ahmednagar district transporting sugarcane by truck transport.

ii) Share of bullock cart in sugarcane transportation is lower than truck transport.

iii) Transport plays an important role in deciding the efficiency of sugar co-operative unit.

iv) Transport has an direct impact on efficiency of sugarcane crushing.

1.8 RESEARCH METHODOLOGY:

The adoption of sound research methodology in any management research and economic investigation froms a vital part of the study. It consists of sampling frameworks, sources of data collection and method of analysis. In the present study methodology is accepted to suit the fulfilment of objectives.

SAMPLING FRAMEWORK:

Sampling framework here implies the basic structure prepared for collection of the data for convinence the sampling work is divided into two parts.

i) Sampling framework for the study of transportation aspect of sugarcane and

ii) Sampling framework for the study of economic aspect of sugarcane transportation.

The researcher has given concentration on transport aspect of sugar industry in the district because if sugarcane is
not crushed within a period of eight hours after harvesting, it 
increases fibre percentage of cane, as well as purity of juice. 
For judging the operational efficiency of sugar factories, 
sugar recovery is given importance. Sugar recovery depend upon 
timely and efficient system of sugarcane transportation.

For the present study Ahmednagar district is 
selected for study, because this district plays vital role in 
sugar production in Maharashtra and in India. All sugar 
factories having a burning problem, that is shortage of 
sugarcane in the working area of many sugar factories.

For the purpose of analysis, the sample techniques 
such as percentage, growth, rates, average, established standard 
past performance sugar factories norms have been used. Recovery 
of sugar factories in the district are compared.

SOURCES OF DATA COLLECTION:

To fulfil the set objectives of the study, both primary 
and secondary sources of data collection were tapped. The 
details of which are as under.

(A) PRIMARY SOURCES:

The data about transportation aspects as regards to 
selected factories in the district collected from sample 
respondents who are working in various transportation and 
harvesting departments. On the line of the requirements of the 
study, three different types of questionnaires are developed. 
These questionnaires are pretested by personal discussions with 
some of the respondents the questionnaires are translated into 
Marathi and then typed copies are distributed. As said above 
three different types of questionnaires are prepared for data
collection viz., Questionaries No.1 issued to Agriculture department of sugar factory. Questionaries No.2 issued to harvesting labours to get the information of sugarcane transportation. Questionaries No.3 issued to chemical dept. of the sugar factory.

Primary data also obtained from observation method and field survey method, questionaries are circulated and data collected, tabulated and edited. Scaling technique is applied. After scaling the data, analysis and interpretation is made.

(B) SECONDARY SOURCES:

Other data about sugar industries in Ahmednagar district, such as total crushing, sugar recovery transportation means availability of sugarcane in the working area and outside of working area is collected from annual report of each sugar factories.

Other necessary data are collected from irrigation department in the district. Ahmednagar district gazetteor and Ahmednagar district socio-economic statistics data published by Govt. of Maharashtra.

For the purpose of collecting secondary data the researcher visited the following libraries and Institutions.

1) Vasant Dada Sugar Institute, Manjari Pune.
2) Office of the sugar Directorate Pune.
3) Vaikunthabhai Mehta Library, Pune.
4) Jayakar Library Pune University.
5) Jawaharlal Nehru library Kalina campus, Mumbai University.
6) Irrigation Department Kopargaon Taluka.
7) Sugar factories in Ahmednagar district.
   Secondary data also collected from various other sources these are -
1) Records of state and central Government.
2) Technical and Trade Journals.
3) Books magazines and newspaper.
4) Reports and publications of various associations connected with business, industry, bank.
5) Report prepared by research scholars, Universities economists etc.
6) Annual records and manufacturing reports of co-operative sugar factories of Ahmednagar district.

1.9 HISTORICAL REVIEW:

In India mechanised road transport is comparatively recent development. The first motor vehicle was imported in 1898. Till about seventy years back, motor cars were made in motor transport till 1931, when the number of motor vehicles in India were about four thousand. Road transport development was retarded due to deplorable condition of the roads in India.

During the first World War, however, large number of motor vehicles were imported from outside for defence purposes and after the war, large stock of surplus army vehicles were available for civilization use. They were readily purchased by Indian Investigations and thus between 1918-20, motor transport become an established reality on Indian roads.

The existing roads were already in a bad condition and the further influx of trucks and buses made condition still worse, but there was a considerable demand. For more and more
vehicles due to the increased post war business activity. This resulted in a huge public outcry against the road administration and Government was obliged to appoint the Indian roads Enquiry committee under the Chairmanship of Mr. Jayakar in 1927.

1.9:1 RURAL ROADS

Next to railways, road transport plays a key role in the transport system of India. It provides an accessibility to people of hilly, rural and back-ward areas which are not connected by rail. Road developments have broadly followed the approach of the Nagpur Road plans in the post-war reconstruction phase and under the first and second five year plans, envisaged that road length in the country would increase from 3,79 lakh miles (6.99 lakh kms) in 1961 to 6.57 lakh miles (1051 lakh kms). In 1981 of which 40% would be surfaced. The total road length in the country increased between 1950-51 and 1975-76 from 3.98 to 13.84 lakh kms.

The development of rural road was given priority in the fifth five year plan, where a separate outlay was provided for it, under the minimum needs programme. It was proposed that a link road should be provided to all villages with a populations of 1600 or above. Rural Roads comprising classified villages roads and some other district roads, serve as feeder linking villages with each other as well as with the near district roads. State or National Highways, railway station S.T. bus-stand and market centres By and large classified village roads are all weather ones. Development of normal roads received encouragement during the fifth plan period.
In fifth five year plan (1978-83) a total allocation of 800 crores has been proposed for rural road development in the state, sector, under the revised Minimum Needs programme and another Rs. 275 crores for a special programme of roads in tribal areas. The target is to connect all villages with population of 1500 and above and 50 percent of villages with population of 1000 to 1500. Progress of rural road construction in general has been slow except in states like Punjab and Haryana. Where a majority of villages have already been connected with all weather roads.

It is noticed that out of the 5.76 lakhs villages only about 29 percent have all weather roads link and another, 16 percent have fair weather road connection. The number of villages remained to be connected with a road link are 3.14 lakh and those with an all weather road link over 4 lakhs. Most of the rural roads would be either kutchha or unsurfaced. Where motor transport may not be able to conveniently operate. Thus energy saving consideration, and due to advantage of convenience and flexibility of operation, bullock cart as a complementary means of transport in rural and semi-urban areas must be encouraged as the recommendation of the working group of rural Roads.

Rural roads improvements have been important concern in bank projects aimed at improving the welfare of the rural poor in developing countries. In the decade 1965 to 1975 the focus on bank leading for a road construction shifted from high wages to rural roads. Most of the rural roads related investments have been made through agricultural rural development projects rather
than through high-way projects. Good roads were absolutely essential to fight famine which was fairly frequent in India. When in Orissa and in Ajmer, "Men with money in their hands died for want of food". Food could not be transported there due to lack of communications.

The Jaykar Committee Recommended that the central Government should assist co-ordinated development by making annual block grants to provinces out of a central road fund to be built up by a Petrol tax surcharge of annas two per gallon. It made a number of recommendations.

Acting upon Committee recommendation the Government of India decided to increase the excise duties on petrol from 4 to 6 annas per gallon and the proceeds from this additional duty were allocated to as a block grand for expenditure on roads development.

The Government of India appointed a one man commision under the chairmanship of Shri. H.P. Sinha, the former Director General for road development, Government of India to make recommendations regarding the development of rural roads, in the country in the year 1967. The report submitted by Shri. Sinha was published in 1968 and has recommended an outly of Rs. 143 crores, during the period from 1st April 1969 to 1989 for the development of rural roads in the country. The committee had villages and provide communication not only between the villages but also from one village to Mandi (Market place) and to the main road. The rural roads include all weather roads, also. The committee has suggested the following four priorities for phasing
the 20 years Rural Road Development.

PROGRAMME :

1) Areas where special steps have already been taken for rapid increase in agricultural production for example under the programme interview agricultural districts are to be given first preference.

2) Areas where villages will get connected to the existing road system by constructing just few short lengths of rural roads, are to be given second preference.

3) Background area are to be given third preference.

4) Areas where no other means of transport are available are to be given fourth preference.

1.10 REVIEW OF STUDIES ON SUGAR INDUSTRY :

Sugarcane industry being the second largest agro industry in India, particularly in Maharashtra. It is situated in the rural area owing i.e. sugarcane. The agro industry leaves a deep impact on the rural economy with the development in agriculture it is felt necessary to start and promote related agro industries because they not only convert the agricultural goods into finished products but also increase their value.

1) Taking into account the importance of sugar industry in the national economy a number of researchers have worked on the various aspects of sugar industry such as the development, problem of the industry and its prospects. Similarly government policy and regional planning for sugar industry area, labour situation of the industry.

2) In 1951 P.M Devkar studied " The Sugarcane Industry in Bombay Division", in this study he explains the development of sugar factories and their various problems. He has discussed the
economies of the sugarcane and sugar with reference to the
irrigation transport, manufacturing etc. Lastly he explains the
prospects of sugar industry in India. He also points out the
necessary and importance of sugar co-operative in the Indian
economy.

In 1967 Shirodkar produced his work on the "Co-
operative movement in Kolhapur district". In this context he has
analysed the impact of co-operative sugar factories on the
agriculture of the region According to him, co-operative sugar
factories have imparted stability to the agricultural income by
paying reasonable and guaranteed price for noticicable increase in
production of sugarcane. Not only these factories provide the
reasonable and guaranteed price, but also they provides various
facilities to agriculturist. As the co-operative sugar
factories are agencies of rural economic development the
factories must be established in the backward area so that
backward area get a change of development.

Mr. Vimasla Raghav Achar " worked on "State and Indian Sugar
Industry in 1973. She has explained the impact of state policy
on the development with special reference to proection granted
to the sugar industry in 1932 and 1956 . She considered the
problems faced by the industry from 1956 to 1970 with a view to
suggest a suitable long term policy. The importance of co-
operative sugar factories and prospects of sugar industry in
future.

In 1976, N.S.Jain worked on the "Regional economic
planning in sugar factory area" Dr. Jain had selected the area
of the Theure co-operative sugar factory of Haveli in Poona district. According to him, the area has not been developed with due consideration of the requirements of the modern technique of regional planning and the needs of the region. Dr. Jain 12 attempted to study the proper demarcation of functions.

13 B.B. Andhale completed his work on "A study of impact of co-operative sugar factories on the lives of farmers with a special reference to Sangamner Bhag Sahakari Sakhar Karkhana" in 1972. In this work, he has studied the impact of sugar factory only on the lives of the producer and shareholders of the factory. But also clear that non-shareholders are equally important in supplying the cane to the factory.

14 In 1975 Malyadri analysed certain aspects of Socio economic impact of sugar co-operatives in general. According to him a sense of consciousness among people all the levels have been developed due to the co-operative sugar factories. Every from of economic operatives are encouraged and organized with Government patronage and public funds. This new function of processing sugarcane has initiated a certain reaction of development with far-reaching effects in the area of operation of sugar co-operative.

15 Apart from this prof. D.R. Gadgil has enriched the literature of sugar co-operatives in Maharashtra with a series of articles on sugar co-operatives. Being a promoter of the co-operative movement. Prof. Gadgil has explained the importance of sugar co-operatives in the rural economy he has

29
attempted. In April 1980 Government of Maharashtra appointed a Committee under the chairmanship of Shri. V.P. Rane, the director of sugar, Maharashtra state for making recommendations for the formation of Zones for sugar factories the committee submitted a report in 1983. The committee was expected to identify the limitations due to which the object of for nation of zones could not be achieved. The committee observed that as per the sugarcane control order of 1966, there were overlapping villages allocated among the nearest sugar factories, because of which steps for sugarcane development could not be taken by the concerned sugar factories, in the same way, movement of sugarcane resulted into increasing cost of transport and ultimately in cost of sugar production.

The Committee has discussed the factors determining availability of a sugar factory would be permitted to capacity of at least 2000 TCD. and for achieving economic off scale there should not upper limit on the crushing capacity, the committee lastly recommended zones for every sugar factory in Maharashtra.

In 1982 shri. M.A. Kohak in his Ph.d thesis entitled. Socio-economic Effects of a co-operative sugar factory. A case study of Niphad (Dist. Nasik) Sahakari Bakhar Karkahana, has studied effects of sugar factory on agriculture cultivators and on agricultural labours. He also studied the impact of sugar factory in the development of infrastructure social services like education medical facilities, capital formation, employment generation in the area of operation of sugar factory from this
study he concluded that because of the establishment of the sugar factory the tendency of depending solely on the cash crop like sugarcane has been increasing among the farmers which may ultimately have adverse effect on the other farmers.

Shri. R. M. Kharche has worked on the topic "co-operative sugar factories in Maharashtra".

A Critical study "For Ph.D. degree examination in 1987. In his work he has discussed the licensing policy of sugar industry of the Govt of India then he analysed financial structure of co-operative sugar factories. In connection with efficiency of sugar factories in the importance of the supply of sugarcane, sugarcane development activities and other problems relating to the supply of raw materials i.e. sugarcane are also discussed in this thesis.

Further he has studied cost of production of sugar, role of management in the development of the sugar factories and the spread effects of co-operative sugar factories in their area of operation finally he analysed the cause of sickness of sugar factories and has made same recommendations to overcome the problem of sickness.

1.11 SCOPE AND THE LIMITATIONS OF STUDY:

The study covers the area of Ahmednagar district of Maharashtra State. The proposed study is an attempt to highlight overall problems of transportation of sugar industry, ascertainment of cost of sugarcane transportation and finding out recovery of sugar factories in Ahmadnagar district. The period of study for the said research is five years i.e. from