Chapter I

Introductory
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Introductory :

This chapter is devoted to the study of the process of urbanisation which is the result of demographic, sociological changes brought about by the process of industrialisation. Such a study is essential because the process of urbanisation has brought into existence the metropolitan cities in the developed and underdeveloped countries. It has created several problems and affected mobility of population. In other words the modern city life has created the problem of social mobilisation. One way of solving this problem is to develop modern means of transport. The modern means of transport are of two types:

i) machine or power driven vehicles like the car, scooter, rickshaws and mopeds etc., and

ii) the vehicles like bullock-carts and a 'bicycle' which are not power driven but use manpower or animal power.

The importance of a 'bicycle' is that it doesn't use any other energy except the human energy. In view of the energy crisis which has been adding to the cost of transport and creating other problems of parking, maintenance, heavy initial investment, pollution etc., the
relative importance of a 'bicycle' as a poor layman's means of transport has considerably increased. Nowadays a bicycle is the most important and cheapest means of local transport not only in advanced countries but also in the poor, less developed countries (LDCs). Apart from the lowest comparative cost of transport the bicycle has contributed a lot in increasing the mobility of population not only in the cities but also in the countryside (villages). In an underdeveloped country like India where 70% of the population lives in villages (where power resources are inadequate) bicycle is the most important means of transport for the people. It has a special role to play in the hilly areas and rough road surfaces. In villages and in cities a bicycle has become a 'family' asset useful to children, women, officegoers, school going children, workers, hawkers and agriculturists. Thus it is necessary and interesting to analyse the impact of a 'bicycle' - as the cheapest and the most convenient means of transport - on mobility of population in cities and villages.
Urbanisation, development of a metropolitan City and Social Mobilisation

Since the objective of the thesis is to study the impact of 'bicycle' as a local means of transport on 'mobility' of population in a city like Pune, it would be appropriate first to make a reference to the process of urbanisation which leads to development of a metropolitan city. Such a development later on necessitates the process of social mobilisation.

Prof. J. Clyde Mitchell* - refers to urbanisation as the process of becoming urban, moving to cities, changing from agriculture to other pursuits common to cities and corresponding changing of behaviour patterns. According to Prof. Mitchell there are two types of changes involved in the process of urbanisation -

1) **Demographic changes** leading to movement of population from semi urban areas to cities and

2) **Sociological Changes** - such as undertaking residence away from the area and becoming economically independent from rural relatives.

In addition to such changes which can be described as detribalisation there is also the process of stabilisation implying the settled urban residence of migrants.

In studying urbanisation in a newly or rapidly developing country like India it is important for us to divest ourselves of the Western image of urbanisation. In case of India, we have to imagine a kind of urbanisation different from that in advanced countries. In the context of urbanisation in developing countries Prof. Mitchell mentions that - "it is important to imagine a kind of urbanisation in which there may be a very little modern transportation, as in the case of a city in India with a population of more than 20,00,000 in which the number of automotive vehicles - cars - trucks and buses - amounts to only 20,000".*

Thus in the context of urbanisation process in less developed or developing countries the number of automotive (or machine-driven) vehicles assumes importance as an index or criterion of urbanisation.

Other criteria are:

1) the number of recent migrants to the city who have no means to achieve control of the environment in which they are living.

2) the representative governments which are developed in such a manner that the ordinary citizen can make some impact on the environment in which he lives and

3) the vast majority of urban populations which have quite indifferent and low standard of living from that found in urbanized, Western countries.

Thus in the context of urbanisation in developing countries like India we have to assume emergence, existence and development of such cities as Poona with a total population within the limits of a quarter of one crore of population. Understanding the phenomenon of urbanisation in less developed countries is facilitated by our familiarity with both long term and recent circumstances surrounding the appearance of the cities and knowledge of the survival and growth factors with which they are associated.

1.2 Emergence of cities: In newly developing countries like India cities like Pune come into existence as important centres of urbanisation and survive to the present time because -

1) They become centres of administration for trade and industry as a result of the inevitable enlargement of the small settlements.
2) As a city grows, its dependence on an agricultural surplus grows and eventually the rural inhabitants in the vicinity tend to become more and more dependent on the city by providing what the city needs (e.g. vegetables, milk etc.).

3) The city becomes extremely important as the major locus of economic power. It tends to become the headquarters of industrial, commercial, educational and other enterprises developing within the country.

4) A city serves as the primary agency and diffusion point of social change receptive of talent and manpower and its major investment funds. As a result, a city has differential effect in sorting out and attracting to it only the best in the population. There seems to be coincidence of probability of competent individuals tending to move toward the urban areas.

In this process there is the danger that the central city may progressively absorb, with little capacity to recirculate the country's best talents. These persons, having once lived in the city tend, not to be inclined voluntarily or involuntarily to return to the countryside. This is typical of urbanisation everywhere and the same process appears to be taking
place in the cityward migration of rural population in virtually all Western as well as newly developing countries.

Thus the new roles assumed by immigrants to the city lead to establishment of new relationships. Urban employment of resources (funds and manpower) results in a diversification of occupational roles and relations.

The factors which have been of great significance in exploitation of urban employment market are :-

i) growth of educational opportunities

ii) the extension and use of caste, kinship and village links

iii) contacts with politicians and administration.

As a result, a good deal of circulation is needed between the different categories of commuters and those who stay out of the city e.g. circulation between those who stay at the respective places of work, villagers employed outside the village, students with their parents and relatives in the village, resident commuters and occasional commuters. In other words, the typical development of a city leads to the problem of mobility of population which can be met by a few automotive vehicles which are comparatively costly. It is in this context of the problem of social mobilisation
that the role of a cycle - non-automotive means of local transport - is important.

Prof. G. S. Ghurye, Professor, Emeritus of Sociology, University of Bombay* remarks in this context that:

"Modern societies have tended to rear more than one metropolis. The specific occurrence of this phenomenon and the coincident other phenomena of urbanisation appear to me to be a fascinating field of study".

1.3 Social Mobilisation and metropolitan cities:

Prof. Karl Deutsch has coined the term 'social mobilisation' to denote most of the socio-demographic aspects of modernisation. He has defined social mobilisation as "the process in which major clusters of old social economic and psychological commitments are eroded and broken and people become available for new patterns of socialisation and behaviour".

Prof. Karl Dentsch* also indicates that some of the main indices of new patterns of socialisation and

behaviour are:

1) Exposure to aspects of modern life through demonstrations of machinery, buildings, consumers goods etc.

2) Responses to mass media.

3) Change of residence.

4) Change from agricultural occupations.

5) Growth of per capita income.

6) The performance of such different functions as housing, work, schooling, entertainment etc., becomes more and more dispersed between different and far apart ecological areas.

Thus the growing metropolitan areas like Pune within which new ecological sub-units tend to develop, pose and aggravate the important problem of social mobilisation (mobility) and it is really interesting to study how 'cycle' as the cheapest means of commuter transport facilitates movement of population and increases mobility.

1.4 **Objectives of the thesis and the various aspects of investigation:**

The thesis aims at analysing the impact of the cycle industry on the movement of people from one
place to another. The study explores the contribution made by 'Cycle' as a vehicle of local conveyance in increasing the mobility of population in the Urban and semi-urban areas, around the Pune city. Bicycle, as a simple but revolutionary means of local transport has and will have a significant role to play in future in increasing geographical mobility of working population in any part of the country, whether villages or cities. Such a study is quite pertinent at this juncture because 1978 is the centenary year of bicycle as an invention.

Thus study aims at examining the hypothesis that the cycle industry, with its potential production capacity, has increased and will continue to increase in future the mobility of population in cities and village and thus would establish linkages between urban and semi-urban areas developing round the cities. This is because bicycle has a distinct comparative cost advantage over the other means of local conveyance viz. motor cars, motor cycles, rickshaws, scooters and animal driven vehicles. The comparative cost advantage enjoyed by 'Cycle' in respect of cost of local conveyance will continue to increase in future as a result of the energy crisis.

It is said that the invention of the wheel and the generator were land marks in the history of human
industry. Both these inventions were concerned with speed or tempo of human activity. Any industrial activity of a place results in movement of people from one place to another. This necessitates a vehicle which increases mobility in life. This study aims at exploring the contribution made by the oldest but simple and revolutionary means of conveyance called - 'the Bicycle'.

1.4(A) Problems created by the process of industrialisation:

The process of industrialisation poses two important problems:

1) The problems of increasing geographical mobility of population especially labour population and consumer population, in market, residential areas and production areas.

2) The problem of linking villages and towns with cities or in other words solving the problem of age old separation of semi-urban and rural areas.

The bicycle industry can solve these problems of geographical immobility of population in the following ways:

1) By increasing the number of vehicles available
to consumers and labourers, whose level of income is low.

2) By improving upon the old model of the vehicle and thereby providing greater speed and convenience to riders.

3) By providing efficient after-sales-service to the bicycle riders.

4) By providing financial facilities for the purchase of bicycle i.e. bank loans.

5) By providing parking and lane facilities through town planning.

Undoubtedly the contribution made by the bicycle industry in increasing mobility of labour and consumer population is worth taking note of in the context of industrial development taking place in larger cities, semi-urban areas and the possible future industrial development which may take place in villages as an aspect of total process of economic development in future. Such a study is more pertinent in the year 1978 which is the centenary year of the 'bicycle' as an invention. It is a welcome news that an overseas plant in Tanzania has launched for the mass production of bicycle.* Such projects of mass production of

* Economic Times 21-10-81
bicycle are important and a matter of prestige for under-developed countries like India. The bicycle industry in India should first try to meet the present and future demand for bicycle in the domestic markets, and then go in for export strategies.

To increase the pedalling power, there has been many an attempt to motorize the bicycle, by mounting engines. However, this has proved to be extremely expensive not only for the manufacturer but also uneconomical for the buyer, as the cost of such a machine exceeds well over Rs.1,000/-. This no doubt is a costly affair for an ordinary worker and unattractive bargain for a better paid white-collar class person who would prefer a moped to bicycle, even at a higher price.

Unlike Western countries where the preference amongst bicycle riders have gone to speedy multi-speed models of cycles still the conventional Roadstar model is popular in India. The main factors which attribute to this preference are :

1) In case of a multispeed bicycle e.g. a 3 speed, 5 speed or a 10 speed bike, improvement in the model implies complicated mechanism and additional cost and bother of maintenance.
2) Our roads are not suitable for using the highly sophisticated models and cause much damage to vehicle, leading to heavy depreciation.

3) No Indian manufacturer has been able to produce multi-speed units successfully. Since the inputs are mainly imported, this adds to the cost of the bicycle on road.

4) Buyer's attitude, which is the result of tradition, has stuck to the conservative Indian mind. It is just from the father to the son and this has not changed the net work over the years. Traditionally a bicycle is a family asset whose ownership and use is transmitted from one generation to another. Any new model is viewed with an air of suspicion and hence, though the mechanical improvements in the model are appreciated, the ultimate choice lies back on the standard Roadstar. The younger generations are however slowly adapting to the change and demand for sports models & this has shown a slight increase over the past few years. Well, there were times when one could hardly find a girl riding a bike. Times have now changed and we find a lot of ladies' bicycles on the road now.
5) The heavy demand for bicycle from many quarters would be the result not only of the process of industrialisation but also of the growing population and numerous other factors. There has been a real upsurge of enthusiasm for this inexpensive healthy, noiseless and non-polluting form of the wheel travel. Cycle riding is recommended to the people of all ages as a health-giving exercise for safe, convenient and quick travel in larger cities and semi-urban areas where distances are not too long and where the industries are established in the vicinity of villages and semi-urban areas. It would be necessary that more and more people should cycle to their work. The cycle industry and cycling organisation should be conscious and active about the under mentioned various advantages of the two wheel bicycle travel. In fact the bicycle industry and bicycle riders should ask for more convenience and facilities like greater share of the road and bicycle as a mode of conveyance is more necessary than before in the context of development under the plans for rural development.
1.4(B) **Specific advantages of bicycle riding**

Bicycle riding has certainly some distinct advantages over other forms of conveyance and transport.

1) The cost of maintenance for a bicycle with a life of 10 years consists of the price of Rs. 450/-, plus the cost of maintenance & interest, taxes, oiling and cleaning, spare parts, tyres and tubes and repairs. The cost of repairs and maintenance of bicycle is comparatively less than that of other machine and power-driven vehicles.

2) Bicycle riding does not create the problem of pollution which is created by automobiles and other motor-power vehicles.

3) The cost of petrol, diesel, lubricants and spare parts of machine driven vehicles have grown abnormally high during the last 5 years. As a result, bicycle as a two wheeler has increased its familiarity with, not only the people of lower incomes groups but also, the white collared and higher income groups. Bicycle has come to play a supplementary role, in case of people possessing machine driven vehicles.
4) Bicycle is more convenient, quick and safe vehicle for covering long distances in semi-urban areas without creating such problems as traffic jams, high frequency of fatal accidents and congestion resulting from parking of heavy vehicles.

5) The convenience of bicycle riding can be enjoyed by all people irrespective of age, sex, occupation, locality etc. There are no problems such as obtaining a licence, paying vehicle taxes etc. for the bicycle customer. The cost of constructing a garage is also done away with.

6) The price of a new bicycle is very low in the context of the rising money incomes of the people in the various income groups. Moreover, bicycle can be purchased by instalments and with a bank finance facility. More conveniently, bicycle can be hired if outright purchase is not feasible. This is a tremendous facility to workers, farmers, teachers, students who belong to low income groups.

It is therefore interesting to study the contribution made by the bicycle industry to increasing
mobility of population in urban and semi urban area.
This study aims at investigating into the role played
by bicycle industry in increasing the mobility of the
population in PUNE city which is known as 'The Capital
of Bicycles'.

1.5 Geographical and demographic changes of
the Pune city zone 1961

After 1961 the geographical and demographical
pattern of Pune city have undergone radical changes.
In the context of these changes the bicycle industry
(in its production and demand aspects) has assumed
great importance. A new dimension has been added to
the graphical map of the Pune City. After 1961 the
year of PANSHET DISASTER the total area under the
jurisdiction of Poona Municipal Corporation, Cantonment
and Kirkee has increased to about 161 square K.M.. In
other words the maximum length of the distance to be
travelled at one time may come to about 10 to 15 K.M.
for bicycle riders. The road mileage in Pune has gone
upto about 300 K.M. and there are about 800 to 25,000
small scale, mid scale and large scale industrial units
employing 4 to 6 lack workers. Industries necessiated
construction of new labour colonies, new housing
societies for middle class and the higher class and as a
result the necessity for commuter transport has increased
everseously.
This increasing need of passenger transport is met by (1) About 15,000 motor cars (2) 2,000 taxies (3) 8,000 Auto Rickshaws (4) 25,000 to 30,000 scooters of different types and (5) about 300 P.M.T. buses.

It cannot be said that the increasing need for passenger transport is adequately met by the above types of vehicles. As a result, bicycle has come to play a significant role in increasing mobility of urban and semi urban population. About 30 to 35 thousands of bicycles are sold every year in the Pune city only, when the population has crossed the limit of 15 lakhs. Thus even a cursory look at these figures indicates the ever increasing role which the bicycle as a vehicle has to play in increasing mobility of population. The rural development and the development of small industries in future would raise the level of employment and the size of working population in the country. As a result the importance of bicycle in the urban and semi urban life is undoubtedly going to increase and the bicycle industry has to meet the increasing demand of bicycles in future. Therefore such a study of the contribution made by the bicycle industries as great mobiliser of human factor is important. This study limits itself to the contribution made by the bicycle industry in increasing mobility of population in Pune city. It is an attempt to explore
the possibility of future development of this industry in
the context of the above mentioned changes in the Poona City.

1.6 Assumptions of the investigations:

The typical advantages enjoyed by bicycle and
the consequent role assigned to it is based on the
following assumptions.

(a) It is assumed that the industry at present is
not operating at its fullest capacity and there
is scope for potential increase in production
and that the industry should give priority to meet
the present and potential local demand for
bicycle and domestic demand in the country.

(b) It is assumed that bicycle as a vehicle and
after sales service for bicycle will continue
to remain available at comparatively low cost
and the increasing demand for bicycles from
Indian population would be adequately met by
the cycle industry.

(c) The cost of maintenance and repairs of cycle
are assumed to be the minimum considering the
comparative costs for other vehicles.
(d) A cycle rider is assumed to cover a maximum distance of 20 kilometers around his place of residence.

(e) The conditions of town planning, traffic management and tax administration remain constant during the future years to come so that problems of vehicles other than bicycle will continue to get aggravated. Such problems are e.g. traffic jams, inadequate parking facility, bad conditions of roads, rising initial costs and cost of oil maintenance, repairs and increased depreciation of vehicle.

(f) It is also assumed that the cost of the local passenger transport service in the city will remain and continue to be high and efficiency low, respectively in so far as Pune city is concerned. (This assumption is tested in further analysis.)

(g) It is assumed that financial facility is available for the purchase of bicycles.

(h) It is assumed that the cycle users will continue to enjoy such advantages as less complicated rules pertaining to purchases, registration, parking, licensing taxes etc.
The bicycle industry in India is now well equipped to meet the present and future demand for bicycle not only in the domestic market but also in the foreign markets.

The process of industrialisation would continue to extend itself to the suburban areas.

1.7 Methodology adopted

The geographical coverage with reference to which the problem of mobility resulting from cycle-riding is studied, consists of the area of jurisdiction of Corporation and the cantonment area of the Pune City and the area in circle with a radius of about 20 to 25 Kms. around Pune City. The time span of the study is the period from 1961 to 1981. The Panshet Disaster in 1961 in the Pune City totally changed the pattern of population settlement, and has created the various problems of slums, population congestion, heavy traffic, parking problems rendering increase in frequency of accidents, inadequate road development and acute shortage of housing accommodation. The oil crisis has already aggravated the problem of local transportation of passenger and goods. The impact of bicycle as the cheapest vehicle of transport is studied with reference to population in the Pune City. Mobility indexes are also prepared for such study.
1) **Chapter I** - Introductory - This chapter defines the problem under study and gives the detailed format of the thesis.

2) **Chapter II** - This chapter is historical in nature and gives a historical account of the Development of Pune City in its topographical, economic, social aspects.

3) **Chapter III** - This chapter gives a brief history of the development of the cycle industry in India and ascertains the importance of the industry in an underdeveloped country like India.

4) **Chapter IV** - This chapter explains the peculiar characteristics of 'Cycle' as a vehicle for local passengers and goods transports. It also describes the various models of bicycle involved by the cycle industry in India and in foreign countries so far and the various types of conveniences they offer to the people in different walks of life. e.g. school children, college students, milkmen, workers, ladies, agriculturists etc..

5) **Chapter V** - This chapter makes the comparative cost analysis and shows how cycle is the cheapest
means of conveyance involving the lowest initial cost and the costs of operation and maintenance when compared with the other means of transport like public passenger transport (P.M.T. Bus), rickshaw, two wheeled machine driven vehicles like scooters, mopeds, motorcycles motor cars. The chapter also points out how the P.M.T. bus, the relatively cheap means of transport, is not made available adequately by the P.M.T. undertaking to the people in Pune and how people have been developing a special liking for bicycle as the cheapest means of transport.

6) Chapter VI - This chapter contains the demand and supply analysis. It discovers the potential demand for and supply of bicycle in future with reference to Pune City.

7) Chapter VII - This chapter contains analysis of the impact of bicycle on mobility of Pune population on the different routes and lengths in the Pune City. Mobility indexes are prepared to indicate the impact of bicycle on the mobility of population.

8) Chapter VIII - This concluding chapter contains important findings pertaining to the importance of cycle industry in India in future.
Research method adopted for the thesis consists of:

1) Reference to the survey of the development of Pune City.

2) Review of the local demand and supply situation of bicycle in Pune City - by making reference to latest statistics available in journals and local newspapers.

3) Various interviews with the local dealers in cycles, rickshaw owners and drivers, bankers, workers, commuters, corporators and executives in cycle industry.

Important Indian and foreign journals, articles in Economic Times and other local newspapers are also availed of for studying the historical aspect. The questionnaire issued to the different people mentioned above was used for collection of data in the form of subjective opinions. The topographical study of the Pune City made by the Pune University was used for preparing the mobility indexes.

1.8 The implications of the Analysis and hypotheses to be proved.

The types of mobility which we are going to consider are:

1) Geographical mobility resulting from topographical changes.
2) Occupational mobility resulting from changes in the occupational distribution of population in the central part of the Pune City and the urban-semi urban parts around the central part within the coverage of a circle with a radius of 20 Km.

3) Mobility of the working population resulting from the impact of industrialisation during the last twenty years.

4) Mobility of the immigrants to the Pune City.

5) Mobility needs created by the problems of traffic congestion which are the result of the lack of town planning and also because of the preservation of the historical character of the Pune City.

The impact of cycle as a means of local transport can be analysed with reference to :-

1) the comparative cost aspect

2) the supply aspect of the problem, and

3) the demand aspect.

1.8 (a) **Cost aspect of the problem**:

It is necessary to go into a detailed analysis of the comparative cost benefits enjoyed by a bicycle as the cheapest mode of transport. The monetary comparative cost
per kilometer of transport can be calculated in respect of the various alternative means of transport like two-wheeled machine driven vehicles like moped, scooter, motorcycle and three wheeled machine driven vehicles like rickshaw and P.M.T. buses in the context of comparative cost analysis. The hypothesis which is to be proved would be: The comparative cost of transport by cycle (including the variable and fixed costs) is almost negligible and the difference between the absolute, and comparative cost of transport by a cycle and that by any other means of transport is going to be wider and wider as result of rising oil prices.

In the context of cost analysis, another hypothesis which can be proved is that: in terms of the real costs (i.e.) the cost in terms of the conveniences which other vehicles have in respect of frequency of repairs, parking difficulties created by traffic rules, taxes, theft, locking of funds, absence of banking facilities etc. the comparative cost difference in case of a cycle over those of other means of transport is so large that cycle will continue to enjoy great appeal for the common commuters in the city.

Another comparative cost study can be made with special reference to the availability of public passenger transport systems like the P.M.T. Bus. The hypotheses
which can be proved in this case would be:

1) **Comparative cost of public passenger transport in Pune is very high when compared with the cost of public passenger transport in other cities like Delhi, Madras and Calcutta (almost 5 times higher than in other cities.)**

2) **Comparative cost of P.M.T. against the cost of a bicycle to a commuter for a given distance is very high and it has been growing and the real cost in terms of inconvenience to Poona people will also grow in future. In other words the lesser the degree of efficiency of P.M.T., the greater are the costs of P.M.T. travel in real and monetary terms to the rising population of the Pune City and the greater would be the demand.**

1.8(b) **Real costs of the bicycle:**

These costs can be analysed with reference to the special benefits which are conferred by a bicycle in terms of the following factors:

i) easy parking of the vehicle

ii) multiple use of the vehicle

iii) low cost of maintenance and repairs and depreciation
iv) Loan facilities available to the purchases

v) freedom from formalities like booking, licensing, taxes, R.T.O. formalities etc.,

vi) Specific advantages of cycling resulting from the problems of traffic congestion, town planning, housing developments around the Pune City and high frequency of accidents resulting from heavy traffic on the main roads. The prevalence of lanes, congestion areas created by schools, shopping centres reduce the real cost of the bicycle and at the same time they add to the monetary costs and the real costs (in terms of inconvenience) of other vehicles.

(b) **The Demand Aspect of the Problem** :

The comparative cost analysis leads to the analysis of the demand aspect. Demand for bicycle is of both types.

(a) **Original demand** from those who cannot afford to have any other vehicle as a means of transport.

(b) **Derived demand** - from those who did not demand cycle previously but started demanding bicycle as a supplementary means of conveyance.
Both the above types of demands are on the increase and new categories of people have started demanding cycle as the most convenient means of transport. There has been an absolute and relative increase in the demand for bicycle, because of the following reasons:

i) Continuous rise in the population settling down in Pune and around Pune.

ii) Changes in the occupational patterns e.g. a new class of milkmen-cum-agriculturists, workers in the various industrial complexes, office-goers, college boys, school children etc., has emerged.

iii) The traffic pattern created as a result of the occupational changes has been of two types—to-and from the central congested part to the outskirts of the Pune City.

iv) Parking problems have been created in the congested central part of the City.

v) Housing pattern has also been changing e.g. the highly sophisticated flat system has been replacing the old housing system in the Pune City. Multi-storeyed structures are replacing the one storeyed 'wada' type structure. As a result the problem of garage arrangement is created.
vi) Incomes levels are rising in such a way that people afford to buy a machine driven vehicle (as is obvious from the booking which has taken place in case of Bajaj Vehicle recently.) However the cost of the transport by machine-driven vehicles have also increased in such a way (almost 9 times the cost in 1961 the year of Panshet Disaster) that derived demand has been created for cycle. Demand projections and the present state of demand for bicycles clearly indicate that the cycle industry in India will have to cope with the ever increasing demand for bicycle in the metropolitan cities and semi-urban areas.

1.8(c) The supply analysis:

The supply analysis is mainly concerned with an important problem viz. whether the cycle industry can cope with the ever increasing demand. The supply factor is very important because it is only when the cycle industry is assumed to be in a position to meet adequately the domestic demand that government's policy of not allowing imports of bicycles and encouraging domestic manufacturers can be said to be logical.

* (In case of Pune with a total population of 19 lakhs the projected demand is expected to grow 3 times the demand for bicycles in 1979.)
The statistical details indicate that :-

i) the cycle industry can adequately meet the domestic demand, and

ii) it has export potential.

Thus it can be proved that the mobility needs of the growing populations in Indian cities can be adequately met by the cycle industry in general. In particular, the local supplies of bicycles in the Pune City are also adequate to cope with the increasing demand for bicycle. It is only when the Indian cycle industry can ensure adequate supplies of bicycle that it can have significant impact on the movement of people in the cities. Technical qualifications of a bicycle and its characteristics and the conveniences offered by it are such that bicycle as a means of local passenger transport has and is going to have in future a significant impact on mobility of population in the cities. The comparative cost advantages (both in terms of monetary and real costs) enjoyed by the owners of a bicycle are going to push up demand by bicycles in the Indian Cities and so long as the cycle industry in India ensures adequate supply of bicycle to meet the ever increasing domestic demand it is going to have a significant impact on the mobility of population in the growing cities.

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