## SOME PROBLEMS OF KOLHAPUR CITY

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CHAPTER- V

SOME PROBLEMS OF KOLHAPUR CITY

1 RESIDENTIAL PROBLEM

5.1.1 INTRODUCTION

The rapid expansion of city and growth in its industrial and commercial activities has attracted migrants to the city. The volume of migration is so large that the existing social facilities, services and houses become inadequate and create the problems. Something the changing character of function also increases the size of the city. The city’s internal structure is not static but dynamic. ¹

Kolhaupr City is expanding in its population day by day. So also, the houses are increasing in numbers. When it is compared with increasing population and the increasing number of houses, it is observed that the space, especially the residential space is the same. Due to this, number of problems created which result the growth of slum areas in the city. The data shows, (Table No.V-I) that there were 36,625 houses in 1971. The number has increased up to 61,236 and 76,211 in 1981 and 1991 respectively.
TABLE NO.V- I
KOLHAPUR CITY
GROWTH OF RESIDENTIAL HOUSES
1971 TO 1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Houses*</th>
<th>Actual growth**</th>
<th>Increase in % **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>36652</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1981</td>
<td>61236</td>
<td>24584</td>
<td>67.07</td>
</tr>
<tr>
<td>1991</td>
<td>76211</td>
<td>14975</td>
<td>24.45</td>
</tr>
</tbody>
</table>

**Author

The growth rate is remarkably high during the last two decades. The number increases doubly during the last twenty years. It means that the rate of increase is more than 107 percent. In addition to this there is more demand of housing facility due to the increase in population.

5.1.2 STRUCTURE AND LIVING CONDITIONS

The study of living conditions in any city is based on the ownership and dwelling units, the housing structures and the average number of dwelling per units. As the collection of data of the entire city is not possible, a sample data has been taken. The city can be divided into

i) Core area and
ii) Extension area.

The core area shows same distinct features like high housing density and old structures of the houses. Generally, houses are made up of mud and bricks. Some times, demolishing the old structures has developed huge appartments with ownership flats.
So all types of houses both, old and modern are found in the C
ward, which is the core area of Kolhapur City.

The extension area of Kolhapur city includes Tarabai Park,
Nagala Park, Ruikar Colony, Shivaji University area, Pratibha
Nagar, Rajarampuri, New Shahupuri, Sane Guruji Vasahat ect.
Some of the above mentioned areas like, Tarabai Park, Ruikar
colony, New Shahupuri are occupied by the rich class of society.
While the middle class occupied the remaining parts of the
extension area. Both the areas are commercial as well as
residential in nature. They have multi storey buildings and here
the density of the houses is comparatively low than core area.

During the last 25 years, the residential housing colonies are
developed considerably along the roads of Radhanagari, Gargoti
and Phulewadi. So, the rapid expansion is taking place along the
areas of old Pune- Bengalor highway. Wen it is considered that the
vacant areas found in old residential colonies, the flat systems are
developed. According to some private builders, the residential area
are facing a serious problem of space. If the Government takes the
right action and compelled to construct the middle and low income
group housing colonies, then the problem of residential space can
be solved to some extent. When it is consider with the land value
and its structure, it increases with the passage of time and due to
inflationary tendency. The land values in Kolhapur city has been
changed considerably during the last two decades. It is more than
300 percent increased. Land value is very high in some areas, like
surrounding Mahalaxmi Temple and three important roads, i.e.
area between Railway station and Laxmipuri Police station, the
area surrounding Shivaji Putala (statue) and the Mahadwar Road.
The land value is very high because these areas are commercially important.

5.1.3 LAND VALUE

The attempt has been made to study the value in Kolhapur City and for that purpose, a survey has been conducted. As the figures of land value collected from the Registration Office and from the Government Office is very low, so the author has conducted a survey of the actual land values of the area. Land values differ from area to area (Figure No. 5.1). Thus, the land values have been calculated accordingly. As the existing high values of the land, people go away from the built up area of the city and they develop new residential colonies in the extension zone of Kolhapur city.

In the conclusion, there is a very limited space for developing housing colonies, the flat system has been introduced and it is well accepted by the people. Apartments have been developed in the areas like Tarabai Park, Nagala Park, Takala and Rankala area. Apartments have replaced the old building structures of the city. But, still there is the problem of residential space in the city area. The government agency should develop some areas under urban selling for residential purpose.
KOLHAPUR CITY
LAND VALUE
YEAR 2000

INDEX
(LAND VALUE PER SQ. FEET)
- ABOVE 1000 Rs.
- 500 TO 1000 Rs.
- 100 TO 500 Rs.
- 50 TO 100 Rs.
- BELOW 50 Rs.

Fig. 5.1
5.2.1 INTRODUCTION

The urban environment is often changing. It has no rigidity or formula to make the shape or size of its own. It is merely a product of the phenomena caused by socio-economic, physical and political forces, which act on a city. The urban environment thus constituted is affected by a number of evils of which traffic is the worst offender. The impact of traffic is becoming serious as the vehicle population is increasing enormously while the urban roads find it difficult to accommodate them. This results in heavy tension between the roads and the traffic, thus culminating in a number of problems in urban environment. The impact is felt not only in environmental disruption of the city but also on economy, public health, and social and cultural life of community, aesthetics of building and monuments, plants and animals and also damage to human life to a certain extent.

Kolhapur Municipal Transportation system is most efficient when compared to other cities of Maharashtra. This organization started in 1962 with 20 buses. In 1962, out of 20 buses only 18 buses were operating on 19 routes. At that time frequency of buses was limited. In 1972, routes were increased up to 52 and buses up to 57. In this period 45 buses were in operation. A plan for the development of city bus transportation is prepared by Kolhapur Municipal Corporation in 1982-83. In this year, corporation has increased number of buses up to 82 and in the same year routes and frequencies of buses increased. In this period 77 routes were operated by Kolhapur Municipal Transport. In 1992-93, the
number of buses was increased from 82 to 106, but number of total routes remained constant i.e. 77. Surprisingly in 1997-98 the number of routes decreased to 65, the number of buses also decreased to 65. (Table No. V-II and Figure No. 5.2) shows the growth in number of buses, number of routes and number of buses in operation.

**TABLE NO.V-II**

**KOLHAPUR CITY**

**NUMBER OF BUSES AND ROUTES**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Years</th>
<th>Total Buses</th>
<th>No. of Buses in operation</th>
<th>%to total buses</th>
<th>No. of total routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1962-63</td>
<td>20</td>
<td>18</td>
<td>90.00</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>1972-73</td>
<td>57</td>
<td>45</td>
<td>78.84</td>
<td>52</td>
</tr>
<tr>
<td>3</td>
<td>1982-83</td>
<td>82</td>
<td>72</td>
<td>87.80</td>
<td>77</td>
</tr>
<tr>
<td>4</td>
<td>1992-93</td>
<td>106</td>
<td>96</td>
<td>90.57</td>
<td>77</td>
</tr>
<tr>
<td>5</td>
<td>1997-98</td>
<td>65</td>
<td>59</td>
<td>90.77</td>
<td>65</td>
</tr>
</tbody>
</table>

*Source*: Kolhapur Municipal Transport Office Record.

**5.2.2 EXISTING CITY BUS TRANSPORTATION IN CITY AREA**

At present, (1997-98) there are 65 bus routes being operated by the K.M.C. (Kolhapur Municipal Transport). These 65 routes give service to the Kolhapur City and its surrounding. The bus carrying capacity is 85,000 persons per day. Kolhapur Municipal Transportation plays an important role in the transportation of population in the city limit and surrounding area.

The Table No.V-III and Figure No. 5.3 shows data regarding increase in number of passengers from 1962-63 up to 1997-98. In
KOLHAPUR CITY
NUMBER OF BUSES AND ROUTES
(1962-63 TO 1997-98)

Fig. 5.2
1962-63 the number of passengers transported by K M T was 84.54 lakh. In 1972-73, it was increased by 117.43 lakh and accounts for 201.97 lakh passengers were being transported by K.M.T. While in 1982-83, it has increased up to 312 lakh. The record number of passengers i.e. 4 crore passengers had been transported in 1992-93. But in 1997-98, it is observed that the number of passengers has decreased up to 305.11 lakh. The reason behind this decline might be private transportation facility, growth in the personal vehicles, low quality bus service, growing number of buses out of order and irregular payments of workers. Along with this the number of routes were also decreased up to 65 as compared to 77 in 1992-93. Even though, there is increase in the ratio of total buses to number of actually operating buses by 90-77 percent and it is highest in total period of transportation.

TABLE NO.V-III
KOLHAUPR CITY
AVERAGE NUMBER OF PASSENGERS TRANSPORTED BY KOLHAPUR MUNICIPAL TRANSPORTATION.
(1962-63 TO 1997-98)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Average passengers transported in Lakh *</th>
<th>Actual growth **</th>
<th>Growth in % **</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1962-63</td>
<td>84.54</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>1972-73</td>
<td>201.97</td>
<td>117.43</td>
<td>38.90</td>
</tr>
<tr>
<td>3</td>
<td>1982-83</td>
<td>312.00</td>
<td>110.03</td>
<td>54.48</td>
</tr>
<tr>
<td>4</td>
<td>1992-93</td>
<td>393.00</td>
<td>81.00</td>
<td>25.96</td>
</tr>
<tr>
<td>5</td>
<td>1997-98</td>
<td>305.11</td>
<td>-87.89</td>
<td>-77.64</td>
</tr>
</tbody>
</table>

Source- * KMT Office Record, ** Author
KOLHAPUR CITY

AVERAGE NUMBER OF PASSENGERS TRANSPORTED BY K.M.T.
(1962-63 TO 1997-98)

Fig. 5.3
5.2.3 IMPORTANT CITY BUS ROUTES

The city transport of Kolhapur is controlled by seven centers. These centers are Bhavani Mandap, Gangaves, Sonya Maruti Chowk, Shivaji Putala, Shahu Khasbag Maidan, Maharana Pratap Chowk and Dasara Chowk. (Figure No. 5.4A) Along with these centres, there are some sub centres e.g. Rankala Choupati, Ambai Naka, Sakoli corner, Ress course Naka, Belbag, Toraskar chowk, Ramanandnagar, Sane Guruji Vasahat etc.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Terminal points</th>
<th>No of Routes</th>
<th>% to total</th>
<th>Total no. of trips</th>
<th>% to total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bhavani Mandap</td>
<td>19</td>
<td>29.23</td>
<td>590</td>
<td>37.77</td>
</tr>
<tr>
<td>2</td>
<td>Shivaji Putala (Statue)</td>
<td>08</td>
<td>12.30</td>
<td>156</td>
<td>09.99</td>
</tr>
<tr>
<td>3</td>
<td>Gangaves</td>
<td>15</td>
<td>23.08</td>
<td>326</td>
<td>20.87</td>
</tr>
<tr>
<td>4</td>
<td>Khasbag Maidan</td>
<td>07</td>
<td>10.77</td>
<td>188</td>
<td>12.04</td>
</tr>
<tr>
<td>5</td>
<td>Maharana Pratap chowk</td>
<td>07</td>
<td>10.77</td>
<td>172</td>
<td>11.01</td>
</tr>
<tr>
<td>6</td>
<td>Sonya Maruti chowk</td>
<td>02</td>
<td>3.08</td>
<td>42</td>
<td>02.69</td>
</tr>
<tr>
<td>7</td>
<td>Dasara chowk</td>
<td>07</td>
<td>10.77</td>
<td>88</td>
<td>5.63</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>65</td>
<td>100</td>
<td>1562</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source*: K M T Office Record.

It is observed from Table No.V-IV and Figure No.5.4B that number of trips are found more from Bhavani Mandap. It accounts for 37.77 percent, of total trips and 29.23 percent routes are operated from this point in all directions. The Shivaji Putala
KOLHAPUR CITY
MAIN BUS TERMINALS AND NUMBER
OF TRIPS

INDEX
1. SHIVAJI PUTALA (STATUE)
2. BHAVANI MANDAP
3. GANGAVES
4. SHAHU KHASBAG MAIDAN
5. MAHARANA PRATAP CHOWK
6. SONYA MARUTI CHOWK
7. DASARA CHOWK

Fig. 5.4 A
KOLHAPUR CITY
MAIN TERMINAL POINTS,
NUMBER OF ROUTES AND TRIPS

INDEX

- Routes
- Trips

1 - BHAVANI MANDAP
2 - SHIVAJI PUTALA (STATUE)
3 - GANGAVES
4 - KHASBAG MAIDAN
5 - MAHARANA PRATAP CHOWK
6 - SONYA MARUTI CHOWK
7 - DASARA CHOWK

Fig. 5.4 B
terminal is situated in the central part of the city and 156 trips (9.99 percent) are carried out from this point and 12.30 percent i.e. 8 routes are operated from this point while the Bhavani Mandap and Gangaves centers contribute for 58.64 percent i.e. 916 trips and more than 50 percent i.e. 52.31 percent (34 routes) routes operated. Thus, it can be stated that these two terminals play an important role in city transportation.

The transportation towards the south part of city is conducted by Shahu Khasbag Maidan terminal except Uchagaon. It conducts 188 trips and this terminal has operated accounts for 12.04 percentage of the total trips, while seven routes (10.77 percent). Maharana Pratap Chowk controls the transportation towards the east part of the city. While, Dasara chowk controls transport to both east and west parts. The percentage of total trips and routes operated by these terminals are 11.01 percent (172 trips) and 10.77 percent (7 trips) and 5.63 percent (88 trips) and 10.77 percent (7 trips) respectively. Sonya Maruti Chowk terminal contributes hearty 2.69 percent (42 trips) and 3.08 percent (2) routes operated.

It can be concluded that largest number of city transport trips and routes are operated by Bhavani Mandap terminal and Sonya Maruti chowk terminal conducts lowest number trips and routes.

5.2.4 PEAK POINTS

Heavy transportation is the major causes of pollution especially air, sound /noise and too same extent, mental pollution and the degree of pollution is remarkable in the seven city bus terminals in Kolhapur city. The survey has been conducted in order to find out the trip generation schedule and its relation with the different hours of a day. The data has been collected from seven important bus terminals. i.e. Bhavani Mandap, Gangaves, Shahu Khasbag Maidan, Maharana Pratap Chowk, Shivaji Putala, Dasara Chowk, and Sonya Maruti Chowk.

Table No. V-V and Figure No. 5.5 shows the frequency of bus from 6 am to 12 Midnight. The table also shows main bus stops, period of trips, Number of trips and their percentage.

The analysis of the individuals bus terminals shows different results. It is observed that Bhavani Mandap Bus Terminal has three peak hours' periods i.e. between 10 am to 12 noon, 4 pm and 6 pm to 8 pm. During these three-peak hour periods, 43.75 percent of the total buses are found running on these routes, while there at the timing of 10 pm to 12 midnight in the frequency of the buses is found comparatively low i.e. 5.5 percent. The remaining time periods shows the moderate frequency of buses.
<table>
<thead>
<tr>
<th>Sr No</th>
<th>Main city Bus Points</th>
<th>Time period</th>
<th>Total no.of Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>6-8 am</td>
<td>8-10</td>
</tr>
<tr>
<td>1</td>
<td>Bhavain Mandap</td>
<td>10.85</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>Shivaji Putala</td>
<td>7.10</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Gangavas</td>
<td>15.03</td>
<td>49</td>
</tr>
<tr>
<td>4</td>
<td>Shahu Khasbag Maidan</td>
<td>12.77</td>
<td>24</td>
</tr>
<tr>
<td>5</td>
<td>Maharana Pratap Chowk</td>
<td>14.6</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Sonya Maruti Chowk</td>
<td>14.29</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Dasara Chowk</td>
<td>13.64</td>
<td>12</td>
</tr>
</tbody>
</table>

(Figures in the bracket indicate percentage of trips)

Source- Author

Similarly, Shivaji Putala bus stand indicates four peak hour periods. One is in the morning at 10 to 12 noon, second is in the 12 noon to 2 pm, third is at the 2 pm to 4 pm and last is the 4 pm.
KOLHAPUR CITY
MAIN BUS STOPS, TRIP PERIODS AND NUMBER OF TRIPS

Fig. 5.5
to 6 pm respectively. Percentage of total buses during these peak hours has observed high i.e. 61.71 percent. During late hours of the day, the frequency of buses is very low i.e. 1.92 percent, and the moderate frequency of buses is observed in the morning during 6 am to 8 am to 10 am and 6 pm to 8 pm and 8 pm to 10 pm i.e. 36.55 percent.

The Gangaves bus stand has more frequency of buses during three peak hours periods i.e. from 6 am to 8 am, 10 am to 12 noon, from 12 noon to 2 pm respectively. The percentage of these three peak hour periods is 43.83, while the frequency of buses is very low at 10 pm to 12 midnight (1.53 percent). During the remaining time periods, the frequency is moderate.

Shahu Khasbag Maidan bus stop has highest frequency of buses during four time periods i.e. 6 am to 8 am, 8 am to 10 am, 10 am to 12 noon and 6 pm to 8 pm respectively. In these time periods 55.84 percent trips are covered. The moderate bus frequency has been observed at the period of 12 noon to 2 pm, 2 pm to 4 pm, 4 pm to 6 pm and 8 to 10 pm respectively which is 42.03 percent buses are found running this period. The remaining time period i.e. 10 pm to 12 midnight the bus frequency is very low (2.13 percent).

Maharana Pratap Chowk shows high frequency during 6 am to 8 am, 10 am to 12 noon, 12 noon to 2 pm and 8 pm to 10 pm. And, moderate frequency is observed during 8 am to 10 am, 2 pm to 4 pm and 6 pm to 8 pm respectively. It happens so because most of the people coming from Gandhinagar for business purposes in the Kolhapur city early in the morning and go to their place of residence of about 8 pm to 10 pm some of them who have their business establishment in Kolhapur city go back to their
residence during late hours of night i.e. time period is 10 pm to 13 midnight.

The Sonya Maruti Chowk bus stop has found mainly connected with rural areas. These are four high peak hours in the frequency of buses, i.e. 6 am to 8 am, 8 am to 10 am, 12 noon to 2 pm and 4 pm to 6 pm. In this time period, out of total trips, 57.16 percent trips are covered. Remaining four peak hours are moderate, i.e. 10 am to 12 noon, 2 pm to 4 pm, 6 pm to 8 pm and 8 pm to 10 pm. Most of the people return immediately after the work is over. Hence this bus stop shows above four moderate peak points in the frequency of buses.

Dasara Chowk indicates four high peak hours during 6 am to 8 am, 8 am to 10 am, 6 pm to 8 pm and 8 pm to 10 pm. This bus stop connected to more rural areas and mainly Gandhinagar. 10 am to 6 pm are moderate peak hours of frequency of bus. There is one low bus frequency peak hour i.e. 10 pm to 12 midnight.

3 WATER SUPPLY

5.3.1 INTRODUCTION

Water pollution is serious because waterborne infections and diseases of the alimentary tract constitute 60-80 percent of all illness in India. Fourfifths of India’s villages and about one –half of urban population are without protected water supply. It is unfortunate that while India’s villages provide 46 percent of the national wealth, they are not getting safe drinking water supply. Water pollution is most of the rivers, lakes and pounds has
increased, and the water is not considered safe for human consumption without adequate treatment.³

Shrimant Shivaji Raje IV has started the water supply scheme of Kolhapur City in 1881. At the time, Kalamba Tank that was built and filtered water has been supplied to the city. It is very peculiar that, when cities like, Mumbai, New Delhi, Calcutta and Chennai supplied non-filtered water from startle, from tanks or sedimentation tank, at that time, Kolhapur City was getting supply of filtered water. After words, water supply of Kolhapur City improved by building water supply center at Balina near Bhogawati in 1949. This work includes water tank near Chhatrapati Tararani Chowk, Jackwell, water purification center and Padmaraje Water tank near Chambukhdi. Maharashtra Government has considered the increasing need of water supply and Bawada water supply centre has been built in 1975. After that in 1985 Maharashtra Irrigation Department has built a water supply centre at Nagdevwadi.⁴

Kolhapur water supply centre had been hand over to Kolhapur Municipal Corporation on 1 January 1992, by Maharashtra Irrigation Department.

5.3.2 WATER SUPPLY

During the last four decades, Kolhapur City is growing rapidly. According to 1991 census, it has a population of 4,06,370 persons formerly the Kolhapur City was known as a city of tanks. In and around city, there are more then fifty small and big tanks. River Panchaganga on western northern and NorthEast Side surround the city. The present source of water supply is quite
inadequate for the rising need of the water supply. Recently several
tanks have been fitted up for better urban land use. When
population was limited in old days the city was well-supplied tap
water for domestic and other uses. The problem of water shortage
has become acute since independence, because of the rapid growth
of population. The Table No. V-VI and Figure No. 5.6 shows that
that population growth and water supply are not directly
proportional i.e. water supply is not sufficient to fulfill the
increasing demand of population.

TABLE NO. V-VI

KOLHAPUR CITY

POPULATION GROWTH AND WATER SUPPLY

1961 TO 1998

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Year</th>
<th>Population</th>
<th>Water supply</th>
<th>Per capita water supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Million</td>
<td>Million</td>
<td>liters***</td>
</tr>
<tr>
<td>1</td>
<td>1961</td>
<td>187442</td>
<td>31.80</td>
<td>169.52</td>
</tr>
<tr>
<td>2</td>
<td>1971</td>
<td>259050</td>
<td>44.03</td>
<td>169.96</td>
</tr>
<tr>
<td>3</td>
<td>1981</td>
<td>340625</td>
<td>53.60</td>
<td>157.35</td>
</tr>
<tr>
<td>4</td>
<td>1991</td>
<td>406370</td>
<td>85.00</td>
<td>209.16</td>
</tr>
<tr>
<td>5</td>
<td>1998</td>
<td>463170</td>
<td>85.00</td>
<td>183.51</td>
</tr>
</tbody>
</table>

** K M C City Water Supply (Report)
*** Author

The Kolhapur City combines the characteristics of an
industrial and administrative centre and it continuously suffers
from the scarcity of water. In 1961, the city was supplied with
31.80 M. liters of water and per capita water supply was 169.52
Lts. The water supply was increased to 44.03 M. Lts, in 1971.
While in 1981, it has increased up to 53.60 M. Lts but per capita
KOLHAPUR CITY
POPULATION AND WATER SUPPLY
(1961 TO 1998)

Fig. 5.6
water supply decreased i.e. 157.35 Lts. The table shows that in 1991, per capita water supply was increased up to 209.16 Lts. Recently in 1998, the water supply has the same capacity of 85 M. Lts. of water but it has been increased the per capita water supply has been decreased up to 183.51 Lts. Considering the present supply of water, it can be estimated that, growing population of Kolhapur will need extra 15 M.Lts of water in 2001.

5.3.3 WATER SUPPLY STATION

Kalamba water tank, Balinga water tank with Nagdevwadi and Kasaba Bawada water tank are the existing water supply schemes of Kolhapur city. The existing capacity of each water supply station is given in Table No. V-VII and Figure No. 5.7

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the water supply station</th>
<th>Capacity Million Lts. Per day</th>
<th>% to Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kalamba</td>
<td>08.00</td>
<td>09.41</td>
</tr>
<tr>
<td>2</td>
<td>Balinga with Nagdevwadi</td>
<td>41.00</td>
<td>48.24</td>
</tr>
<tr>
<td>3</td>
<td>Kasaba Bawada</td>
<td>36.00</td>
<td>42.35</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>85.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source- KMC

Balinga and Bawada are located on bank of Bhogawati and Panchaganga rivers respectively. Kalamba water supply station is located on Kalamba tank. These three water supply stations use
KOLHAPUR CITY
WATER SUPPLY STATIONS AND THEIR CAPACITY
YEAR 1998

Fig. 5.7
eighteen water towers and tanks located in different parts of the city to supply water to the city, which is brought.

The Table No. V-VIII and Figure No. 5.8 shows the increase in domestic and industrial water connections. In 1961 there were 8717 domestic and 316 industrial water connections.

TABLE NO. V-VIII
KOLHAPUR CITY
WATER CONNECTIONS
1961-1998

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Water connection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Domestics</td>
<td>Industrial</td>
</tr>
<tr>
<td>1</td>
<td>1961</td>
<td>8717</td>
<td>316</td>
</tr>
<tr>
<td>2</td>
<td>1971</td>
<td>15788</td>
<td>490</td>
</tr>
<tr>
<td>3</td>
<td>1981</td>
<td>23972</td>
<td>524</td>
</tr>
<tr>
<td>4</td>
<td>1991</td>
<td>33205</td>
<td>551</td>
</tr>
<tr>
<td>5</td>
<td>1998</td>
<td>46155</td>
<td>603</td>
</tr>
</tbody>
</table>

Source- K M C Water Supply Office.

In 1971, the number of domestic and industrial water connections are increased up to 15788 and 490 respectively. In this way in 1998, the city has 46155 domestic and 603 industrial water connections.

5.3.4 QUALITY OF WATER

The lack of proper means of disposal of human waste and industrial wastes constitute a major impact on quality of life in cities. According to NEERI, 70 percent of India’s water is unfit for human consumption. The city sewage operations are serious threat
KOLHAPUR CITY
WATER CONNECTIONS
1961 TO 1998

Fig. 5.8
for water pollution in cities. Only less than a half of the collected sewage is treated and the rest is discharged in rivers, resulting the contamination of water and thus, exposing 70-90 percent of people to unsafe drinking water. The Kolhapur City also faces these problems, which depletes the quality of water.

The quality of drinking water is polluted in particular seasons. It is observed that water is polluted mostly at the beginnig of raining season and in the month of November. River Panchaganga and Bhogawati are the main source of drinking water of Kolhapur. The sugar factories located on the banks of these two rivers, flush out the molasses at the beginning of monsoon. The concentration of molasses is so heavy that during this period, it is not possible for even filter centres to purify the water completely. So in the month of June, the supply of drinking water is fully polluted.

Another important source of water pollution is the factories of Kolhapur. In the month of November, most of the factories clean their tanks and machines and this water drains into river. This gives scope for rising gastrinlechtnal disorders likes dysentery, diarrhea, cholera etc. in the month of November. Another hazardous disease caused by this water pollution is jaundis. The fevers like typhoid are also caused by this polluted drinking water. Jintti Nala is one of the important streams, which runs through the heart of the city. It collects all sewage and wastewater and joins the river Panchaganga about 500 m upside the Bawada water supply station. It brings heavy pressure on the filtration plant of this station.

The city also shows rapid growth in industries. These developing industries create many problems. The effluents from
these industries are released into water streams like Bhogawati and Panchaganga River. These streams are main source of drinking water. So disorder of the health of people. The industrial effluents damage liver, kidneys, respiratory system and nervous system of aquatic animals and kill them. The pollution also enters the fishes when the men consume them and they cause serious effects on health.

Nearly thirty- percent population drinks impure and contaminated water. The natural disasters also cause the problems in water supply. During the heavy floods, city's drinking water supply is totally disturbed. During the flood period, drinking water is contaminated with variety of worms. The contamination of drinking water of Kolhapur City is increased due to improper running of water filter plants.

The city will need about 100 M. Its, of water at the end of 20th century. Most of the pipelines, supplying water to the old parts of the city should be removed completely and new pipelines should be installed. It will enhance the regular and better water supply to the city. Another solution for the drinking water problems is supply of water directly from Radhanagari dam situated about 45 kms from the Kolhapur City.
5.4.1 INTRODUCTION

Mere absence of disease or indifferent state of health is a negative approach towards achievement of health. "Health" envisages the full development of the physical, mental and spiritual powers with which an individual is endowed. This means there is always scope for further improvement of health i.e. health plus. The health promotion can be achieved by higher standard of living, viz., good food, proper housing, adequate working facilities, etc. Positive health means promotion of health at its optimum. Thus the positive concept of health is embodied in the definition of World Health Organization as, "Health is a State of complete physical, mental and social well being and not merely absence of disease or infirmity".

Health problem in a developing country such as India, are predominantly reflections of poverty. Substantial decrease of morbidity is more likely to be accomplished through an improved system for health including preventive service than from further advances in medical science. Indeed in the end such improvements are likely to result from all round social and economic development, from structural change in the society of some kind. Therefore, the necessity of sufficient availability of health services such as hospitals, health centres, beds, doctors and other health personal can hardly be over emphasized. Urban health in developing countries has distinctive characteristics. There are communicable diseases on one hand and proliferation of non-communicable diseases, triggered by urbanization and
industrialization on the other. This dual characteristic complicates the health scenario. Added to this is the fact, that much of the natural environment, which contributes to the etiological factors of diseases, is lost or replaced by a man-made environment. While the physical stress factors of the natural environment are buffered, both communicable and degenerative diseases thrive under a new system of bio-social interaction.

Health in India today stands at a cross-road. Most of our citizens are deprived of minimum health services. Not to speak of rural India, even in metropolitan cities one has to wait long to get healing touch of a reputed doctor. On the other hand countries disease spectrum is itself getting transformed. Many new diseases are coming in because of changing ecological conditions. Infect, India faces a disastrous double burden of disease. Most old diseases continue to be rampant while new ones are making rapid triodes. The Indian death rate is no longer going down.

Health of a nation is not depend on number of doctors and hospitals but there are several factors too. It may be one of the many factors. It depends on food habits, living condition, and ecology, changing habits, immunity to medicines and of course, the condition of medical services. All these situations are deteriorating so fast that it will not be a surprise if by the end of the century, India will be an unenviable country with so called diseases of poverty and affluence coexisting with each other. In addition, of course a factor, which indirectly controls our health in the literacy rate.
5.4.2 HEALTH CARE FACILITIES

An effort has been made in this work to study the health care facilities in Kolhapur City. It is observed, the Table No. V-IX shows the medical care facilities in Kolhapur City.

TABLE NO. V-IX
KOLHAPUR CITY
MEDICAL FACILITIES
1997-98

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Medical facilities</th>
<th>Corporation</th>
<th>Government</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No of beds</td>
<td>No of beds</td>
<td>No of beds</td>
<td>No of beds</td>
</tr>
<tr>
<td>1</td>
<td>General Hospital</td>
<td>3</td>
<td>1</td>
<td>396</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Specific Hospital</td>
<td>-</td>
<td>-</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>Maternity Hospital</td>
<td>2</td>
<td>30</td>
<td>30</td>
<td>71</td>
</tr>
<tr>
<td>4</td>
<td>Dispensaries*</td>
<td>19</td>
<td>-</td>
<td>880</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>24</td>
<td>5</td>
<td>436</td>
<td>500</td>
</tr>
</tbody>
</table>

Source- K M C Office

It is observed that Kolhapur City has 80 medical institutions with 1156 beds. But along with them there is also presence of large number of private nursing homes. There are 980 private dispensaries, 19 corporation and 1 private dispensary. In Kolhapur City medical facilities are provided by 3 corporation hospitals with 125 beds, 1 Government hospital with 396 beds and 11 private hospitals with 71 beds. Along with these hospitals there are two maternity homes with 95 beds run by corporation. 1 with 30 beds run by Government and 32 private maternity homes with 327 beds. Along with this hospitals some facilities for special diseases, such as ENT, Cardiology, Urology, neurology, T. B., Stomach pediatrics etc.
The projected population of Kolhapur City in the year 2001 is 472115 persons. Thus Kolhapur has one bed for more than 408 persons. Kolhapur also has good number of doctor numbering about 760. Thus for more than 621 people there is one doctor in the city. Additional to this approximately 100 medical doctors graduating each year. Though some joint medical services outside the city, large number of them prefers to live in the city, where job opportunities and working conditions are better. The medical practitioners are mainly practice allopathic, but some of them are practicing ayurvedic, homeopathy etc.

The smaller hospitals lack in basic diagnostic facilities, but they treat successfully the local population for minor diseases. These hospitals do not have modern equipment and diagnostic facilities. So that much time's serious patients have to be rushed to Miraj, Pune, Mumbai etc.
REFERENCES


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