

CHAPTER - V

ANALYSIS OF HEALTH CARE SYSTEMS IN VIDARBHA

.....

- 5.1 Introduction
- 5.2 Availability of medical services in
Maharashtra State
- 5.3 Distributional pattern of medical
services in Vidarbha
 - 5.3.1 Methodology
 - 5.3.2 Work load factor
 - 5.3.3 Districtwise distribution of Beds
- 5.4 Conclusion

R e f e r e n c e s

.....

5.1 INTRODUCTION :

Care of the health has been declared as a fundamental human right. The responsibility lies with government for taking care of the health of its people. The study of modern medical geography deals with the localizations of medical services apart from the study of distribution of diseases, which was the focal theme of traditional Medical Geography.

The health services may be analysed in terms of the community for which they serve and health concern they deal with. These services are the integral part of a particular health system and represent responses to health concern and to the health needs. But it has been found out that health services are not examined by relating them to the community to which they serve and hence unequal distribution of medical facilities are observed in any region (Pandurkar, 1981).

The concept of health care includes not only medical care but also services for promotion of health, prevention of diseases, early diagnosis and rehabilitation of the patients. All these have become parts of 'comprehensive health care'. The major health care is delivered mainly by private doctors in the rural and urban areas. The major task of a medical geographer towards health planning is to suggest suitable sites for locating the medical centres. The major work in health planning is to determine the relation between the incidence of diseases and identification and demarcation of

the suitable sites of medical services. While considering this major aim of health planning, the author in this chapter has attempted to analyse the existing health care system in the Vidarbha Division.

The study of present status of medical facilities in Vidarbha division is based on 1966, 1971, 1976, 1980, and 1984 health statistics. For this study the researcher has calculated various ratios such as, 'Hospital Bed ratio', 'Bed Population' and 'Doctor Population Ratio'. For finding out the regional imbalance in medical facilities, the work load factor has been calculated which is mainly based on Bed-population ratio and the districts of better served medical facilities are demarcated. Taking into consideration the volume of population and the area in which this population is distributed, the analysis is made.

5.2 AVAILABILITY OF MEDICAL SERVICES IN MAHARASHTRA :

The availability of medical services was very poor in early 20th century in Maharashtra State. Most of the medical facilities were available only in the major cities of Maharashtra. Before 1960, the uneven distribution of medical was observed in this state. Cities were always in surplus facilities and villages were in deficit. Even today, there is no much change in the situation. Infant mortality rates and maternal mortality rates were very high in the rural areas of Maharashtra. The rural areas were suffering seriously from the major epidemics

like cholera, malaria and diarrhoea. The water-borne diseases were taking active toll in the villages of Maharashtra. Availability of medical aid at appropriate time was rare. Health education and knowledge of basic sanitation was rarely found amongst the villagers. There were hardly any qualified medical personnel available in rural areas. Due to poverty, ignorance, lack of transportation facilities, scattered nature of villages and poor economic standard and uncertainty of professional prospects for doctors settling in villages, death rate was high in Maharashtra. Even today medical services are unevenly distributed, although medical facilities in the state are above national average.

During the early period of 20th century the missionaries worked for improving the health status of the people of Maharashtra. But the work of missionaries was only for the benefit of small group of people. The missionary hospitals were located in urban and sub-urban areas like Bombay, Pune, Miraj, Amraoti, Nagpur, Kolhapur etc.

Government of India has appointed a committee called the 'Health Survey and Development Committee' under a Chairmanship of 'Sir Joseph, Shore' for systematic and planned efforts for improving the status of medical services in the rural areas. According to the recommendations of the 'Shore Committee' Government of Maharashtra has introduced the Public Health Centres (PHC), Public Health Units (PHU) and subcentres and subsidised medical practitioners in the rural areas of Maharashtra.

The purpose of government behind localising these centres was of diversification and decentralization of medical facilities and making them available to the community which really need it. At present these centres are functioning well in tackling rural health problems of Maharashtra.

5.3 DISTRIBUTIONAL PATTERN OF MEDICAL SERVICES IN VIDARBHA :

5.3.1 Methodology :

In the context of health planning author in this chapter, proposes to examine the status of medical facilities in the Vidarbha. The study of present status of medical facilities is based on the 1966, 1971, 1976, 1980 and 1984 health statistics. For this study the hospital bed ratio, bed population ratio and doctor-population ratio's were calculated. For finding out the regional disparities in medical services the workload factor is calculated which is mainly based on bed-population ratio and the districts of better served facilities and the districts which are poorly served have been demarcated (Fig.5.1, 5.2 and Table 5.1).

Fig.5.1 shows HB ratio, BP ratio and DP ratios (1976, 1980, 1984) which are used as a yardstick to measure the intensity of health facilities.

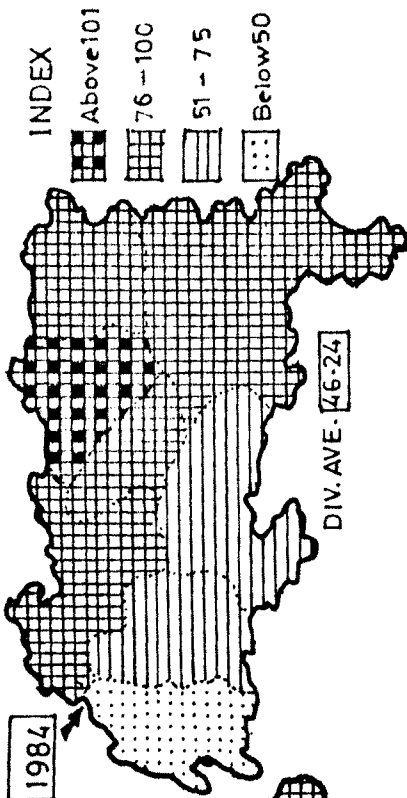
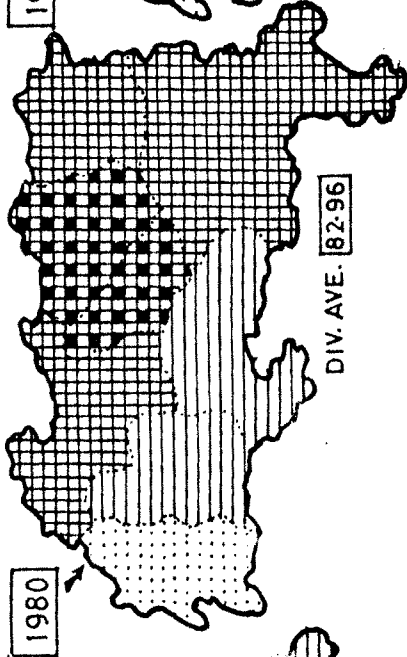
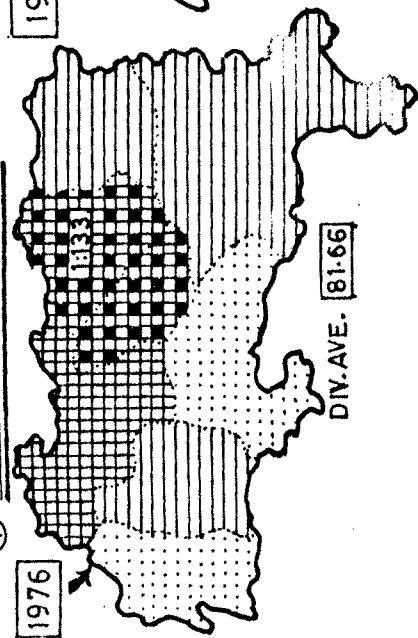
1) Hospital Bed Ratio is calculated as :

$$HB = \frac{\text{No. of beds available in the district}}{\text{No. of hospitals available in the district}}$$

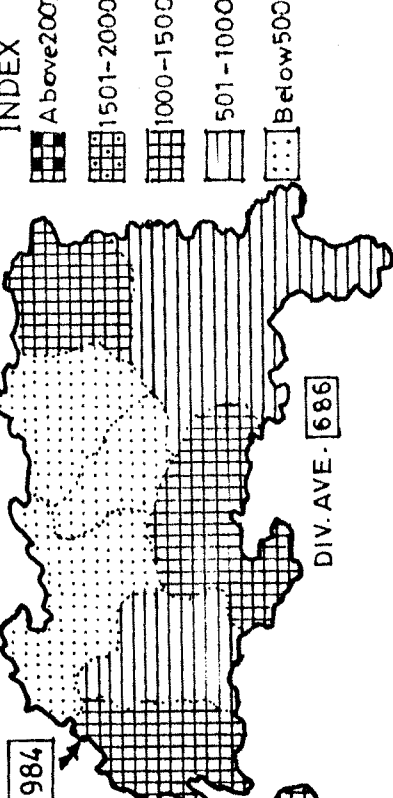
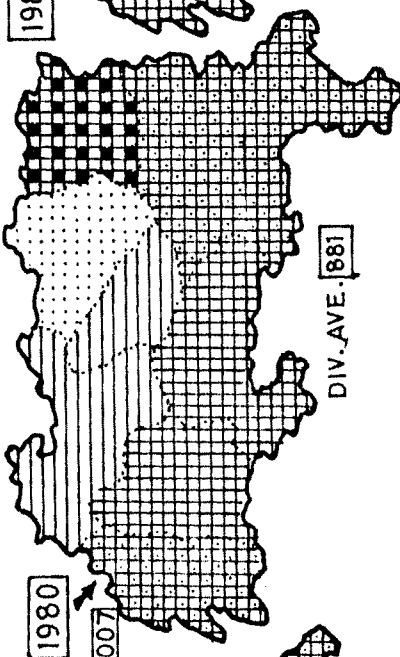
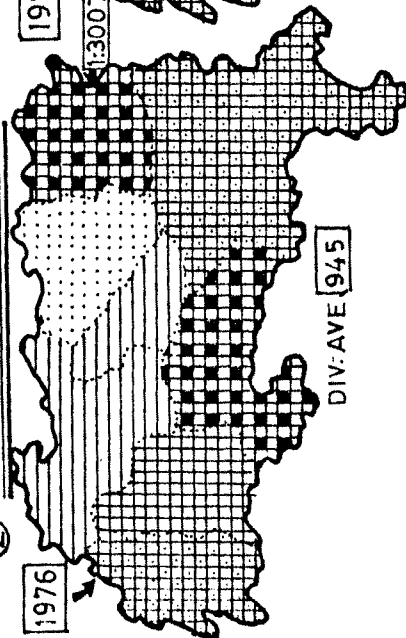
AVAILABILITY OF MEDICAL FACILITIES

① HOSPITAL BED RATIO

DIV. AVE. = DIVISION AVERAGE



② BED POPULATION RATIO



③ DOCTOR POPULATION RATIO

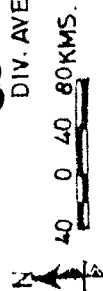
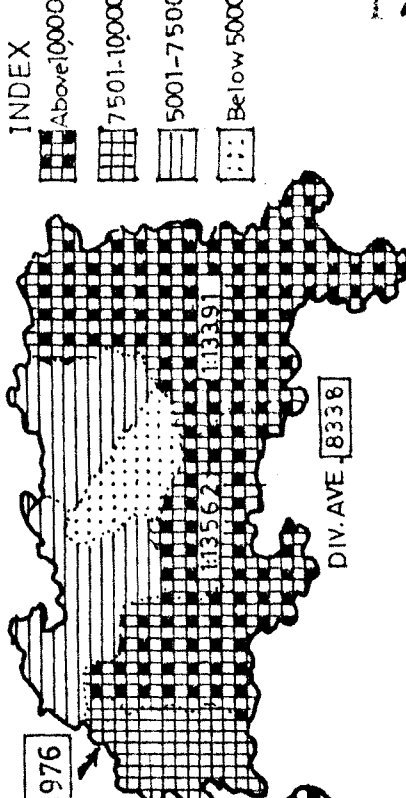
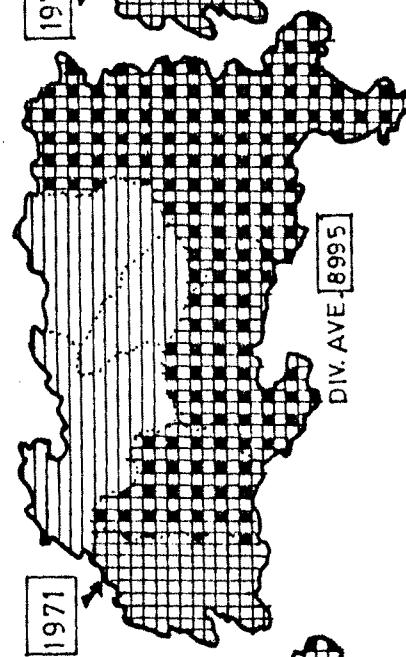
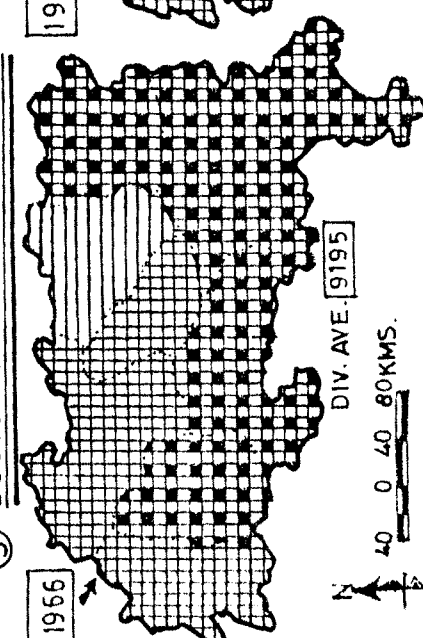


Fig. 5-1

- 2) Bed population ratio is calculated for the 1976, 1980 and 1984 which is also called as work load factor based on -

$$BP = \frac{\text{Population served in 000' in the district}}{\text{General use in patients beds}}$$

- 3) Doctor population ratio's have calculated for the year 1966, 1971 and 1976 which are as follows -

$$DP = \frac{\text{No. of people in the particular district}}{\text{No. of Doctor's available in that district}}$$

The choropleth map of hospital bed ratio shows that the Nagpur, Amraoti and Wardha are the districts which have been served better medical facilities. Divisional average of HB ratio in 1976 was 1:81.6 which means that 81.6 beds are available for the benefit of the patients allotted in each hospital. In 1980 and 1984 Nagpur, Wardha and Amraoti districts were having more beds than the divisional average. Buldhana is very badly served by medical facilities as HB ratio was very less during 1976 (1:41), 1980 (1:37.4) and 1984 (1:41.8). All districts except above referred 3 districts are lacking where HB ratio was below the divisional average.

The graph of doctor population ratios for 1966, 1971 and 1976 shows that Akola, Yeotmal, Bhandara and Chandrapur districts show less numbers of doctors are serving for majority of the population. This ratio is very less in Amraoti, Wardha

and Nagpur district. In 1976 Chandrapur and Yeotmal districts where Doctor population ratio was 1:13391 and 1:13562 respectively. It means 1 Doctor serves 13,391 population. Wardha is the district where much of the doctors were available and DP ratio was 1:4333 in 1976 (Div.Ratio was 1:8338 in 1976).

Bed population ratio of Vidarbha division for all districts have been calculated. Fig.5.1 (2) shows that Bhandara and Yeotmal districts are badly served by medical facilities in 1976. The bed population ratio was 1:2101 in Yeotmal and 1:3006 in Bhandara district. It means 1 bed is used by 2101 people in Yeotmal district. Nagpur is the district where Bed population ratio is satisfactory as for population of 1976, 1980 and of 1984. Nagpur districts ratio was 1:466 (1976), 1:465 (1980) and 1:406 (1984) while Wardha and Amraoti districts ratio shows better medical facilities. Bed population ratio of Amraoti and Wardha district in 1984 was 1:478 and 1:455 respectively. Division average of BP ratio in 1984 was 1:686. It was higher than the state average (state average 1:587). Except Wardha, Nagpur and Amraoti districts in all other districts BP ratio was higher than the divisional average. Highest Bed population ratio was observed in 1984 as 1:1356 in Buldhana, 1:786 in Akola, 1:1199 in Yeotmal, 1:1310 in Bhandara and 1:913 in Chandrapur district.

Generally it may be stated that medical services are available more than the requirement in the Nagpur, Wardha and Amraoti districts. They are concentrated better in the cities

TABLE 5.1 : Vidarbha Division - Availability of medical facilities.

District	Number of existing beds	Number of required beds if the existing beds are distributed as per population. (expected beds)	Difference between existing beds and expected beds (Co.2-3)	Number of required beds as per Shore norms (Shore norm 1:1000)	Number of Deficit/ surplus beds as per Shore norms (Col.2-5)
----------	-------------------------	---	---	--	--

YEAR 1984

Buldhana	1,173	2,320	- 1,147	1,592	- 419
Akola	2,460	2,820	- 360	1,935	+ 525
Amraoti	4,105	4,000	+ 1,239	1,966	+ 2,139
Yeotmal	1,536	2,686	- 1,150	1,843	- 307
Wardha	2,145	1,424	+ 721	977	+ 1,168
Nagpur	6,899	4,086	+ 2,813	2,803	+ 4,096
Bhandara	1,447	2,764	- 1,317	1,896	- 449
Chandrapur	2,405	3,204	- 799	2,198	+ 207
Division Total	22,170	22,170	0	15,210	+ 6,960

SOURCE : Compiled by Author, based on Health Establishment Maharashtra State, Pune.

of aforesaid districts, and in the remaining districts where percentage of rural population is more. The services are less in number.

5.3.2 Work load factor :

The medical facilities available in the division are generally below the state average. They are unevenly distributed in the division. An attempt is made to examine the regional disparities in the available medical facilities. The 'work load factor' technique is used to answer this regional disparity. The hospital work load factor is calculated by formula :

$$WL = \frac{\text{Population served in '00s}}{\text{General use in patients beds}} \quad (\text{McGlashan, 1972})$$

5.3.3 Districtwise distribution of beds :

The districtwise number of existing beds are taken into consideration for 1976, 1980 and 1984. Number of beds available in the district of Vidarbha division can be used as a yardstick to measure the intensity of health facilities.

While according to population (number of required beds if the existing beds are distributed as per population - expected beds) and according to Bhoré norms how many beds are actually required to serve that population, those figures are calculated for Vidarbha division as a whole and also for its each district. It is found out that (Fig.5.2 and Table 5.1) in 1976, 1980 and in 1984 whatever total beds are found in Vidarbha are more than

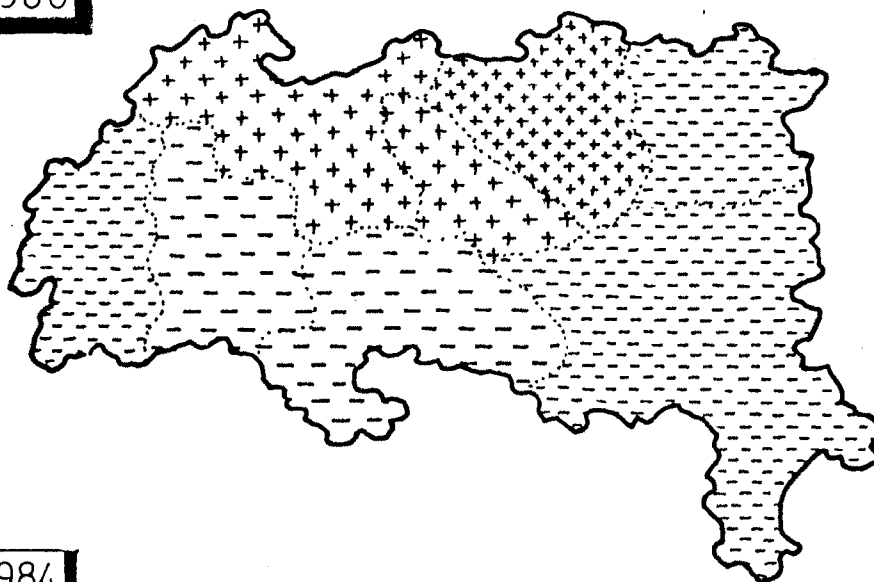
VIDARBHA DIVISION

NO. OF SURPLUS AND DEFICIT BEDS AVAILABLE

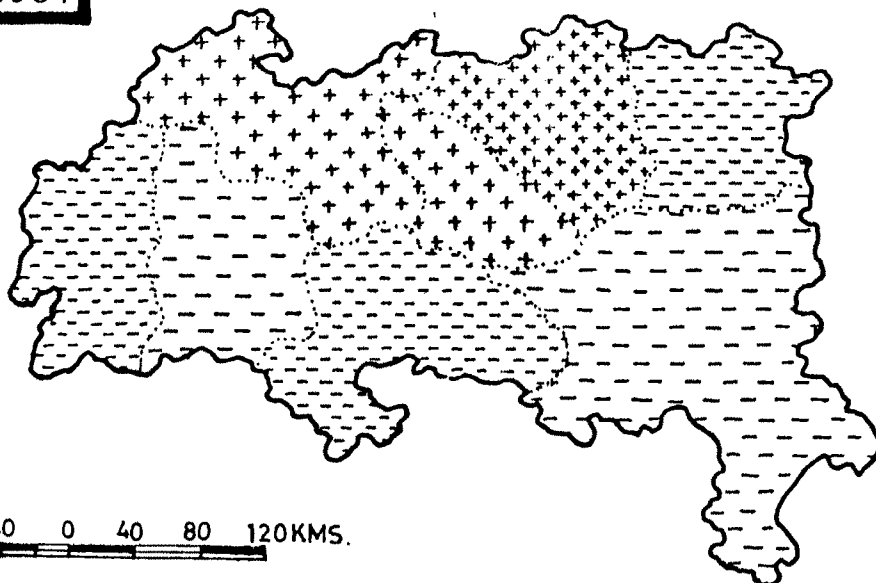
1976




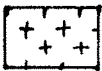


1980



1984



INDEX

-  +1714 TO + 2813
(FAR SURPLUS)
-  +614 TO +1713
(SURPLUS)
-  -824 TO -1317
(FAR DEFICIT)
-  -324 TO -823
(DEFICIT)

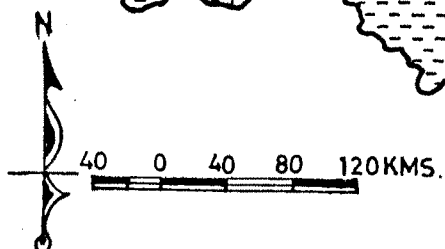


Fig 5-2

number of required beds per Shore norms. Division figures shows surplus division beds than norms i.e. + 772 (1976) + 1905 (1980) and + 6960 (1984).

But the actual fact indicates that they are not distributed proportionally to the population in the division. The Nagpur, Wardha and Amraoti districts gets more beds, while all other districts are having less number of beds i.e. beds are in deficit.

In 1984 as per Shore norms the Vidarbha division has 6960 surplus beds. Even the existing beds are not distributed evenly. The beds are concentrated mainly in the urban areas particularly in Wardha, Chandrapur, Amraoti, Akola and Nagpur districts. The table clearly shows that the districts like Buldhana, Yeotmal and Bhandara are in deficit of the beds.

The Vidarbha division as a whole has sufficient beds available. With considering this, the existing beds are distributed per population, how many beds are required (expected beds) per district and how many are actually available. Those figures are calculated. The difference between existing beds and expected beds is also calculated and is shown with the help of choropleth map in Fig.5.2.

In Vidarbha division as a whole there is only one district where beds are far surplus i.e. more than what they are needed, that is Nagpur (+2,813). Two more districts are also having surplus beds (more than what they are needed),

they are Wardha and Amraoti (+721 and +1239 respectively). This position of availability of beds remains the same as in 1984 as it was in 1976 and 1980. Buldhana is the district where beds were deficit (-768) in 1976 but in 1980 and 1984 the district has been grouped into far deficit category (-939 and -1147 respectively). Chandrapur district was poorly served by hospital beds in 1976 and 1980 (-986 and -1217 respectively, far deficit). But in 1984 number of beds were increased, hence Chandrapur districts deficiency is only by 799 beds. The district has shifted from far deficit category to deficit category. The data of 1984 shows that Wardha, Nagpur and Amraoti districts are having more than required beds, while in remaining districts they are in deficit. Buldhana, Yeotmal and Bhandara are the districts where deficiency of beds is prominently observed.

The suggested ratios indicate that the available beds are not ^m a proportion to the population of the district. The Nagpur is the only district where very surplus beds are available. It might be due to missionary hospital located in the city, secondly it might be due to more percentage of urban population concentrated in the district. Lion's share is taken by urban population and the rural areas are deprived off from the medical facilities. In Wardha and Amraoti districts, available beds are more than the requirement. It might be due to missionary hospital and Tapovan in Amraoti and due to Sevagram in Wardha. Many leprosy hospitals and clinics are available in the Wardha district due to which beds are more.

Shinde's (1980) work on medical facilities of Maharashtra supports the above referred findings. He in his article, has calculated the work load factor and said that some districts are having better medical facilities mainly because of the large population residing in urban areas. While rural districts of C and D classes are worsely benefitted. Better facilities are found in Nagpur, Wardha and Amraoti districts and the remaining districts indicate absence of medical facilities.

5.4 CONCLUSION :

Medical facilities are relatively better in Maharashtra as compared to other states of India. Special T.B. clinics, Leprosy hospitals, Cancer hospitals and number of primary health centres are sufficiently available in the state. But it is observed that they are not distributed evenly. Although the same position is found in Vidarbha division. Medical facilities are distributed unevenly in the division. The people who live in big cities have more medical facilities than their fair share. Nagpur, Wardha and Amraoti districts have sufficient medical services more than their needs. While Chandrapur, Bhandara, Buldhana, Yeotmal and Akola where large number of population is inhabited in the villages are getting lesser than their fair share. Much of the villagers have to rush to adjoining cities for simple treatment. Water-borne diseases like dysentery, diarrhoea and cholera are found in its epidemic form in the villages of the division. Deaths

due to tetanus, pneumonia, tuberculosis, can be observed more in lower socio-economic group. Villages are poorly served by medical facilities. It is necessary to give more attention on the rural population of each district. Deaths due to T.B., Pneumonia and Cancer are more in cities also. Systematic and planned efforts should be made in controlling the diseases like Cancer and T.B. More medical facilities may be made available to the villagers while allocating the new beds, the priority should be given to those districts where beds are in far deficit.

R E F E R E N C E S

1. Health establishments (1966, 1971, 1976, 1980 and 1984) :
Health establishment in Maharashtra, Health
Services, Government of Maharashtra.
2. McGlashan, N.D. (1972) : The distribution of population
and medical facilities in Malawi in Medical
Geography, Techniques and field studies, p.94.
3. Pandurkar, R.G. (1981) : Spatial distribution of some
diseases in Maharashtra - A study in Medical
Geography (Unpublished Ph.D.Thesis), Shivaji
University, Kolhapur, p.266, 270, 274.
4. Shinde, S.D. (1980) : A note on medical facilities in
Maharashtra. Recent trends and concepts in
Geography, Concepts, New Delhi, 17, pp.313-317.