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Spatial Imbalances in Child Sex Ratio with special reference to Ahmednagar District of Maharashtra

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Abstract

Sex composition of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. The sex ratio of the total population in India is defined as the number of females per 1000 males. Changes in sex composition largely reflect the underlying socio-economic and cultural patterns of a society in different ways. The main objective of the present study is to assess the spatial patterns of child sex ratio and find out the changes in child sex ratio (0-6 years) in Ahmednagar district of Maharashtra from 1991 to 2011. Ahmednagar district is situated partly in the upper Godavari basin and partly in the Bhima basin. It located between 180 2' and 190 9'north latitude and 730 9' and 750 5' east longitude. The present study is entirely based on secondary data which is collected form Socio-Economic Review and District Statistical Abstract of Ahmednagar, District Gazetteer, Census of India, Census Handbook of Maharashtra and Ahmednagar District. In the study area overall sex ratio is 934 while child sex ratio is 839 girls per thousand boys in 2011 Census. The study area denotes serious problem of spatial imbalances and speedily decline of child sex ratio.

Key Words: *Spatial pattern, Sex ratio, Child sex ratio, Imbalances, Changes.*

Introduction

Sex composition is one of the most significant physical and qualitative aspects of population (Bhende and Kanitkar, 2011). Sex structure of population affects on demographic attributes as well as on social, economic and political structure. Sex composition of population refers to the balance between male and female in any population. It can be expressed either in the form of proportion of a particular sex in the population or as a ratio between the population of two sexes. The sex ratio of the total population in India is defined as the number of females per 1000 males. The sex composition reflects the nature of economy and society. It also focuses on the status of women in the society. Sex ratio is an index of the socio-economic condition prevailing in an area and is useful for regional analysis (Franklin, 1956). It also focuses on the status of women in the society. The lower status of women is the most likely explanation for the adverse sex ratio (Dasgupta, 2005).

In India, there are more males than females (Sen, 1990). The important factors responsible for the excess of males in total population appear to be the male-favoured sex ratio at birth, and the higher risks of deaths to which Indian women are exposed (UNESCAP, 1982). The most glaring discrimination is evident in women's low relative share in the population, a key aspect of recent demographic trends in several countries (Sen, 2003). UNICEF has also remarked that female infanticide is the cause of adverse sex ratio in some of the districts in India (George and Dahiya, 1998). Sex ratio imbalances in Maharashtra observed from 1991 to 2001 (Ramotra and Bansode, 2012). Spatial pattern of sex ratio in south Kokan studied Pendnekar and Sita, 1990. Anuradha (2009) examined the child sex ratio in Pune district. India and Maharashtra has less proportion of child sex ratio i.e. 914 and 883 girls per thousand boys in 2011. The sex composition of study region also shows declined trend (Pawar and Gatade, 2011). In the study area overall sex ratio is 939 whereas child sex ratio is 849 girls per thousand boys in 2011.

Objectives

1) To appraise the spatial patterns of child sex ratio from 1991 to 2011.
2) To determine the changes in child sex ratio (0-6 years) from 1991 to 2011.

The Study Region

Ahmednagar district is situated partly in the upper Godavari basin and partly in the Bhima basin occupying a somewhat central position in the Maharashtra state (Fig.1). It lies between 180 2' and 190 9'north latitude and 730 9' and 750 5' east longitude. It is surrounded by Nashik and Aurangabad districts to the north, Beed and Osmanabad districts to the east, Solapur and Pune districts to the south and Pune and Thane districts to the west. Topographically the district has divided in to three parts viz. the Sahyadri ranges, the plateau region and the Bhima and Godavari basins (Pawar & et al.,2016).

The study region covers an area about 17,412 sq. km. and it has acquired 5.54% area of Maharashtra state. The district has 14 tahsils with 1581 villages.

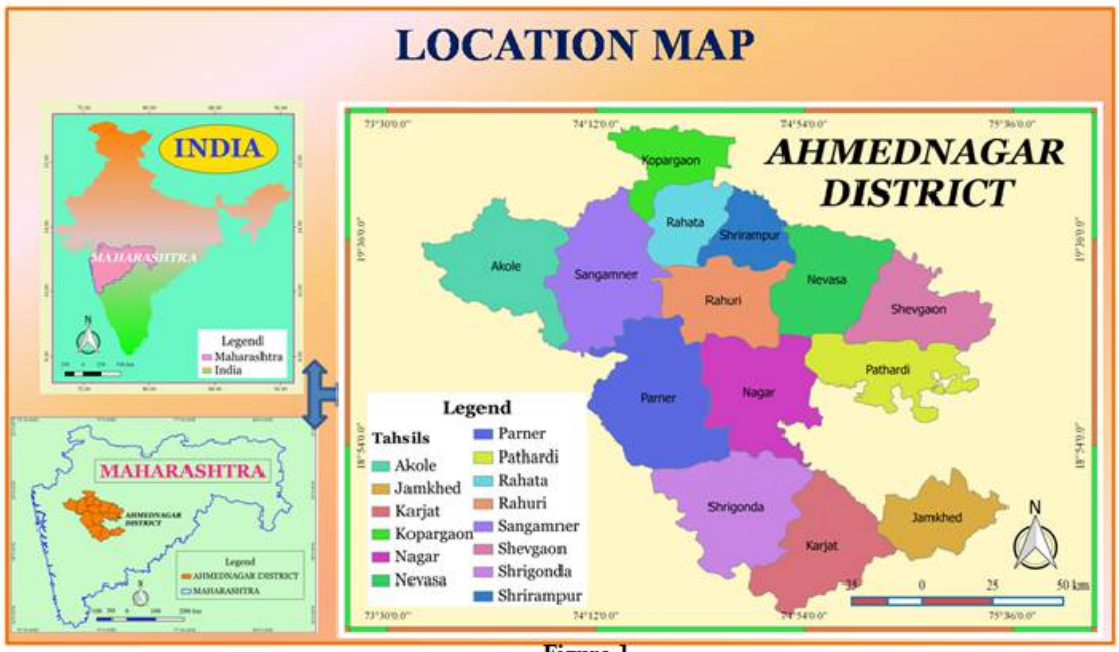


Figure 1

Research Methodology

For the present study tahsil has taken as a basic unit of investigation. The period selected for the present study is from 1991 to 2011. The present study is entirely based on secondary data which is collected form Socio-Economic Review and District Statistical Abstract of Ahmednagar, Census of India, Census Handbook of Maharashtra and Ahmednagar District, District Gazetteer and also data have been collected from various published thesis, articles and books etc. The collected data will be processed and presented by using appropriate quantitative and cartographic techniques. For the present study sex ratio in general and child sex ratio (age of 0-6) in particular is computed by using the following formula:

$$GSR = \frac{\text{Total No. of Females}}{\text{Total No. of Males}} \times 1000$$

$$CSR = \frac{\text{Total No. of Girls below 6 years}}{\text{Total No. of Boys below 6 year}} \times 1000$$

Where,

GSR = General Sex Radio
CSR = Child Sex Ratio

Spatial Patterns of Child Sex Ratio (0-6 Years) (1991-2011)

Maharashtra is one of the most progressive states in the country in health, literacy, urbanization and socio-economic indicators, although there is observed the declining trend of child sex ratio. It is evident from Table 1 that there is considerable decline in child sex ratio in the study region from 1991 to 2011.

Child Sex Ratio In 1991

Table 1 and Fig. 2 (A) show the spatial patterns of child sex ratio (0-6 years) in 1991. Generally, it is universal that the number of girls and boys unequal at the time of birth. In 1991, average child sex ratio (0-6 years) of Ahmadnagar district is 949 girls per thousand boys. As compare to Maharashtra state average child sex ratio (946), child sex ratio of Ahmadnagar district is near to the state average. Very low child sex ratio was found in Rahata tahsil (922) and very high child sex ratio found in Akole tahsil (986).

It is very significant to note that there are as many as 11 tahsils fall in the very high and high child sex ratio category. Very high child sex ratio (above 975) was observed in Akole tahsil (986) only, whereas high child sex ratio was observed in as many as 10 tahsils like Rahuri (969), Parner (956), Nevasa (953), Shrigonda (951), Sevgaon (950), Pathardi (950), Sangamner (946), Kopargaon(946), Shrirampur (945) and Nagar (941).

Moderate (895-940) child sex ratio was observed in Jamkhed (937), Karjat (936) and Rahata (922) tahsil. It is also very important to note that not a single tahsil included in very low (Below 850) or low (850-895) child sex ratio category, in the other word all the tahsils identified with above 900 girls per thousand boys in the study region during 1991.

Child Sex Ratio In 2001

It is observed that average child sex ratio of the district is 887 girls per thousand boys which is much lower as compare to Maharashtra state average of 917 girls per thousand boys in 2011. As compared to the 1991 census with 2001, it is observed that child sex ratio (0-6 years) declined very rapidly in the entire district (Fig. 1B). Surprisingly, not even single tahsil identified with child sex ratio below 900 in 1991, in contrast, seriously except Akole tahsil remaining all tahsils showing child sex ratio below 900 during 2001.

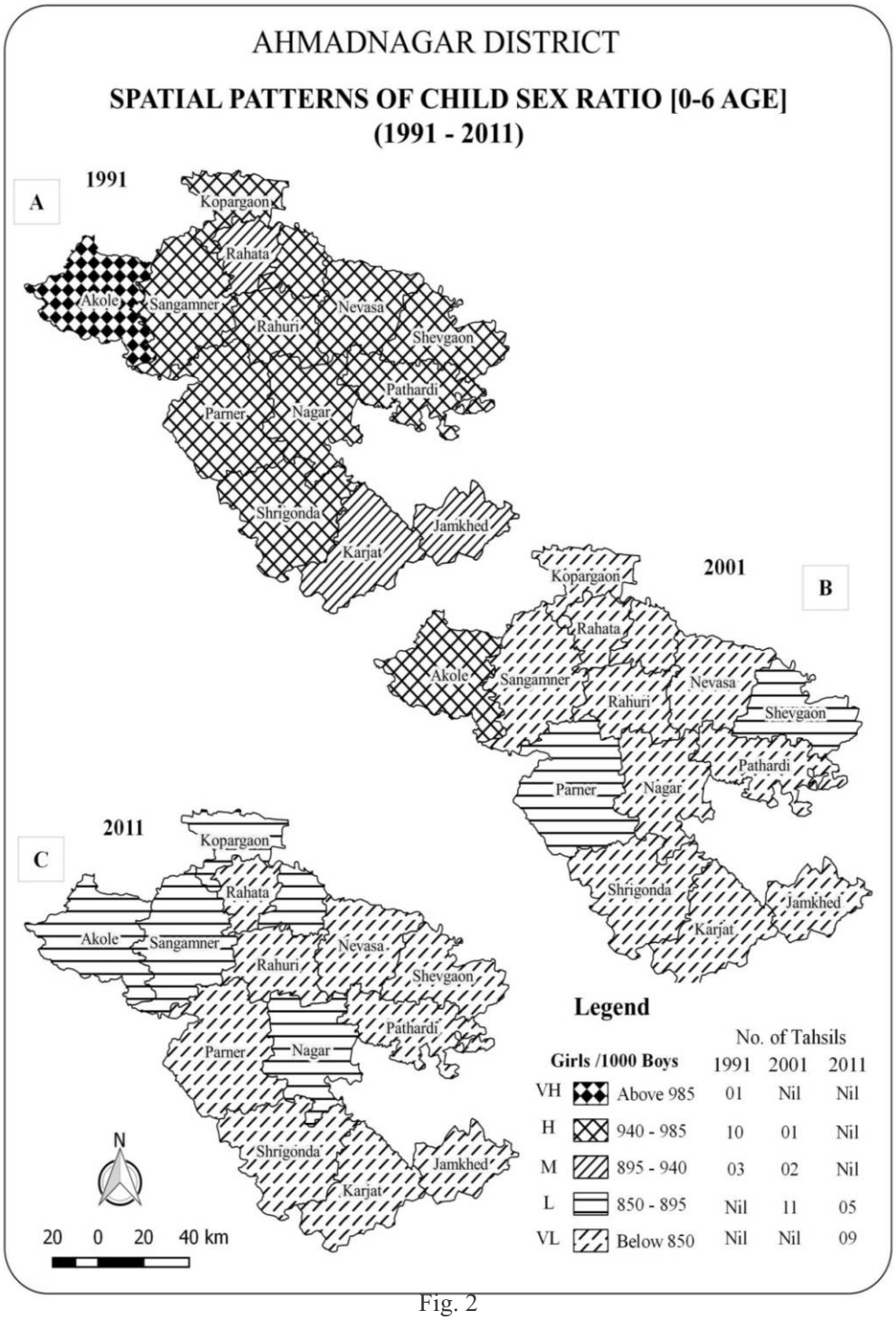
We have been found highest child sex ratio (0-6 years) in Akole tahsil (951), while lowest in Nagar tahsil (860). Akole tahsil was shifted from very high to high child sex ratio category from 1991 to 2001 and recorded with high child sex ratio (940-985) category i.e. 951 girls per thousand boys in 2001. Moderate (895-940) child sex ratio is observed in tahsils like Shevgaon (897) and Parner (897). Low child sex ratio (Below 895) was observed in 11 tahsils like as Sangamner (893), Jamkhed (893), Pathardi (892), Karjat (891), Kopargaon (885), Shrirampur (877), Shrigonda (876), Nevasa (872),

Rahuri (869), and Nagar (860) and none of the tahsil included in very low child sex ratio category during 2001.

Table 1
Child Sex Ratio in Ahmadnagar District (1991-2011)

Sr. No.	Tahsil	CSR (Girls per thousand boys)			Change		
		1991	2001	2011	1991-2001	2001-2011	1991-2011
1	Akole	986	951	894	-35	-57	-92
2	Sangamner	946	893	856	-53	-37	-90
3	Kopargaon	946	885	888	-61	3	-58
4	Rahata	922	863	845	-59	-18	-77
5	Shrirampur	945	877	865	-68	-12	-80
6	Nevasa	953	872	847	-81	-25	-106
7	Shevgaon	950	897	843	-53	-54	-107
8	Pathardi	950	892	827	-58	-65	-123
9	Nagar	941	860	866	-81	6	-75
10	Rahuri	969	869	838	-100	-31	-131
11	Parner	956	897	844	-59	-53	-112
12	Shrigonda	951	876	835	-75	-41	-116
13	Karjat	936	891	823	-45	-68	-113
14	Jamkhed	937	893	820	-44	-73	-117
Ahmadnagar		949	887	849	-62	-38	-100
Maharashtra		946	917	883	-29	-34	-63
India		945	927	914	-18	-13	-31

Source: 1) District Census Handbook, Ahmadnagar District, 1991.
2) Primary Census Abstract of Ahmadnagar, 2001 and 2011.


AHMADNAGAR DISTRICT
SPATIAL PATTERNS OF CHILD SEX RATIO [0-6 AGE]
(1991 - 2011)
A
1991
Kopargaon
Rahata
Akole
Sangamner
Nevasa
Rahuri
Shevgaon
Pathardi
Parner
Nagar
Shrigonda
Jamkhed
Karjat
B
2001
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Rahuri
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Pathardi
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Kopargaon
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Shevgaon
Pathardi
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Nagar
Shrigonda
Jamkhed
Karjat
N
20 0 20 40 km
Legend
No. of Tahsils
Girls /1000 Boys 1991 2001 2011
VH Above 985 01 Nil Nil
H 940 - 985 10 01 Nil
M 895 - 940 03 02 Nil
L 850 - 895 Nil 11 05
VL Below 850 Nil Nil 09

Fig. 2

Child Sex Ratio In 2011

The average child sex ratio of Ahmadnagar district was found 849 girls per thousand boys in 2011, which is lower as compared to the state average (883 girls per thousand boys) and much lower than the national average of 914 girls per thousand boys (Fig. 1C).

As compare to 1991 Census, in 2011 Census child sex ratio (0-6 years) was declined drastically and none of the tahsil identified with child sex ratio above 900. The highest child sex ratio (0-6 years) was observed in Akole tahsil (894) and top in the district, on the other hand lowest child sex ratio was found in Jamkhed tahsil (820). None of the tahsil falls in the category of very high (Above 985), high (940-985) and moderate (895-940) child sex ratio during 2011.

There were as many as 5 tahsil reflected with low child sex ratio (850-895) category, these tahsils like Akole (894), Kopargaon (888), Nagar (866), and Shrirampur (865) and Sangamner (856). The remaining 9 tahsils like Nevasa (847), Rahata (845), Parner (844), Shevgaon (843), Rahuri (838), Shrigonda (835), Pathardi (827), Karjat (823) and Jamkhed (820) were existed with very low child sex ratio i.e. below 850 girls per thousand boys. In the study area peoples are moving towards a smaller family size and they want to at least one son, hence it is no surprise that they have taken the help of modern technology for determining the sex of foetus.

Changes In Child Sex Ratio (0-6 Years) (1991-2011)

Child sex ratio in India and Maharashtra state has undergone with significant negative changes in between 1991 to 2011 i.e. -63, -31 girls missing respectively at state and national level, Ahmadnagar district is also not exception for that. As compare to national and state level very high negative changes (-100 girls missing) observed in Ahmadnagar district (Table 1 and Fig. 3). It clearly shows that very high negative changes or reduction in child sex ratio is more than three times greater as compare to nation and near about two times greater as compare to state average change, which surely reveals the adverse child sex ratio in the study region.

It is observed that child sex ratio (0-6 years) was decreased in all the tahsils and district level also. Highest negative change in child sex ratio was found in Rahuri (-131) tahsil, while lowest negative change in child sex ratio (0-6 years) was found in Kopargaon (-58) tahsil. This is due to sex selective practices more in Rahuri and yet girl child neglected in family and preference given to male child. In the study area, child sex ratio (0-6 years) has decreased very rapidly from 949 girls in 1991 to 849 girls per thousand boys in 2011.

Very High Change

A very high negative change (Above-125) in child sex ratio has observed only in Rahuri tahsil (-131), which is also above the district average change (-63) from 1991 to 2011. Very high fluctuation was found only in Rahuri tahsil, because of strong son preference in the society and considerable sex selective abortions by using modern sex detective techniques, also lower status of women in the society. The main factors responsible for low sex ratio are - a general bias against the girl child in terms of nutrition level, medical health care, education, and pressure to keep the family size small and desire among masses to have a male child, which encouraged pre-natal sex determination tests and female foeticide (Goel, 2011).

High Change

High negative changes (In between -101 to -125) in child sex ratio has observed in Pathardi (-123), Jamkhed (-117), Shrigonda (-116), Karjat (-113), Parner (-112), Shevgaon (-107) and Nevasa (-106) tahsil. It shows high decline in child sex ratio (0-6 age) during the last two decade. This is happened because of sex selective abortion in large extent. All these tahsil shows some improvement

in the social, cultural and economic condition, strong desire for son, these are the factors inversely affecting and responsible for adverse child sex ratio, therefore growing the preponderance of male births.

Moderate Change

Moderate changes (in Between -75 to-100), especially decline in child sex ratio has observed in the tahsils like, Akole (-92), Sangamner (-90)Shrirampur (-80), Rahata (-77) and Nagar (-75) from 1991-2011. It shows moderate negative change due to increasing migration tendency of the people especially from surrounding rural areas towards the urban areas along with their family leads to increasing rate of female migration including girls 0-6 age group and improvement in socio-economic status of female. In Akole tahsil access to health facilities and transportation facilities increased in hilly and tribal area or its surrounding urban area, and also in tribal area people away from abortion in past, but in last decade considerable acceptance of sex selective abortion.

Low Change

Low negative changes (Below -75) in child sex ratio have observed in Kopargaon (-58) tahsil, No doubt that, there is also remains the problem of missing girl child. The decline in child sex ratio has found to be more rapid during the last two decades.

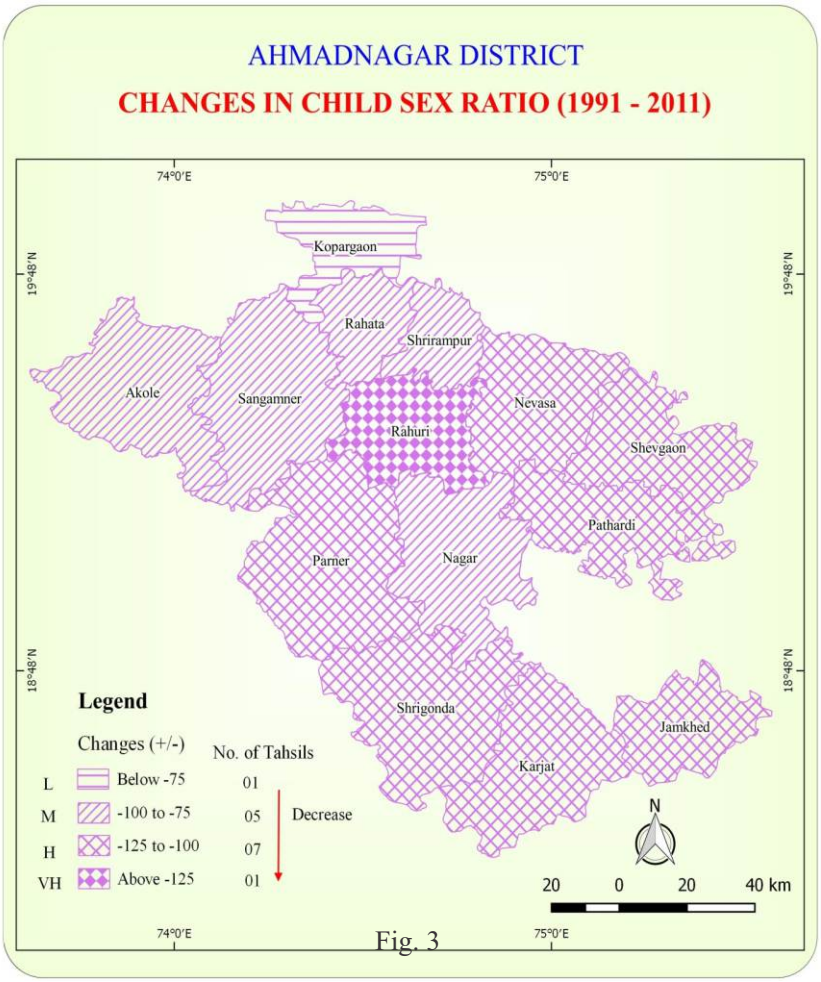

Fig. 3

Conclusion:

Present analysis reveals the declining in general and child sex ratio (0-6 age) is very serious concern not only in India and Maharashtra but also in the entire district. There has been found continuous decrease in the child sex ratio from national to district level also from 1991 to 2011. In Ahmednagar district very high and negative changes in child sex ratio noticed (-100 girls missing) as compared to national (-31 missing girl) and state (-63 missing girl) average from 1991-2011. Child sex ratio declining is two times greater as compared to the nation and four times greater as compared to the state, leads to adverse child sex ratio in the study region. The highest negative change in child sex ratio was found in Rahuri tehsil (-131), while lowest negative change was found in Kopargaon tahsil (-58). Hence, declining child sex ratio is very serious concern in all the tahsils of study region and more serious is that none of the tahsil shows positive change or increase in child sex ratio sex ratio from 1991 to 2011. It is found that high female mortality at childhood, lower level status of women in society, sex selective migration, growth of urbanization, availability of transportation and communication facilities, availability of health facilities, sex selective abortions and infanticide are some of the significant causes of spatial imbalances in general and child sex ratio of Ahmadnagar district.

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