

ANALYSIS OF SEX RATIO AT BIRTH IN NASHIK DISTRICT, MAHARASHTRA

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ABSTRACT:

The latest Census of India has indicated a marginal growth in country's overall sex ratio from 933 in 2001 to 940 in 2011. But in other hand one serious problem also observed at national, state and local level that is rapid declined in child sex ratio. It was 927 in 2001 and it decreased up to 914 in 2011. In Maharashtra state also it is decreased from 913 to 885 during same period. Data of other many states in India and Districts of Maharashtra also shows declining trends of child sex ratio. The sharpest fall in child sex ratio in Maharashtra is creating the problems of gender imbalance. In 1961, child sex ratio was 978 and now it is 883 in 2011. It means it is decreased by 72 during the last 50 years. Therefore the efforts are required to solve this problem of gender imbalance of girl child at local level. For this purpose Nashik district is selected for the study, where child sex ratio is decreased from 920 to 890 during last decade (2001 to 2011). To analyse the child sex ratio other supporting factor which will help to planner and policy maker to frame future policy and measures for improving sex ratio is sex ratio at birth. Sex ratio is a tool to determine gender equity of the population. Therefore in this present paper an attempt has been made to analyse the sex ratio at birth of Nashik district by using the latest two years (2013-14 and 2014-15) data. It is also expected from other researchers to do research on same topic at local level and provide some clues for government and local policy maker to overcome these burning problems of India. Present study is entirely based on secondary source of data. The taluk has been taken as a unit for analysis of sex ratio in the study region. MS-Excel was applied for the processing of secondary data. It is observed that the sex ratio at birth has large variation from one taluk to another taluk in the study area.

Keywords: Sex Ratio at Birth, Child Sex Ratio, Gender imbalance and Child Mortality

INTRODUCTION:

Child sex ratio is a powerful index to examine the social response on female children. Deficit in girl child population leads to serious demographic imbalance and adverse social consequences. Child sex ratio is a sensitive indicator that displays the status of girl child. (Ramasiah, Chandrasekariyya and Marthy, 2011) But in India Child sex ratio has been declining faster than overall sex ratio. Therefore is very important to overcome this problem.

Child sex ratio is the important demographic element of the society. (Karande S.V. AND Dr.Khadke P.A, 2013) During last few years many research work done by various scholars and researchers on this subject. The trend for declining of sex ratio is coincident with the advent of newer technologies in prenatal diagnostic techniques. This is evident in urban parts of the Nashik district where access to newer technologies is raise awareness and seek attitudinal and behavior changes to tackle the problem (Simonda Wagh and Rajat Ahmed Nasser, 2015). This All these studies highlights some common reasons to the decline sex ratio at birth and child sex ratio. Major reasons for decline in child sex ratio are selective abortions, son

preference mind of parents, female foeticide and neglect the girl child. Child sex ratio in Haryana and Punjab is lowest among the state where gender imbalance observed so much. These both governments applying many measures to overcome on this problems. In Maharashtra also it is require urgently. It is true that the Government of Maharashtra starting give more attention on this regard but people must actively cooperate for improving sex ratio at birth, child sex ratio and overall sex ratio. Generally sex ratio at birth and child sex ratio in Maharashtra is very low. Therefore it is important to make an independent study at each district and taluqa level about the causes of decline these sex ratio. It is only possible to overcome on this problem when the detail causes are known. It will provide proper clues to take adequate steps and action to prevent the further plummet and at same efforts to increase the child sex ratio at local level.

OBJECTIVES: The main objectives of the present paper are as follows.

1. To analyze the spatio-temporal pattern of sex ratio at birth during the years 2013 to 2015 in the study region.
2. To highlight the child sex ratio trend of the study region during the years 2011 to 2013.
3. To study the factors responsible for variation in sex ratio at birth and child sex ratio in the study region.
4. To suggest the remedies balance the sex ratio at birth and child sex ratio in the study region.

STUDY AREA:

Nashik District is one of the agriculturally dominant districts in the Maharashtra. It is located in the north-western part of the state. It lies between $19^{\circ} 35'$ to $20^{\circ} 53'$ north latitude and $73^{\circ} 15'$ to $75^{\circ} 16'$ east Longitude (Nashik Gazetteer, 1983). Nashik District has an area of 15,530 Sq. km. According to the 2011 census Nashik district has a population of 6,109,052. The district is surrounded by Dhule district in the north, Jalgaon and Aurangabad districts in the east, Ahmednager district in the south, and Thane district in the south-west and Gujarat. Location of the study area is showed in Fig. No.1, there are 15 taluqa included in the Nashik District.

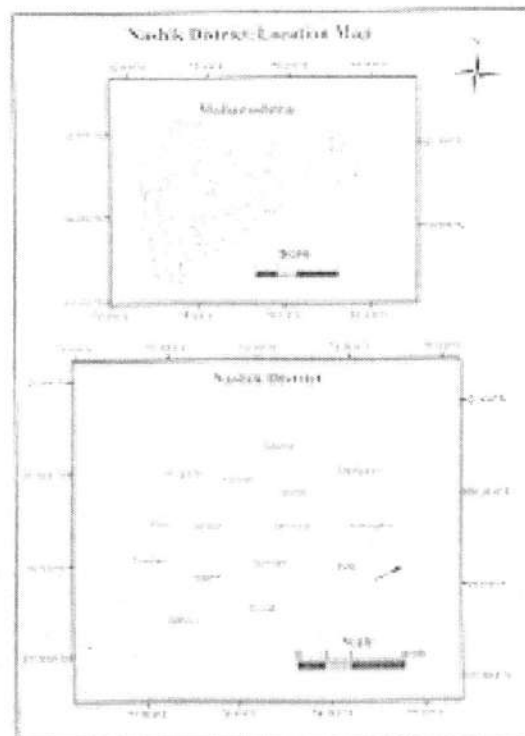


Fig. No.1

The entire Nashik district is underlain by the basaltic lava flows. The shallow alluvial formation of recent age also occurs as narrow stretch along the banks of Godavari River. The soils are the weathering products of Basalt and have various shades from gray to black, red and pink color (Wikipedia, 2015). The district is a part of Deccan plateau of the Peninsular India and formed by basaltic rocks. Physiographically, district is divided into three divisions viz. the hilly, Godavari basin and Girna basin. The district forms part of Godavari basin (southern part) and Tapi basin (northern part). Both these rivers flow from the west towards the east. The climate of Nashik district is characterized, by general dryness throughout the year except during the south-west monsoon season. Nashik is famous for grapes. Along with grapes other cash crops like sugarcane, onion, pomegranate and vegetables also grown in the district.

DATA AND METHODOLOGY:

Present study is entirely based on secondary source of data. Secondary data obtained from socio-economic abstract of the Nashik district (2007 and 2013), Nashik District Census CD., Economic survey of Maharashtra (2014-15) & Nashik District Gazetteers. The taluk has been taken as a unit for analysis of sex ratio in the study region. MS-Excel was applied for the processing of secondary data which is received from Health Department of Z.P.Nashik. Data is processed and represented with the bar graph and choropleth map by using GIS techniques.

In term of live females per thousand live males, Sex ratio at birth is calculated by using following formula.

$$\text{Sex Ratio at Birth} = \frac{P_f}{P_m} \times 1000$$

Where,

P_f = Total Live Female Population

P_m = Total Live Male Population

By using the above formula sex ratio is calculated for each taluk of the study region.

RESULTS AND DISCUSSION:

Sex Ratio at Birth-2013-14 and 2014-15:

Ratio of numbers of female child born per thousand of male child birth is known as sex ratio at birth. It is very important indicator to study the future trend of sex ratio in any region. To study the sex ratio at birth of the study area local level data is used. For this analysis first PHC (Primary Health Centre) wise data is collected and then each taluk average sex ratio at birth is calculated which is shown in the Table No.1. Table No.1 and Graph No.1 indicates the trends of sex ratio at birth in Nashik District from the year 2013-14 to 2014-15. During this period it is increased from 902 up to 912. But if all data is observed then it is found that the distribution of sex ratio at birth is not uniform in the study region. In tribal area (909 in 2013-14 and 925 in 2014-15) and it are less than non-tribal area (893 in 2013-14 and 903 in 2014-15) areas of the study region.

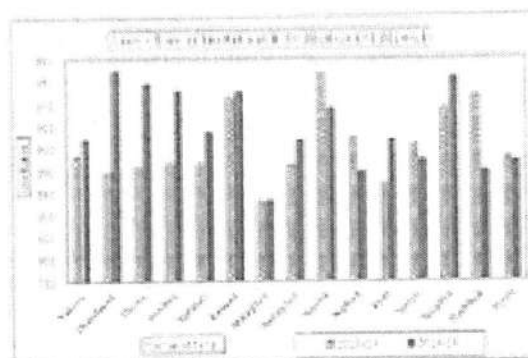
It is due to misuse of sex selective technology, strong urges to have son, social insecurity for women, low status of women in society, decline in fertility because of preference of small family and higher mortality of female children.

The highest sex ratio at birth is observed at Nashik (967), Trimbak, Kalwan (946) and Sargana (935) talukas in the year 2013-14. Whereas during the year 2014-15 it was observed more in Chandwad (970), Sargana (963), Deola (958) and Kalwan (950) talukas of the study region. During both years lowest sex ratio at birth was observed in Malegaon taluk of the Nashik district. It means there is gender imbalance in child male and female distribution in the study region. Gender imbalance means there is excess disparity between male and female-child population.

TABLE NO.1,NASHIK DISTRICT (SEX RATIO AT BIRTH-2013 TO 2015
(FEMALES PER THOUSAND MALES)

Sr. No.	Name of Tahasil	No. of PHC	2013-14			2014-15		
			Male	Female	Sex Ratio	Male	Female	Sex Ratio
1	Satona	11	2536	2264	893	2504	2004	909
2	Chandwad	5	1142	1004	879	964	938	970
3	Deola	5	739	653	884	644	617	958
4	Dindori	10	2316	2051	886	2056	1955	951
5	Igatpuri	8	1890	1674	886	1735	1586	914
6	Kalwan	7	1318	1247	946	1200	1140	950
7	Malegaon	9	1633	1360	851	1452	1239	853
8	Nandgaon	5	881	779	884	742	673	907
9	Nashik	3	932	901	967	768	718	935
10	Niphad	9	4059	3687	908	3966	3483	878
11	Path	7	1182	1076	868	1050	952	907
12	Sinnar	6	808	730	903	935	831	889
13	Surgana	8	1730	1617	935	1499	1443	963
14	Trimbak	6	1498	1417	946	1151	1012	879
15	Yeola	4	670	597	891	653	579	887
District		103	23334	21037	902	21019	19167	912

Source: PCH Wise Live Birth Data, Health Department ZP Nashik District, 2015



Graph No.1

CHILD SEX RATIO-2011:

The sex composition by age group especially the 0-6 years is vital for study the demographic trends of child population, its future patterns and particularly, the status of the girls child. (Zubair Nazeer, 2014).The child sex ratio in India is not only low but is also declining (R.C.Chandna, 2015).

Table No.2 indicates the spatial pattern of child sex ratio of the study region during the years 2001 and 2011. The average sex ratio of the Nashik District was recorded 920 in 2001 and 890 in 2011. Within the district the child sex ratio varies from one tahsil to another tahsil. On the basis of child sex ratio, tahsils of the study region are divided into three categories. They are shown in the Table No.3 and Fig.No.2.

LOW SEX RATIO (BELOW 920):

Tahsils having sex ratio below 920 are included in this category. Satona, Chandwad, Dindori, Malegaon, Nandgaon, Nashik, Niphad, Sinnar & Yeola are included in this category, which are shown in the Fig.No.2. The major reasons for child low sex ratio in these tahsils are male dominating culture, the combine effects of sex selective test, abortions of female's foetus and female disadvantages and mortality of children.

TABLE NO.2.NASHIK DISTRICT: CHILD SEX RATIO-2001 AND 2011

Sr.	Name of Tahsil	Child Sex Ratio (0-6) 2001			Child Sex Ratio (0-6) 2011			Child Sex Ratio (0-6) Change 2001-2011		
		Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1	Satara	912	921	891	870	869	884	-42	-52	54
2	Chandwad	923	921	-	830	848	867	-71	-73	-
3	Deola	897	897	-	938	938	-	61	61	-
4	Dindori	950	950	-	905	905	-	-45	-45	-
5	Igatpuri	960	959	922	922	929	895	-38	-59	-27
6	Kalwan	929	949	-	918	918	-	-31	-31	-
7	Malegaon	941	914	958	912	862	942	-29	-52	-16
8	Nandgaon	908	898	926	892	885	909	-16	-13	-17
9	Nashik	888	916	883	868	883	866	80	-33	-17
10	Niphad	888	892	851	853	846	895	-35	-46	44
11	Peth	986	986	-	988	988	-	02	02	-
12	Sinnar	911	921	825	863	865	865	-48	-56	40
13	Surgana	925	978	870	960	961	915	-15	-17	45
14	Trimbak	978	979	949	971	974	936	-6	-5	-12
15	Yeola	918	920	878	874	883	858	-35	-37	-31
	Total District	920	930	904	890	899	890	-30	-40	-14

Source: Nashik District Census Data 2001 and 2011

TABLE NO.3: CHILD SEX RATIO OF NASHIK DISTRICT-2011 (FEMALES PER THOUSAND MALES)

Sr. No.	Magnitude (Child Sex Ratio)	Overall Child Sex Ratio (0-6 Years) Tahsil
1	Low (Below 920)	Satara, Chandwad, Dindori, Malegaon, Nandgaon, Nashik, Niphad, Sinnar & Yeola
2	Medium (921-940)	Igatpuri & Kalwan
3	High (Above 941)	Deola, Peth, Surgana & Trimbak

Source: Compiled by Researchers, 2012 based on Census Data 2011

MEDIUM SEX RATIO (921 TO 940):

In this category, tahsils having sex ratio between 921 and 940 females per thousand are included. Igatpuri & Kalwan are included in this category. Actually both are tribal tahsils therefore effects of modern technology and sex determination tests is less as compared to other non-tribal tahsils of the study region.



Fig No.2

HIGH SEX RATIO (ABOVE 941): Tahsils having sex ratio above 941 are included in this category, which are shown in Fig.No.2. In this category Deola, Peth, Surgana & Trimbak are included. Most part of these tahsils is tribal where sex determination tests are not conducted too much and less awareness of

small family size. The government of Maharashtra also provide more attention towards health facilities in such taluqs which also affects the good sex child sex ratio in these all taluqs.

CONCLUSION:

1. The sex ratio at birth in Nashik district was 902 in 2013-14, which is increased up to 912 in 2014-15.
2. The child sex ratio in the study area decreased from 920 to 890 during the last decade. The proportion of child sex ratio is not satisfactory in the study region.
3. In Nashik District overall sex ratio declined from 984 in 1991 to 931 in 2011.
4. The distribution of sex ratio at birth is not uniform in the study region. In tribal area (909 in 2013-14 and 925 in 2014-15) and it is less than non-tribal area (893 in 2013-14 and 903 in 2014-15) areas of the study region.
5. Malegaon taluqa has recorded lowest sex ratio at birth during both years. It was 851 in 2013-14 and 853 in 2014-15.
6. The major reasons for low sex ratio at birth is male dominating culture, the combine effects of sex selective test, abortions of female's foetus and female disadvantages in mortality of children.

RECOMMENDATIONS:

In order to save the country from negative impact of declining sex ratio at birth and child sex ratio, all segments of India society, all political parties together shall have to find solution to this problem. The way the states of Punjab and Haryana, which were seriously affected by the menace of female foeticide, have improved their child sex ratio as a result of government policies and increased the role of electrical media (R.C.Chandna, 2015) Therefore Government of Maharashtra can take guidance in this regard from these states for control this problem before too late.

1. Government must carry out serious and continuous efforts to change the attitude of people towards female child birth. In this process electronic media and newspapers can support to government to create public awareness in this regard.
2. Selective abortion of girl baby should be legally banned and people need to understand that son and girl are equal in the society therefore stop son preference mentality. It will help to improve control on gender imbalance in the study region.
3. A strict action should be taken against unregistered and registered clinics which conducted sex determination tests. Local people must inform such information to authorized government officer.
4. To do more efforts to increase literacy ratio of women education and minimize the gender differences on son preference in the society. Without the improvement of the standard of women in the study region can't get success in this regard.

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