

IRJHEI

ISSN: 2277-9329

Vol. II, Issue 12 (I), March 2014

International Research Journal of
Humanities and Environmental Issues



Jai Hind Education Society

B - 13, Karan Gharonda, Sainikwadi, Wadgaon Sheri, Pune - 14.

17	A STUDY OF HEALTH AWARENESS STATUS OF THE NASHIK REGION, MAHARASHTRA STATE (INDIA) Prof. Nitin B. Borse	58
18	A CRITICAL STUDY OF GENDER RELATED DEVELOPMENT INDEXES & ISSUES IN INDIA & THE WORLD Ms Suvarna Kadam	62
19	APPLICATIONS OF STATISTICS TO ANALYSE DECREASING SEX RATIO Mrs. Sunanda T. Wagh	66
20	WORK-LIFE BALANCE ISSUES OF WOMEN AT EDUCATIONAL INSTITUTIONS - A STUDY Nagamani K.N & Kausar Unnisa	69
21	CULTURAL COMMITMENT IN CREATION: NGUGI WA THIONG'O'S NARRATIVE METHOD Dr. J.D. Hirpara	73
22	DRIVE FOR ACADEMIC COMPETENCY Dr. Ravindra Kumar B	78
23	A STUDY ANALYSIS TO FIND OUT CORRELATION BETWEEN STOCKS OF INDIAN STOCK MARKET USING DATA MINING TOOLS Manishkumar Umedsinh Dodia	82
24	THE ROLE OF COMMUNISTS IN TELANGANA MOVEMENT Mr. Vidhate Ganesh Shankar	86
25	AN INTRODUCTION OF WESTERN 'FEMINISM'S INFLUENCE ON MARATHI WOMENS LITURATURE' Prof. Nirmala C. Kulkarni	90

APPLICATIONS OF STATISTICS TO ANALYSE DECREASING SEX RATIO

Mrs. Sunanda T. Wagh

Vice Principal, Head, Department of Statistics,
Arts, Science & Commerce College, Ozar (Mig), Nashik 422206

Introduction

India has an alarming gender imbalance and population experts have revealed that female foeticide is being practiced. The deficit of females was found in prosperous urban and prospering rural areas applying that this phenomenon is being practiced by educated and prosperous families.⁽⁵⁾ Maharashtra is one of the most progressive states in the country in health, literacy, urbanization and socio-economic indicators but there also the declining trend of Child sex ratio can be seen.

The census data indicates that sex ratio in Maharashtra has declined from 934 in 1991 to 924 females in 2001. In urban and rural area of the district the females are 893 and 945 per thousand males respectively.

Objectives:

The study is designed with the following objectives

- To study the pattern of sex ratio in Nasik District
- To Compare the sex ratio between rural and urban areas of the district
- To analyse the proportion of sex wise births conducted by CS in private and public health facilities in the district.

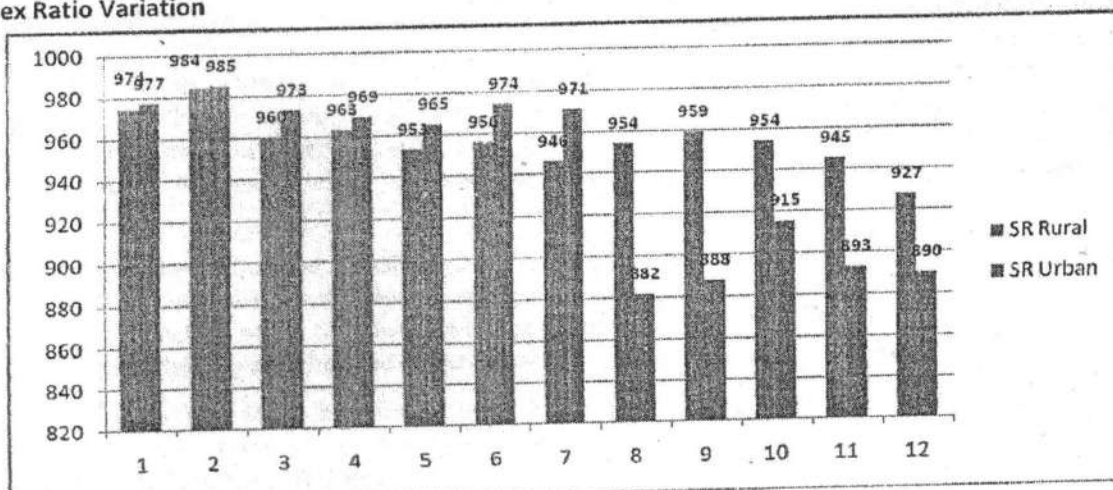
Methodology

The study aims to draw a comparison between the sex ratio in urban and rural areas of the district and further correlate it with the occurrence of CS in public and private health facilities. Thus this is a cross-sectional study. The sources of secondary data constitute the census data used primarily for outlining the trend of sex ratio variation in the Nasik district and state of Maharashtra as a whole. To compare the pregnancy outcomes in terms of mode of delivery and sex of the child data from public health facilities and private institution was collected. These institutions were chosen based on simple random sampling. Three private institutions from urban area and five private institutions from rural area were selected. One public institution from rural and urban area respectively was chosen. The data for births from 1st Jan 2009 to 31st Dec 2009 was collected from these institutions and analysed.

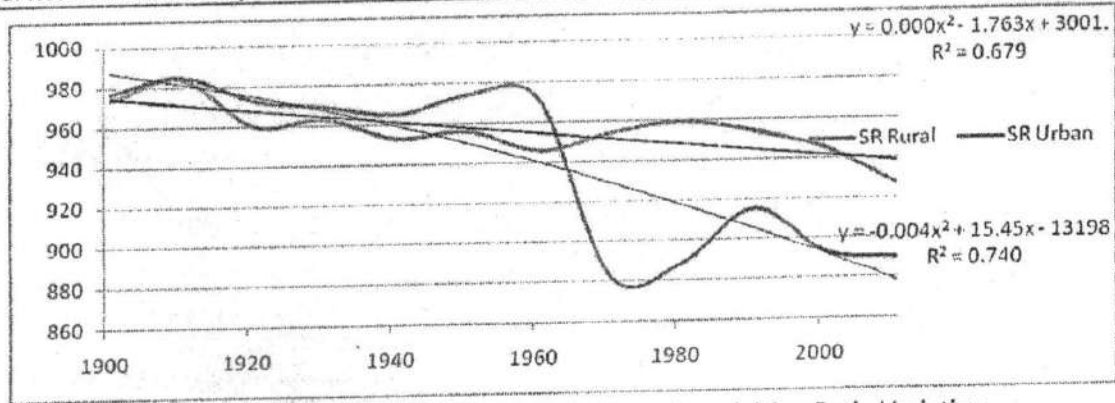
Results and Discussion

The sex ratio of the Nashik District over a period of time 1901 to 2011 is shown graphically.⁽⁴⁾

Decadal Sex Ratio Variation



Graph1: Rural & urban sex ratio at birth in Nashik District from 1901 to 2011

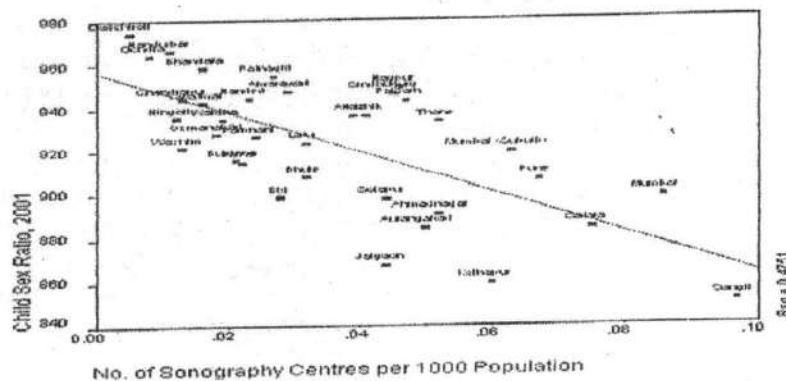


Graph no. 2 : Line diagram showing Nonlinear Decadal Sex Ratio Variation

The graph 2 shows a line diagram based on the data from graph no1. The red line shows the trend for sex ratio in urban area while the blue line shows the trend for sex ratio in rural area. It can be seen that there appears a sharp drop in the sex ratio after year 1961 in the urban graph. This signifies the advent of factors responsible for sex selection practices. Urbanisation, liberalisation and technology development have thus contributed to the declining sex ratio in the study area. The percolation and information of sex selection techniques has reached the rural areas as well, which is evident from the declining graph in rural areas. There appears a drop post year 1991 in the rural sex ratio of the district.

Because of emerging concept of family planning & introduction of technological developments, the graph shows sudden declined sex ratio in urban areas.

The study titled 'A Study of Ultrasound Sonography Centres in Maharashtra' prepared by the Population Research Centre (PRC), Gokhale Institute of Politics and Economics, Pune. Maharashtra, As of September 30, 2004, Maharashtra had 4,345 ultrasound clinics/centres unevenly distributed in its 35 districts, underlines the fact that higher the number of sonography centres per 1000 population, lower is the sex ratio of that area. This point towards medicalisation of the society and untoward use of PNDT services for sex selection. The same trend can be analysed for caesarean sections and the magnitude of availability of such facilities in that area."Maharashtra has the most number of sonography centres in the country. The decline in the female sex ratio is the consequence of availability of sonography centres, a preference for sons and capacity to pay," say Sanjeevani Mulay and R Nagarajan, both readers at the Gokhale Institute.



The report reveals that 78% of sonography clinics are registered in the 'rich' western Maharashtra districts of Mumbai, Pune, Nashik, Sangli and Kolhapur -- the very regions that witnessed a decline in female sex ratio.

Prenatal sex determination may change the dynamics of sex ratio⁽¹⁾. Present article is an attempt to review the main dimensions of the recent sex-ratio degradation in one of the leading city in Maharashtra. This study analyses the declining sex ratio from its origin, its mechanisms and social characteristics, its implications in the long run. Analysis also points to the positive linkage between abnormal sex ratio and better socio-economic status. Child Sex ratio is not lowest in poor tribal districts or other backward areas, but in prosperous Western Maharashtra and other economically empowered districts⁽²⁾ It is essential to raise awareness and seek attitudinal and behaviour changes to tackle the problem

The proportion of male births and female births in these institutions were found out and juxtaposed with the proportion of LSCS births in these institutions. Based on the observations from the data, a chi-square test was applied to test the independence of mode of delivery and sex of new born baby. Table no 2 Shows the positive association between the mode of delivery and the type of institution as well as sex of new born baby.

The test shows that the association between male births by LSCS at private institutions is significant in both rural and urban areas. This indicates that there is a possibility of the patients as well as the service providers having knowledge of the sex of the baby before birth. This leads to treating the pregnancy with a male child as highly precious and hence

opting for a LSCS. This also is concurrent with the observation that the indication for LSCS is not clearly mentioned in the records of these institutions.

				Chi Square value	Chi(0.05,1) = 3.841
RURAL PUBLIC		Male	Female	0.192	Not Significant
	Normal	550	442		
	LSCS	134	101		
RURAL PRIVATE		Male	Female	7.4457**	Significant
	Normal	39	30		
	LSCS	24	14		
URBAN PUBLIC		Male	Female	0.018	Not Significant
	Normal	104	83		
	LSCS	63	51		
URBAN PRIVATE		Male	Female	7.87 **	Significant
	Normal	350	293		
	LSCS	210	119		

TABLE No. 2- Gender wise Classification of Mode of delivery in Urban & Rural Setup.

TABLE No-3

YEAR	MALE	FEMALE	TOTAL	SEX RATIO
2011	16132	13275	29407	822.8986
2012	15165	13370	28532	881.6353
2013	12699	11637	24336	916.3714

The table no-3 shows that the recent trend shows marginal improvement in the sex ratio. This occurrence is concurrent with the implementation of strict PNDT laws. Maharashtra has achieved nationwide acclaim in the implementation of strict PNDT laws and hence the results point towards marginal betterment of the sex ratio. However the picture is far from ideal. In the case of LSCS also we can predict rational use of this technique with stringent regulatory mechanisms which are missing extensively in this arena currently.

Conclusion:

The study brings to the fore the current situation of Nashik district with respect to the steadily growing probable declining of sex ratio. The trend for declining sex ratio is coincident with the advent of newer technologies in prenatal diagnostic techniques. This is more evident in urban parts of the district where access to newer technologies is easier & available in large number. The occurrence of LSCS is not only higher in private facilities but also the outcomes of these LSCS deliveries are significantly associated with male children. This point outs the possibility of prior knowledge regarding the sex of foetus & hence treating it as a precious pregnancy in case of male foetus. This indicates the widespread prenatal sex determination as well as misuse of LSCS technique leading to environmental imbalance & increased medicalisation of society.

References:

1. Kusum et al. "The use of pre-natal diagnostic techniques for sex selection: the Indian scene." *Bioethics*. 1993. 7 (2/3): 149-65.
2. More1*, Aniket R. Ingale2, Vitthal S. Shinde3. "Generation and District Wise Study of Sex Ratio" *International Journal of Health Sciences & Research* (www.ijhsr.org) 7 Vol.2; Issue: 7; October 2012
3. Goodkind, Daniel. Should Prenatal Sex Selection be restricted: Ethical Questions and their Implications for Research and policy. *Population Studies*, 1999.53(1), 49-61.
4. [Source: District Socio-Economics survey – Nashik District, 2001-02]
5. Kambo I, Bedi N, Dhillion BS, et al. A critical appraisal of Cesarean section rates at teaching hospitals in India. *Int J Gynaecol Obstet* 2002;79:151-8.
6. S N Mukherjee. Rising cesarean section rate. *J Obstet Gynecol India* 2006;56(4):298-300.
7. Snyman, L. Is the high caesarean section rate a cause for concern? *Obstet Gynaecol Forum* 2002; 12(2):8-13.

