

TRENDS IN SEX RATIO IN PUNJAB-PAKISTAN

*Mohammad Pervez Wasim**

This study analyses the trends in sex ratio in Pakistan in general and Punjab in particular. The study indicates that six out of the 9 districts of the country, having lowest sex ratio are in the province of Punjab. One of the districts of Punjab (Attock) in the current census has the lowest sex ratio of 95 males per 100 females. The declining sex ratio indicates a better coverage of females and that female mortality in Punjab has improved, as compared to males. This has resulted in gradual reduction in the proportion of males and an improvement in the sex ratio in province. It is quite possible that the sex ratio in the years to come will further decline. Normally there should be 95 men for every 100 women as in advanced countries. Pakistan has a long way to go before it can claim that men and women are being treated at par.

Introduction

Pakistani women have been the victims of exploitation, harassment, ill treatment, violence and torture since time immemorial. Efforts have been made in the past to highlight the problems of women and incidents of abduction, rape and family violence. But now a dangerous and disturbing trend of declining sex ratio has been observed. An important concern in the province of Punjab demographic transition relates to persisting adverse sex ratio. In Pakistan the sex ratio, which was 116 males per 100 females in 1951, has declined to 108 in 1998 (Table 1 and Figure 1). It continuously declined between the census year 1951-1998. There is a significant variation in sex ratio across provinces. The sex ratio of Sindh and Balochistan which declined upto 1981, increased in 1998. It has particularly declined in NWFP and Punjab since 1951 (except for the census of 1981 of NWFP and 1972 of Punjab). Our main focus is on Punjab province. In 1972, the sex ratio increased to 116 from 114 in 1961. Between 1961 and 1972, the proportion of deaths was more among females than males, resulting in a high sex ratio. Census year of 1998 shows sex ratio of 107 males per 100 females, which is less than the national average of 108. Six out of 9 districts of the country, having lowest sex ratio are in the province of Punjab. One of the districts of Punjab (Attock) has the lowest sex ratio of 95 males per 100 females. This points to the possibility of some non-biological reasons. The sex ratio in more developed regions is 96 men per 100 women, and in less developed regions 103 men per 100 women (United Nations demographic projections, as assessed in 1990). For Africa, it is 99, for America 97, for Asia 104, for Europe 94, and for Oceania 101.

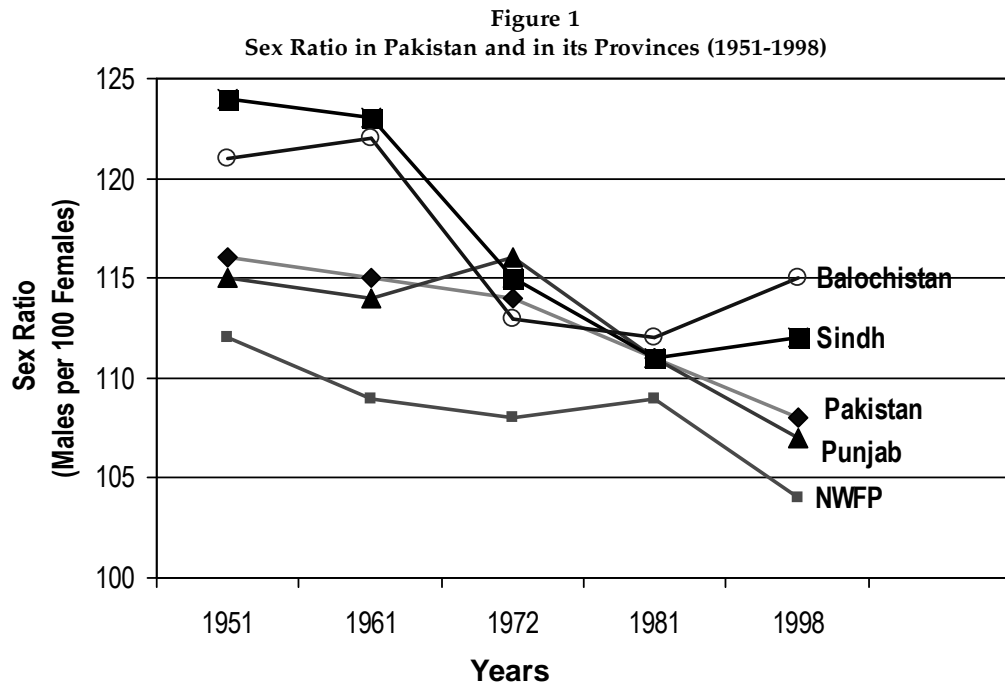
In this paper, effort has been made to analyze the trends in sex ratio in the province of Punjab over the census period from 1951 to 1998 and to pinpoint the reasons for decline in sex ratio in the province. The study has the following objectives.

* Staff Economist, Applied Economics Research Centre, University of Karachi, Karachi-75270.

Table 1
Variation in the Sex Ratio in the Provinces of Pakistan from 1951-1998
(Per 100 Females)

Province	1951	1961	1972	1981	1998
Pakistan	116	115	114	111	108
NWFP	112	109	108	109	104
Punjab	115	114	116	111	107
Sindh	124	123	115	111	112
Balochistan	121	122	113	112	115

Sources: 1. Hand Book of Population Census Data, December, 1985.
 2. Census of Pakistan, West Pakistan, Vol.3, Population, 1961.
 3. Census Report of Pakistan, 1998.



- To present a brief review of literature on the trends in sex ratio.
- To examine the changes in the sex ratio in Pakistan in general and Punjab in particular.
- To discuss the sex ratio in Punjab by district during 1951 to 1998 census year.
- To discuss the relationship between the sex ratio and (a) birth rate, (b) female life expectancy at birth, (c) death rate, (d) infant mortality rate, (e) total fertility rate and (f) female literacy rate.
- To point out the cause of this adverse trend and suggest remedial measures needed to stop this trend.

The present study relates to Punjab. The trends in the sex ratio have been examined for the census period from 1951 to 1998. Socio-cultural variables such as dowry deaths, female infanticides, and amniocentesis also tend to affect the sex ratio, but they have not taken into consideration. The study is based primarily on secondary data collected from Hand Book of Population Census Data, published by the government of Pakistan, Census Reports of Pakistan and Punjab, published by the government of Pakistan and Punjab, and Pakistan Demographic Survey, published by the government of Pakistan.

Review of Literature

Many economists and demographers have studied the complex issue of the declining sex ratio at a macro level. Kundu and Sahu (1991) described that the decline in sex ratio is due to (i) under counting of women in different censuses, (ii) discrimination against women in respect of providing nutrition and health facilities, and, (iii) selective termination of pregnancies through the technique of amniocentesis. Rajan, Mishra and Naveentham (1991) suggest that double counting of migrating males both at their points of departure and destination is the reason for declining sex ratio. According to Srinivasan (1994) decline in the sex ratio is due to the increasing incidence of female feticide in the country through the use of the modern techniques of ultrasonography and amniocentesis that help to identify the sex of the baby at very early stages of pregnancy. Sen (1985) argued that a low female-male ratio is due to lack of good nutrition and health care of women. Anti-female attitudes lead to greater vulnerability of women, which is the result of less employment opportunities. He further claims that a declining sex ratio is particularly odd, since one would expect the bias against the female to diminish rather than increase with economic progress. Raju and Premi (1992) are of the opinion that migration from the backward areas, and the selective abortions of female fetuses whose gender had been determined by amniocentesis, were possible causes of declining sex ratio. Desai (1967) also examined this disturbing phenomenon. According to him, sex ratio is affected by sex ratio at birth and sex ratio at death. By analyzing factors such as expectancy of life, birth rate, death rate and infant mortality rate, he concluded that sex ratio in general was affected by sex ratios in different age groups. Visaria (1971) found that a higher female mortality in different age groups was mainly responsible for low female ratio. Female infanticides, maternal mortality and neglect of females lead to female mortality and thus decline in sex ratio. Wasim and Ali (2003) is of the opinion that double counting of males and under-reporting of females and higher mortality age composition are the possible causes of declining sex ratio. According to Mitra (1979) under counting of females in the different censuses, neglect of the girl child, frequent child bearing and discrimination against females are the causes of declining sex ratio.

Trends in Sex Ratio in the Provinces of Pakistan

Sex ratio from 1951 to 1998 for the four provinces of Pakistan is presented in Table 1 and Figure 1. The sex ratio of NWFP and Punjab showed a declining trend except for the year 1981 of NWFP and 1972 of Punjab. The sex ratio of both the provinces is lower

than the national average in 1998. The sex ratio of NWFP and Punjab which was 112 and 115 in 1951, declined to 104 and 107 respectively in 1998, which marked the lowest figure in five decades. The sex ratio of Sindh and Balochistan, which was 124 and 121 in 1951, declined to 111 and 112 respectively in 1981, but again increased to 112 and 115 in 1998. The sex ratios of these two provinces always remained high than the national average in the last five decades. The increase in the sex ratio of, NWFP (109) in 1981, Punjab (116) in 1972, Sindh (112) and Balochistan (115) in 1998 could be attributed to multiple factors. Different patterns of internal and external migration, differentials in the coverage of the female population, double counting of males and under-reporting of females, differential mortality, age composition, and other biological and social reasons. Though the sex ratio in Punjab is above 100, it is showing a declining trend. The rate of decline was very high (-4.31) during 1972-81. During 1981-98, it declined by "3.60 per cent. The declining sex ratio in Punjab indicates a better coverage of female in the more recent censuses and that female mortality in Punjab has improved, as compared to males. This has resulted in a gradual reduction in the proportion of males and an improvement in the sex ratio in Punjab. It is quite possible that the sex ratio in the years to come will further decline and will be closer to the sex ratio of other developing countries.

Sex Ratio in Punjab by Districts

Out of 20 districts of Punjab, the sex ratio of 15 districts declined, 3 districts increased while in 2 districts remained constant in 1961 as compared to 1951 (Table 2). The highest decline occurred in Jhang and D.G. Khan. From 114 to 110 and 120 to 116 respectively. In 1972 the sex ratio of only 2 districts (Gujrat and Sheikhupura) declined as compared to 1961. In other districts either it increased or remained constant. The sex ratio in all the districts in 1981 and 1998 either declined or remained constant. Except Jhelum and Bhawalnagar, the sex ratio of all the district of Punjab declined in 1998 as compared to 1981. The highest decline occurred in Sahiwal (from 115 to 108), Attock (from 101 to 95), Mianwali (from 109 to 104), and Lahore (from 115 to 110). Attock is the only district where the sex-ratio declined below 100 to 95. This can be explained due to improvements in female mortality, male migration, and the correct reporting of the female population. Though the sex ratio in all the districts had declined, the ratio of Jhang, Lahore, Sheikhupura, D.G. Khan, Muzaffargarh, Multan, Sahiwal, Bahawalpur, Rahim Yar Khan, and Kasur is relatively high as compared to the other districts.

Sex Ratio and Sex Ratio at Birth

Sex ratio at birth is the sex ratio at the time of conception. However, there are many factors, like social, biological and environmental that affect sex ratio at birth. It may be interpreted from Table 3 and Figure 2 that the sex ratio at birth has always been lower than the sex ratio for all ages, and it increased over time (except for 1998 when it declined) in Punjab. While the sex ratio at birth varied between 103 and 110, the general sex ratio ranged between 107 and 116 over the period 1951-1998. However, the rate of increase in the sex ratio at birth (3 per cent) is relatively low than the rate of fall in the general

Table 2
District-Wise Sex Ratio in Punjab (1951-1998)
(Per 100 Females)

<i>District/Year</i>	<i>1951</i>	<i>1961</i>	<i>1972</i>	<i>1981</i>	<i>1998</i>
Attock	106	105	106	101	95
Rawalpindi	112	113	113	108	105
Jhelum	110	109	109	100	100
Gujrat	115	113	112	111	110
Sargodha	112	110	111	106	102
Mianwali	110	109	109	109	104
Faisalabad	113	112	113	109	107
Jhang	114	110	111	109	108
Lahore	114	115	115	115	110
Gujranwala	116	115	115	110	106
Sheikhupura	115	116	114	112	109
Sialkot	114	114	114	107	103
D.G. Khan	120	116	116	113	109
Muzaffargarh	117	115	115	112	108
Multan	113	111	112	112	108
Sahiwal	118	116	115	115	108
Bahawalpur	117	116	117	113	111
Bahawalnagar	116	115	115	107	107
Rahim Yar Khan	121	121	120	113	109
Kasur	112	111	112	112	110
Punjab	115	114	116	111	107

Sources: 1. Census of Pakistan, West Pakistan, Vol. 3, Population, 1961.
 2. Hand Book of Population Census Data, December, 1985.
 3. Provincial Census Report of Punjab, 1961, 1981 and 1998.

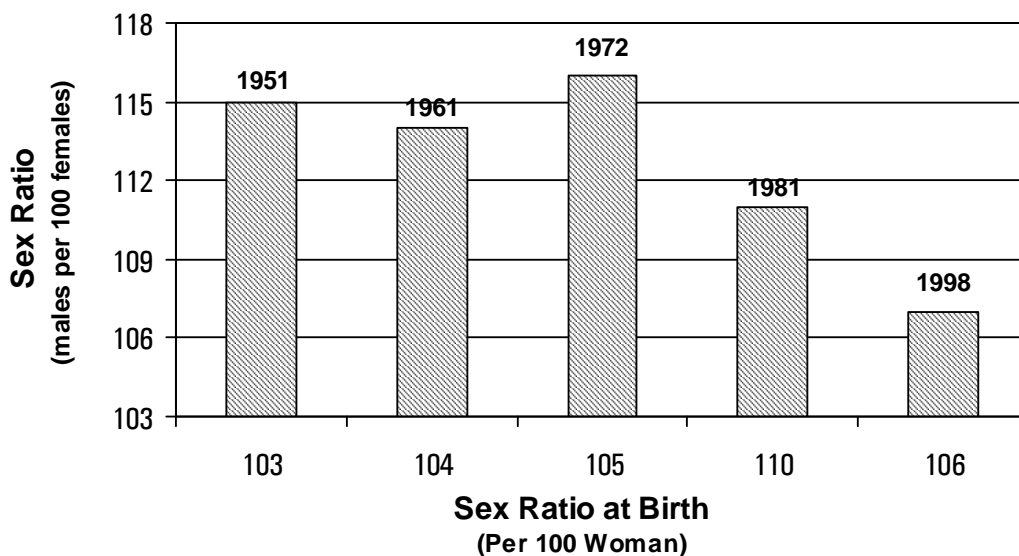
Table 3
Sex Ratio at Birth in Punjab (1951-1998)

<i>Year</i>	<i>Sex Ratio at Birth (Per 100 Women)</i>
1951	103
1961	104
1972	105
1981	110
1998	106

Sources: Pakistan Demographic Survey, 1973, 1982 and 1999.

sex ratio (-7 per cent). The high sex ratio in Punjab, despite experiencing a low sex ratio at birth, may be linked to the fact that male migration is much more than female migration. Hence, it may be inferred that the low sex ratio at birth may be one of the contributory factors towards the downward trend in the sex ratio of Punjab. Contrary to the medical evidence that endogenous factors are more hostile to the survival of the male babies at the time of birth. This implies and gives weightage to the belief that significant number of females is lost at the time of conception or at the early stage of pregnancy. This tilt in favor of male child has been made possible by advanced medical technologies available at affordable price and without any legal or social hurdles.

Figure 2
Relationship between the Sex Ratio and Sex Ratio at Birth in Punjab (1951-1998)



Sex Ratio and Female Life Expectancy at Birth

Due to improvements in diet and medical facilities, the life expectancy of females has improved from 34 years in 1951 to 63 years in 1998 (Table 4 and Figure 3). This in turn is expected to decrease the sex ratio. But in Punjab, though the life expectancy of males and females has improved in absolute terms, the life expectancy of females has always been lower than that of males.

Table 4
Female Life Expectancy at Birth in Punjab (1951-1998)

Year	Life Expectancy at Birth (Years)
1951	34
1961	42
1972	45
1981	49
1998	63

Sources: Pakistan Demographic Survey, 1973, 1982 and 1999.

Sex Ratio and Death Rate

Since the principal factor contributing to population growth is falling mortality, an examination of the associations with the death rate would be an appropriate test. From Table 5 and Figure 4, it is clear that the death rate in Punjab had decreased by 68 per cent over the years 1951-1998. The sex ratio in the same period declined by 10 per cent.

Table 5
Death Rate in Punjab (1951-1998)

<i>Year</i>	<i>Rates (Per 1000 Population)</i>
1951	30
1961	24
1972	20
1981	16
1998	10

Sources: Pakistan Demographic Survey, 1973, 1982 and 1999.

Figure 3
Relationship between the Sex Ratio and Female Life Expectancy at Birth in Punjab (1951-1998)

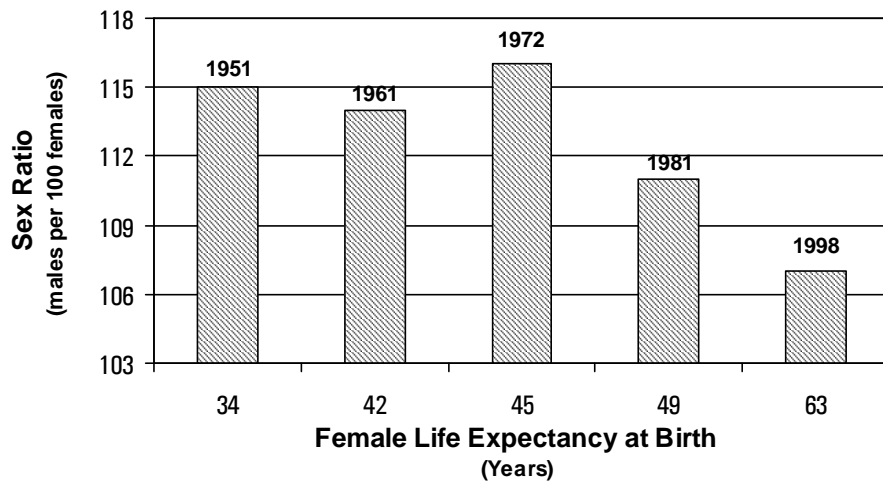
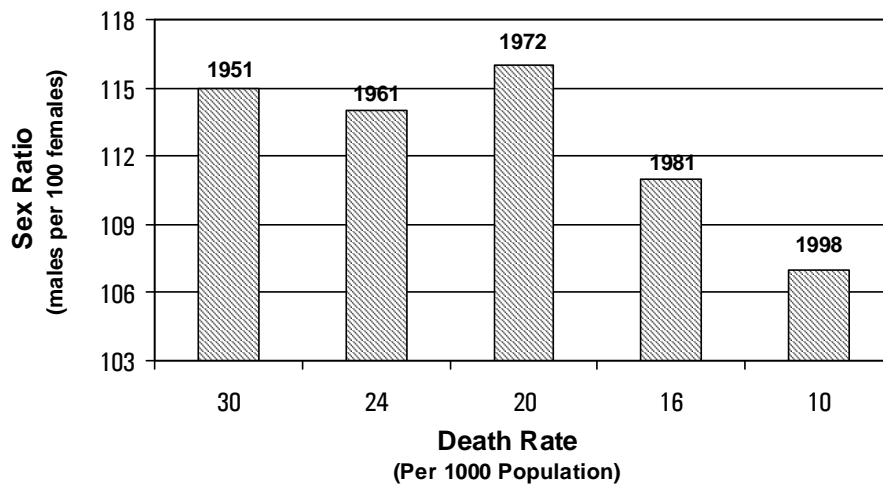


Figure 4
Relationship between the Sex Ratio and the Death Rate in Punjab (1951-1998)



A comparison of the level of the death rate and the level of the sex ratio at birth reveals that the decrease in the death rate is greater than the decrease in the birth rate, causing a decline in the sex ratio. The fall in death rate may be attributed to increase in life expectancy at birth and at other ages because of the improved health facilities.

Sex Ratio and Infant Mortality Rate

Infant mortality rate is an index of health conditions and the level of living. It is defined as the annual number of infant deaths per thousand live birth. Infant mortality rate in Punjab is presented in Table 6. The infant mortality rate in Punjab declined from 131.6 in 1951 to 97.4 in 1998, but is still very high, as compared to other developing countries. Higher infant mortality rate may be due to inadequate sanitation and medical facilities. In a society, which is suffering from gender prejudice against females, it is natural for the newborn baby girl to be more prone to mortality. One of the reasons for the low sex ratio in developed countries may be a low infant mortality rate. It was 8 and 9 per thousand in the UK and the US, respectively in 1998. High infant mortality leads to maternal mortality. Unless the infant mortality rate is reduced drastically in Punjab, the sex ratio will not improve. For a better understanding, it is necessary to examine infant mortality rates by sex or sex ratio at infant deaths. But due to lack of data it was not possible. Relationship between sex ratio and infant mortality rate is shown in Figure 5.

Table 6
Infant Mortality Rate in Punjab (1951-1998)

Year	Infant Mortality Rates (Per 1000 Live Births)
1951	131.6
1961	126.7
1972	95.0
1981	125.5
1998	97.4

Sources: Pakistan Demographic Survey, 1973, 1982 and 1999.

Sex Ratio and Fertility

Child-woman ratio is an index of fertility. It is defined as the proportion of the number of children in the age-group four or less, to 100 women in the age-group 15-44. The changes in fertility and the sex ratio over 1951-1998, except for 1961-1972, for Punjab reveal that the sex ratio varies with fertility, i.e. both are declining. When the fertility rate decreased by 10.12 per cent from 1961 to 1972, the sex ratio increased by 1.75 per cent in the same period (Table 7). The fertility rate declined by 42.68 per cent during 1951-1998, while the sex ratio declined by 6.95 per cent during the same period in Punjab. Though the fertility rate declined much (4.7 per cent from 8.2 per cent), it is very high, as compared to many developing countries. Relationship between sex ratio and fertility rate is shown in Figure 6.

Figure 5
Relationship between the Sex Ratio and Infant Mortality Rate in Punjab (1951-1998)

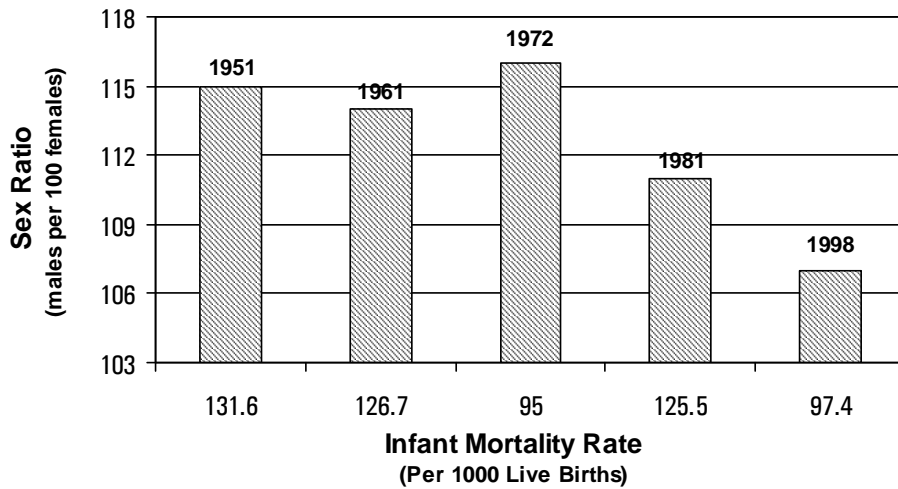
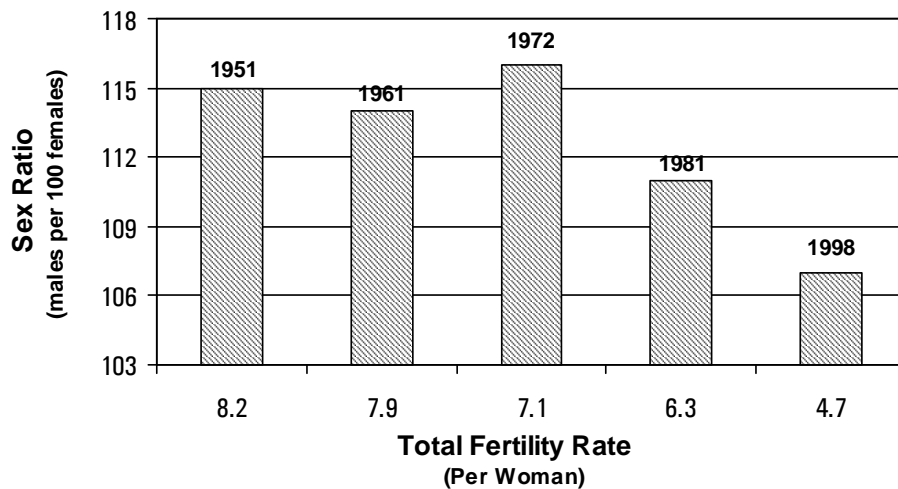


Table 7
Total Fertility Rate in Punjab (1951-1998)

Year	Fertility Rates (Per Woman)
1951	8.2
1961	7.9
1972	7.1
1981	6.3
1998	4.7

Sources: Pakistan Demographic Survey, 1973, 1982 and 1999.

Figure 6
Relationship between the Sex Ratio and Fertility Rate in Punjab (1951-1998)



Sex Ratio and the Percentage of Literate Females

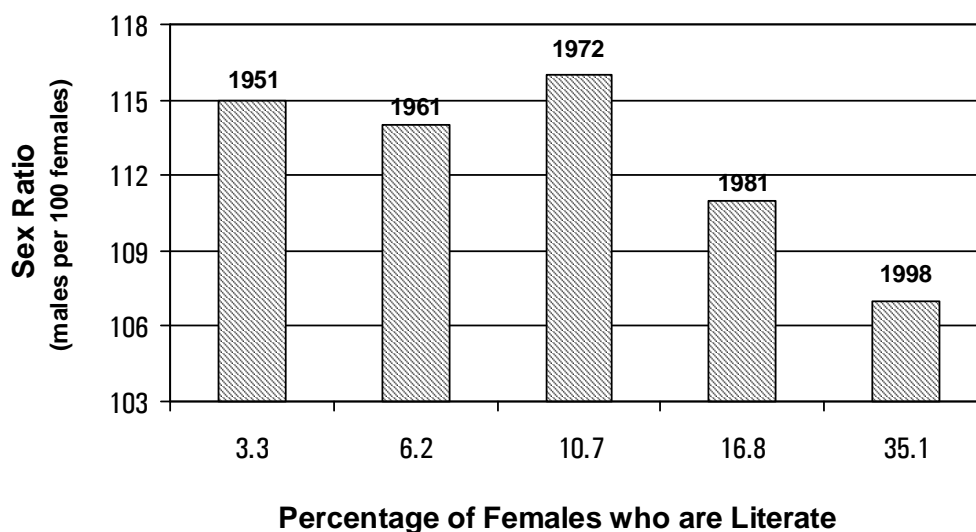
In developed countries like the US, the UK, Canada, Australia, Germany, and France, the proportion of literates to the total population is much higher than in the developing countries. Nearly 95 per cent of the total population is literate in these countries. According to the 1998 population census, more than 52 per cent of the total population in Pakistan was illiterate. The female literacy rate in Punjab increased from 3.3 per cent in 1951 to 35.1 per cent in 1998, while the corresponding figures for males are 21.6 per cent and 57.2 per cent (Table 7). Relationship between the sex ratio and the percentage of literate females in Punjab is shown in Figure 7. The relationship is quite unexpected. As female literacy has increased, the sex ratio has fallen. An inverse relationship exists. Hence the declining trend in the sex ratio may be associated with the low rate of change in female literacy.

Table 8
Trends in Literacy Rates in Punjab (1951-1998)

<i>Year</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
1951	21.6	3.3	13.2
1961	24.5	6.2	16.1
1972	29.1	10.7	20.7
1981	36.8	16.8	27.4
1998	57.2	35.1	46.6

Sources: Pakistan Demographic Survey, 1951, 1961, 1972, 1981 and 1998.

Figure 7
Relationship between the Sex Ratio and the Female Literacy Rate in Punjab (1951-1998)



Causes of Falling Sex Ratio

The following are the causes of falling sex ratio in Punjab.

1. If there is no intervention by biological or behavioral factors the sex ratio tends to be more inclined towards females. Thousands of couples, mostly those going in for second pregnancies and having a daughter as first child, visits some private clinics to check the sex of the foetus and in case it is female, can not do anything because in Islam abortion is illegal. Hence more females are born as compared to males.
2. Different patterns of external migration mostly to Karachi and Middle East countries, differentials in coverage of female population, and differential in mortality age composition and other biological and social reasons are the causes of sex ratio in Punjab.

Conclusion and Policy Implications

Punjab is facing a problem of declining sex ratio. It also highlights the impact of perverse social and cultural factors related to marriage practices and dowry as well as role of women in household decision making in an essentially male dominated society of the province. Efforts at all levels; social, legal and governmental should be made to reverse this adverse trend of declining sex ratio. Non-governmental organizations should be encouraged to carry the awareness campaign among masses. The need of the hour is to educate people about equality of sons and daughters. The girls can achieve whatever the boys can. Though this change of thinking can take time but the efforts can never be fruitless. This is possible if all out effort is made to educate people especially females. Six out of 9 districts of the country, having lowest sex ratio are in the province of Punjab. One of the district of Punjab (Attock) has the lowest sex ratio of 95 males per 100 females. This points to the possibility of some non-biological reasons, improvements in female mortality, male migration and the correct reporting of the female population. The sex ratio in more developed regions is 96 men per 100 women, while in less developed regions it is 103 men. Though the sex ratio in all the districts of Punjab declined in 1998 but, the ratio of Jhang, Lahore, Sheikhpura, D.G. Khan, Muzaffargarh, Multan, Sahiwal, Bahawalpur, Rahim Yar Khan, and Kasur is relatively high when compared to the other districts. Normally there should be 95 men for every 100 women as it is in advanced countries. Pakistan has a long way to go before it can claim that men and women are being treated at par.

The following are proposals to improve economic and demographic variables.

Per centage of literate females: In order to improve the female literacy rate, the government must provide free education to females, mainly in rural areas. This will enable the female literacy rate to increase.

Female life expectancy at birth: The government must improve life expectancy at birth for females through improvement in diet and medical facilities, especially at the time of pregnancy. In Pakistan, a majority of women die at the time of delivery.

Fertility: Pakistan still has a high fertility rate (4.5 per woman). Given the undeniable importance of religion in Pakistan, genuine and clear endorsement of family planning by the religious leadership in the country is of utmost importance for successful implementation of any fertility reduction programme. This avenue must be explored fully as has been the case in many other Islamic countries such as Indonesia, Bangladesh, Iran and Malaysia, Their examples clearly show the feasibility of this option. Precisely how it may be accomplished is left to people with more expertise in this area. According to one observer, the situation with regard to religious support has already gradually improved. "Even though religious authorities in Pakistan are converging gradually and silently towards family planning options, yet they restrict it to traditional/modern temporary methods only" (Ahmed 1994).

Infant mortality rate: Pakistan has one of the highest infant mortality rates among Asian Countries. The government will have to provide better medical facilities in order to decrease the infant mortality rate.

References

- Ahmed, T. (1994), "Contraceptive Methods Choice in Pakistan: Determined or Predetermined, Pakistan Institute of Development Economics, Tenth Annual General Meeting, Islamabad, April 2-5.
- Desai, P.B. (1967), "Variation in Population Sex Ratios in India: 1901 1961", in Ashish Bore (ed.), *Patterns of Population Change in India*, Allied Publishers, Bombay.
- Government of Pakistan (1985), *Handbook of Population Census Data*, Population Census Organization, Statistics Division, Islamabad.
- Government of Pakistan (1998), *Census Report of Pakistan*, Population Census Organization, Statistics Division, Islamabad.
- Government of Pakistan (1961), *West Pakistan Population, Tables and Report*, Vol. 3, Karachi.
- Government of Pakistan (1973, 1982 and 1999), *Pakistan Demographic Survey*, Federal Bureau of Statistics, Statistics Division, Karachi.
- Government of Punjab (1961, 1981 and 1998), *Provincial Census Report of Punjab*, Population Census Organization, Statistics Division, Islamabad.
- Kundu, A. and M.K. Sahu (1991), "Variation in Sex Ratio: Development Implications", *Economic and Political Weekly*, Vol. 26, No. 41, p. 2341 2342.
- Mitra, A. (1979), *Implication of Declining Sex Ratio in India*, Allied Publishers, New Delhi.
- Rajan, S.I., *et al.*, (1991), "Decline in Sex Ratio: An Alternative Explanation?", *Economic and Political Weekly*, Vol. 26, No. 51, pp. 2963 2964.
- Raju, S. and M. K. Premi (1992), "Decline in Sex Ratio: An Alternative Explanation Re-Examined", *Economic and Political Weekly*, Vol. 27, No. 17, pp. 911-912.
- Sen, A. (1985), *Commodities and Capabilities*, North-Holland, Amsterdam and New York.
- Srinivasan, K. (1994), "Sex Ratio's What They Hide and What they Reveal", *Economic and Political Weekly*, Vol. 29, No. 51-52, pp. 3233-3234.
- United Nations (1988), *World Population Trends and Policies*, New York.

Visaria, P. (1971), *The Sex Ratio's of the Population in India*, Monograph No. 10, Census of India, New Delhi.

Wasim, M.P. and A. Ali (2003), "Change in Population Growth, Sex Ratio and Marital Status in Pakistan: A District Level Review between Two Census, 1981 1998", *The Asian Economic Review*, Vol. 45, No. 3, December, pp. 475 502.



This document was created with the Win2PDF "print to PDF" printer available at <http://www.win2pdf.com>

This version of Win2PDF 10 is for evaluation and non-commercial use only.

This page will not be added after purchasing Win2PDF.

<http://www.win2pdf.com/purchase/>