# Gender Disparity in Education-Extent, Trends and Factors

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## Abstract

*The Program of Action agreed at International Conference on Population and Development, Cairo in 1933 gave considerable attention to the need to raise education enrolment ratios for females. National Education Policy 1998-2010 expressed the feature of making arrangement for reducing gender disparities at all levels. The thrust of Social Action Programs (Phase I and II) was to reduce the gender disparity emphasizing on girls education specifically in rural areas (GOP, 1998:126,123). In the last decade the government has made efforts to decrease the disparity in education. What remained the extent and trend of disparity in the decade is the focus of the study. The possible explanations have also been presented. It is concluded that gender disparity has decreased in the last decade but at a disappointing rate and is still at an alarming level. It is comparatively low at college level.*

## 1. Introduction

During the year 1999-2000 the literacy rate of Pakistan is estimated at 47.1 percent (59.0 percent for male and 35.4 percent for female) (GOP, 2001). Studies show that in Pakistan school enrolment is low, school dropouts are widespread, and there is a distinct gender gap in education (Behrman and Schneider, 1993; Sawada, 1997; Ray, 2001). Other problems facing education sector in Pakistan are: low quality of education, regional disparity in education, low status of teachers, neglected elementary education, low allocation for education and high educational cost, etc.

At Jomtein Conference 1990 "Education For All", girl's education was given a major priority and Pakistan committed for it. In the context of Pakistan, gender of the children is an important characteristics affecting child schooling (Sathar, 1993). Human development performance in Pakistan has suffered especially from discrimination against females (Ranis et. al., 2000). The choice of focusing on gender disparity in education is based on the broad social benefits of educating girls, which are almost universally acknowledged (GOP, 1998:123). They include the following: the more educated mother have low infant and child mortality; children of more-educated mothers tend to be better nourished and suffer less from illness (Thomas, 1990; Schultz, 1993); children

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(and particularly daughters) of more-educated mothers are more likely to be educated; more years of education women have, later they tend to marry and the fewer children they tend to have; educated women are less likely to die in childbirth; the more-educated a women is, the more likely she is to have opportunities and life choices and avoid being oppressed and exploited by her family or social situation; educated women are more likely to be receptive, to participate in and influence development initiatives; educated women are more likely to play a role in political and economic decision-making at community, regional and national levels (UNICEF, 1999; King and Hill, 1993). Hill and King (1995) found that a 10 percent increase in girl's primary enrolment can decrease infant mortality by 4.1 deaths per 1000 and a similar rise in girl's secondary enrolment by another 5.6 deaths per 1000. Summers (1992) found that in Pakistan an extra year of schooling for an additional 1000 girls can prevent 60 infant deaths. Jones (2000) narrated that educating girls has an independent impact on child mortality, child health and nutrition, reduced fertility, and schooling and cognitive development of children. In general the impact is greater than that obtained by educating boys.

## 2. Objectives

The precise objective of the study is to ascertain:

- The extent and trend of the gender disparity in the last decade, i.e. 1990-2000
- The disparity at primary, middle, secondary and college (science and arts-non-professional college) level
- The disparity in enrolment rate, availability of teachers and educational institutions

## 3. Methodology and Data

There are a number of parameters for gender disparity in education like the age of entry into school, enrolment rate, dropout rate, quality of education, student teacher ratio, budget allocated for education, number of teachers available and number of institutions etc. To keep the study in manageable limits and availability of data from a single source (as the data from different sources have different methodology, concepts, and way of collection of data, so it is avoided to use the data from different sources), only three parameters, i.e. enrolment rate of students, available teachers and institutions are analyzed in the present study. Another reason to include these parameters in based on the assumption that availability of teachers and institutions increase enrolment rate.

Gender disparity exists at all levels of education but in the present study it is discussed up to college level. The levels of education are as: grade I to V, primary level; grade VI to VIII middle level; grade IX to X secondary level, and grade XI to XII college level. Moreover gender disparity differs for the provinces of Pakistan, but assuming the same impact of national policies at national level, it is analyzed at national level.

The gender disparity in each level of education is calculated by the ratio of female to male (F/M Ratio) enrolment (for gender disparity in enrolment), the ratio of female to

male number of teachers (for gender disparity in available teachers), and ratio of female to male number of educational institutions (for gender disparity in available institutions). The data is obtained from Pakistan Statistical Year Book 2000 (FBS, 2000), and authors have calculated the F/M ratios.

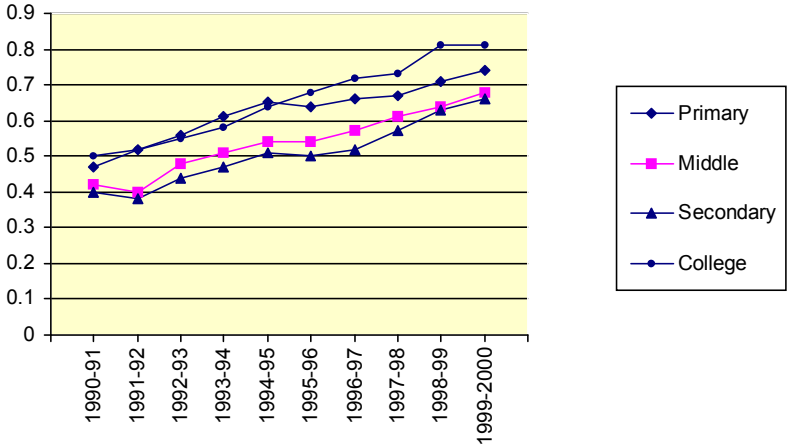
## 4. Discussion and Result

The precise results are follows as:

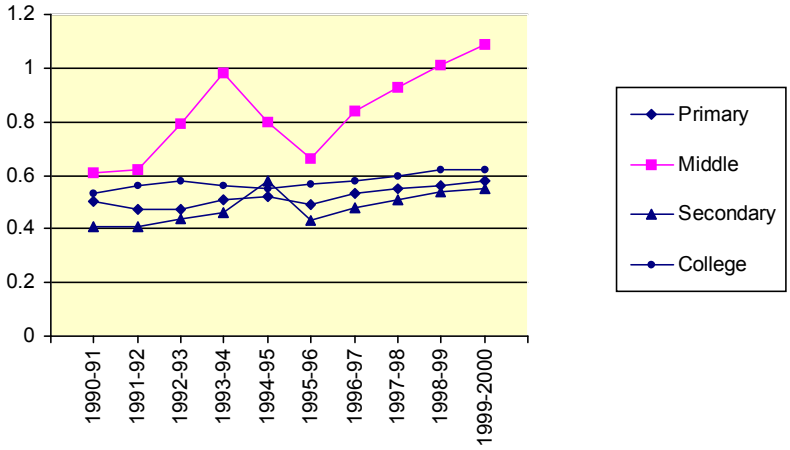
- The gender disparity in enrolment has improved highest at the secondary level of education in all the levels of education under study and it improved lowest at the primary level during the decade. This type of disparity is still highest at the secondary level and lowest at college level
- The gender disparity in teachers has improved best at the middle level in all the levels of education while it has improved worst at the primary level. This type of disparity has remained highest at secondary level and lowest at middle level of education.
- The gender disparity in educational institutions has improved highly at the secondary level of education and lowest at the middle level. It is still highest at primary level and lowest at middle level.
- The gender disparity in enrolment (average of 1990-2000) has the tendency to increase from primary to secondary level but to decrease at college level
- The gender disparity in teachers decreased form primary to middle level then it increased at secondary level and again decreased at college level
- The gender disparity in educational institutions decreased from primary to middle level and then increased at secondary level and again decreased at college level
- Only at the secondary level of education there exists a correlation between the gender disparity in enrolment (and ultimately enrolment of girls) and gender disparity in teachers as well as educational institutions (and ultimately number of teachers and educational institutions).

The trends of gender disparity in the decade for three types of disparities for each level of education are shown in the graphs. In graph No.1, disparity in enrolment for the levels of education is shown. In graph No.2, disparity in teachers available for the levels of education and in graph No.3, disparity in educational institutions for levels of education is shown. In graph No.4, the trends of gender disparity from primary to college level for each type of disparity is shown.

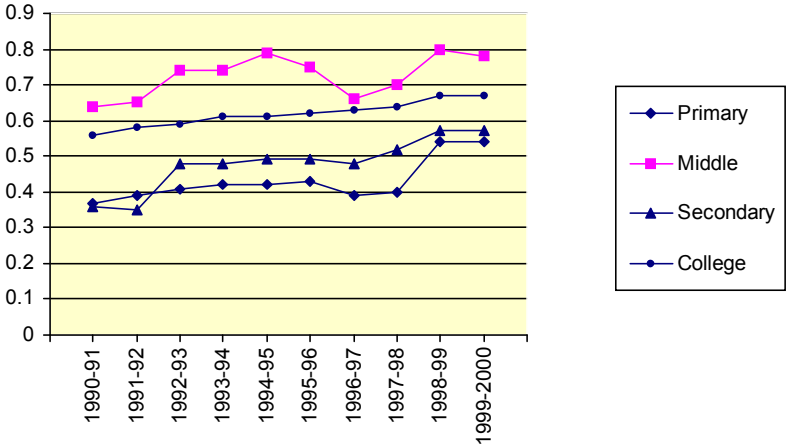
**Graph No.1**
**F/M Ratio in Enrolment During 1990-2000**



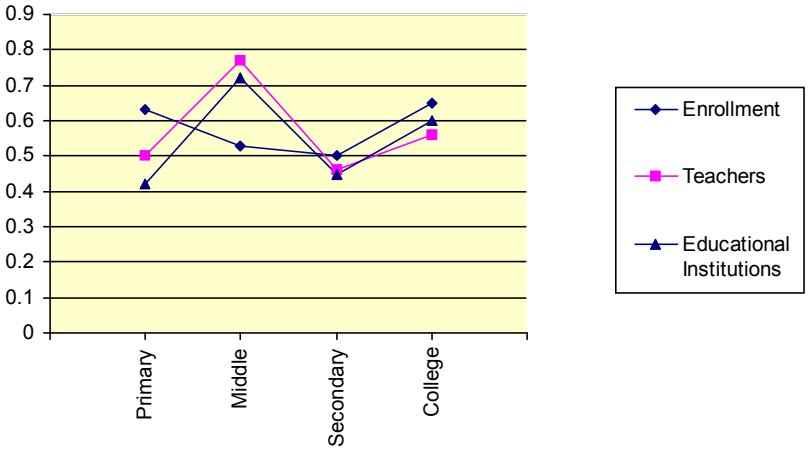

**Graph No.2**
**F/M Ratio of Teachers During 1990-2000**



**Graph No.3**
**F/M Ratio of Educational Insttutions During 1990-2000**




**Graph No.4**
**Average (of 1990-2000) F/M Ratio for Level of Education**



The gender disparity in enrolment at primary and secondary level of education has decreased during the decade of 1900-2000. In 1990-91, the female to male ratio (F/M ratio) of enrolment was 0.47 for primary level of education. It reached to 0.74 in 1999-2000 (See Annexure Table No.1A), so the F/M ratio has improved by 57.44 percent within the decade (See Annexure Table No.1A). For the middle level of education it was 0.42 in the start of decade and increased to 0.68 by the end of decade, so it has improved almost 62 percent. In both cases the gender disparity is decreased but relatively more rapidly at middle level. But for whole of the decade the gender disparity remained relatively high at middle level, despite the fact that for the duration the F/M ratio for teachers and F/M ratio of educational institutions at the middle level remained better than at the primary level (See Annexure Table No.2A and 3A). Though Alderman et. al. (1996) narrated that supply of schools enhance the enrolment. The notion lies that at the middle level of education the availability of teachers and institutions have no impact on enhancement of female enrolment. The possible explanation of the phenomenon may be the low demand for girls' education, social discrimination against girl's education, under-valuation of girls by teachers (UNICEF, 1999; Shah, 1986), low value attributed to female education specifically in rural areas (Sathar, 1993), low quality of education (Alderman et. al., 1995 and 1996), non-availability of teaching materials for girl schools compounding the physical problem that effect girls specifically, such as lack of toilet facilities and boundary wall in the school (UNICEF, 1999). Gender has a strong influence to rural areas. Being a girl in rural Pakistan reduces the chances of attending school. The probability of entering school is 64 percent for boys and 24 percent for girls. The parents perceive less advantage of girl's schooling (Sathar, 1993; see also Sawada and Lokshin, 2000). Parents prefer to have female teachers for their girls and there are fewer educated women than men who could serve as teachers in rural areas. Furthermore, social taboos on female travel make it difficult for women teachers to commute daily from urban to rural areas. Rural parents are less educated and may see less value from school of their daughters. Sawada and Lokshin (2000) narrated that the custom of seclusion of women "purda" makes a strong negative perception for female education. High opportunity cost of daughter's education, higher dropout rate of girls and lack of schools in villages impedes female education. So the average years of schooling for girls is 1.6 years and for boys it is 6.6 years and the children who entered schools the average years of schooling become 6 years for girls and 8.8 years for boys. To keep the low improvement in gender disparity in enrolment, regional disparity is female enrolment have also played a role. The gender disparity is lower in Punjab than in NWFP (Sawada and Lokshin, 2000). In Balochistan only 15 percent of female children aged 10 and older have attended school (Kim et. al., 1998). The primary school gross enrolment Ratio for boys and girls in NWFP is 82 and 51 and in Balochistan it is 68 and 41. Similarly the secondary school Gross Enrolment Ratio in NWFP for boys and girls is 68 and 41 and in Balochistan it is 65 and 14 (FBS, 1999). On the other hand improvement in F/M ratio for enrolment at primary level may be due to the government's hectic efforts focused on primary education during the decade through the Prime Minister Literacy Commission (PMLC), education department's and

NGOs efforts for girl's primary education (GOP, 1998:112), the Social Action Program (phase I and II) which stressed on primary education specifically of rural girls, and Girls Primary Education Development Project (GPEDP) financed by foreign assistance, etc.

The gender disparity in enrolment at secondary level of education was 0.4 in 1990-91 was 0.67 percent in 1999-2000 (See Annexure Table No.1B), so the disparity has decreased by 67.5 percent in the decade or at the average rate of 6.75 percent annually. At the college level it was 0.50 in 1990-91 and it reached 0.81 in 1999-2000, so gender disparity decreased by 64 percent with an annual rate of 6.4 percent. The gender disparity has decreased comparatively rapidly at secondary school. The gender disparity in educational institutions at the secondary level of education was changed from 0.36 in 1990-91 to 0.52 in 1999-2000 (See Annexure Table No.3B) with a 44 percent change. The same type of disparity at the college level was 0.56 in 1990-91 and reached at 0.64 in 1999-2000 (See Annexure Table No.3B) with 14 percent change in the decade. The disparity at the college level has improved much less than that at the secondary level. So the lack of educational institutions at the college level may be one of the reasons of lower improvement in gender disparity in enrolment at the college level. As the availability of teachers enhance the enrolment rate so the other reason to keep the improvement in gender disparity in enrolment low at college level may be the lower improvement in the disparity in teachers at college level (See Annexure Table No.2B), that is only 13 percent in the decade. On the other hand, high improvement in gender disparity in enrolment at the secondary level may be due to the good improvement in gender disparity in teachers, i.e. 24 percent. Similarly, the lower improvement in enrolment at the primary level may be due to the slight improvement in gender disparity in teachers at the primary level.

The improvement in gender disparity in enrolment is highest at the secondary level. It is interesting to note that despite the stress of government and NGOs on the enhancement of girl's enrolment at primary level the gender disparity in enrolment at primary level has improved less than secondary level of education. The gender disparity in educational institutions has highest improvement at the secondary level, i.e. 44 percent, so there exists a correlation between the disparity in enrolment and disparity in institutions. Consequently, there exists a correlation between enrolment of girls and educational institutions. Similarly, the gender disparity in teachers at the secondary level has improved much higher than that at primary level, so there also exists a correlation between gender disparity in enrolment and gender disparity in teachers at the secondary level. It may be concluded that provision of female teachers may increase the female enrolment and consequently decrease the gender disparity.

The correlation between the disparity in enrolment and disparity in teachers and in institutions at the primary level of schooling is negated by the figures. As within the decade the disparity in enrolment at primary level has improved 57 percent while disparity in teachers has improved just one percent and disparity in institutions has improved 29 percent. The figures need more consideration as the stress of the government is on primary level of education specifically of female education. Moreover, the private sector is playing an important role at the primary level of education and in private sector

majority of the teachers are females (Ali and Khan, 2002). The possible explanations of low improvement in gender disparity in teachers may be as: a significant number of girl schools remained without teachers and the public sector "maktab" schools at the under-primary level of education have male teachers and there is co-education in these schools. The lower number of female teachers may be due to the factors as: in the rural areas primary schools are scattered at far flung areas; non-availability of rural female teachers in rural areas; the urban teachers are unwilling to go for job in rural areas; rural areas have no incentives for urban teacher's stay there; low pay of primary teachers compounded with travel cost; low security in rural areas for female teachers; low infra-structure of schools in rural areas etc (Khan, 1993; Warwick and Jatoi, 1994).

The trend of gender disparity from primary to college level, that is in the course of level of education shows that gender disparity in enrolment increases up to secondary level and then decreases at college level. The possible explanation of increase in gender disparity at middle and secondary level areas propensity for girls to drop out from school is high (Sattar, 1993). The low level of attendance at secondary level of education among girls is also an outcome of strict restriction on their movement out side the home after they reach puberty. The exacerbated gender gap at secondary level is also due to lack of physical facilities at girl's schools. The selective allocation of resources is another factor where girls might enter school but is not able to remain there for a long duration, presumably because their brothers get preferential treatment. The increasing gender disparity at middle and secondary level is explained by Strauss and Thoman (1995) as the households do not discriminate against all daughters, the older daughters bears a large portion of burden. Higher dropout rate of girls at primary level of education causes low enrolment at the middle and ultimately secondary level. High dropout rate indicates low quality of education, so low quality of education in another explanation of high gender disparity at middle and secondary level. Poverty also compels parents to remove children from school and they remove the females first. On the other hand, the reasons of lower gender disparity at college level are as: the college reaching children are mostly from comparatively better economic class of society where household gender disparity is less and the colleges are mostly situated in the urban areas where social discrimination against female offspring is comparatively less. Though, for the households the opportunity cost of boys and girls increases by age and level of education but the students of college come from the selected economic class of society where the barrier of opportunity cost is broken.

## 5. Policy Recommendations

The non-discrimination principle is key to combating gender discrimination. Schools must ensure that they are responsive to girl's needs in every possible way, from physical location to classroom curriculum and practices.

Female teachers are considered to be good teachers for children at primary level, so gender disparity of teachers at primary level needs more consideration (See also Kim et. al., 1998].

The government policy to stress on the girl's education at primary level should be expanded by including middle and secondary level.

The schools from Community Support Program (CSP) increased girls enrolment by an average of 22 percent in Balochistan and these schools have spillover benefits for boys as well (Kim et. al., 1998), so these programs should be expanded in whole of the country to narrow the disparity.

The quality of education in the form of qualified teachers, relevant education, good physical infrastructure of schools and low cost schooling (for decreasing the opportunity cost of education), good student-teacher ratio, enhanced time on task, etc. are needed.

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## Annexure
## Table No.1A

Enrolment and F/M Ratio by Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Primary | | | Middle | | |
| 1990-91 | 7162 | 3675 | 0.47 | 1979 | 842 | 0.42 |
| 1991-92 | 7022 | 3714 | 0.52 | 2123 | 858 | 0.40 |
| 1992-93 | 8138 | 4596 | 0.56 | 2046 | 994 | 0.48 |
| 1993-94 | 8233 | 5055 | 0.61 | 2182 | 1123 | 0.51 |
| 1994-95 | 8626 | 5638 | 0.65 | 2469 | 1347 | 0.54 |
| 1995-96 | 8825 | 5702 | 0.64 | 2335 | 1270 | 0.54 |
| 1996-97 | 9239 | 6156 | 0.66 | 2369 | 1357 | 0.57 |
| 1997-98 | 1006 | 6997 | 0.67 | 2500 | 1532 | 0.61 |
| 1998-99* | 10893 | 7838 | 0.71 | 2631 | 1707 | 0.64 |
| 1999-2000* | 11720 | 8679 | 0.74 | 2762 | 1882 | 0.68 |
| 1990-2000 | | | 0.63 | | | 0.53 |

Source: FBS 2000 Statistical Year Book 2000.
*Economic Survey 2000-2001
Ratios are calculated by authors.

## Annexure
## Table No.1B

Enrolment and F/M Ratio By Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Secondary | | | College | | |
| 1990-91 | 790 | 304 | 0.40 | 419 | 211 | 0.50 |
| 1991-92 | 843 | 316 | 0.38 | 447 | 323 | 0.52 |
| 1992-93 | 880 | 381 | 0.44 | 452 | 251 | 0.55 |
| 1993-94 | 960 | 349 | 0.47 | 426 | 249 | 0.58 |
| 1994-95 | 1082 | 529 | 0.51 | 428 | 276 | 0.64 |
| 1995-96 | 1036 | 494 | 0.50 | 435 | 299 | 0.68 |
| 1996-97 | 1075 | 535 | 0.52 | 443 | 319 | 0.72 |
| 1997-98 | 1141 | 623 | 0.57 | 461 | 335 | 0.73 |
| 1998-99* | 1099 | 696 | 0.63 | 435 | 356 | 0.81 |
| 1999-2000* | 1175 | 775 | 0.66 | 435 | 356 | 0.81 |
| 1990-2000 | | | 0.50 | | | 0.65 |

Source: FBS 2000 Statistical Year Book 2000.
* Economic Survey 2000-2001
Ratios are calculated by authors.

## Annexure
## Table No.2A

Teachers and F/M Ratio by Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Primary | | | Middle | | |
| 1990-91 | 185.1 | 92.7 | 0.50 | 52.1 | 32.0 | 0.61 |
| 1991-92 | 198.6 | 94.9 | 0.47 | 53.8 | 33.7 | 0.62 |
| 1992-93 | 202.7 | 96.3 | 0.47 | 40.0 | 31.8 | 0.79 |
| 1993-94 | 212.4 | 109.6 | 0.51 | 40.5 | 39.9 | 0.98 |
| 1994-95 | 219.5 | 114.5 | 0.52 | 48.0 | 38.4 | 0.80 |
| 1995-96 | 221.7 | 109.3 | 0.49 | 56.5 | 37.8 | 0.66 |
| 1996-97 | 211.0 | 112.0 | 0.53 | 46.0 | 39.0 | 0.84 |
| 1997-98 | 219.0 | 121.0 | 0.55 | 46.0 | 43.0 | 0.93 |
| 1998-99* | 227.7 | 129.2 | 0.56 | 48.8 | 46.5 | 1.01 |
| 1999-2000* | 236 | 137.9 | 0.58 | 45.8 | 50.3 | 1.09 |
| 1990-2000 | | | 0.50 | | | 0.77 |

Source: FBS 2000 Statistical Year Book 2000.
* Economic Survey 2000-2001
Ratios are calculated by authors.

## Annexure
## Table No.2B

Teachers and F/M Ratio by Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Secondary | | | College | | |
| 1990-91 | 113.4 | 46.5 | 0.41 | 13515 | 7277 | 0.53 |
| 1991-92 | 115.4 | 48.3 | 0.41 | 13101 | 7447 | 0.56 |
| 1992-93 | 91.9 | 40.8 | 0.44 | 13028 | 7644 | 0.58 |
| 1993-94 | 121.9 | 56.9 | 0.46 | 13940 | 7945 | 0.56 |
| 1994-95 | 115.3 | 67.4 | 0.58 | 14662 | 8159 | 0.55 |
| 1995-96 | 116.4 | 50.6 | 0.43 | 15781 | 9142 | 0.57 |
| 1996-97 | 113.2 | 54.8 | 0.48 | 15723 | 9151 | 0.58 |
| 1997-98 | 124.7 | 63.9 | 0.51 | 17063 | 10266 | 0.60 |
| 1998-99* | 131.6 | 71.3 | 0.54 | 16595 | 10347 | 0.62 |
| 1999-2000* | 143.6 | 80.4 | 0.55 | 16595 | 10347 | 0.62 |
| 1990-2000 | | | 0.46 | | | 0.56 |

Source: FBS 2000 Statistical Year Book 2000.
* Economic Survey 2000-2001
Ratios are calculated by authors.

## Annexure
## Table No.3A

Educational Institutions and F/M Ratio by Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Primary | | | Middle | | |
| 1990-91 | 83018 | 31124 | 0.47 | 5315 | 3446 | 0.64 |
| 1991-92 | 80688 | 31591 | 0.39 | 5404 | 3537 | 0.65 |
| 1992-93 | 92516 | 38080 | 0.41 | 6753 | 5055 | 0.74 |
| 1993-94 | 94063 | 39957 | 0.42 | 6932 | 5194 | 0.74 |
| 1994-95 | 97667 | 41967 | 0.42 | 7009 | 5562 | 0.79 |
| 1995-96 | 99696 | 43434 | 0.43 | 7611 | 5719 | 0.75 |
| 1996-97 | 107619 | 42042 | 0.39 | 8727 | 5760 | 0.66 |
| 1997-98 | 105114 | 51204 | 0.48 | 10186 | 7168 | 0.70 |
| 1998-99* | 102800 | 56500 | 0.54 | 10000 | 8000 | 0.80 |
| 1999-2000* | 104900 | 57600 | 0.54 | 10300 | 8100 | 0.78 |
| 1990-2000 | | | 0.42 | | | 0.70 |

Source: FBS 2000 Statistical Year Book 2000.
* Economic Survey 2000-2001
Ratios are calculated by authors.

## Annexure
## Table No.3B

Educational Institutions and F/M Ratio By Level of Education and Sex

| Year | Male [000] | Female [000] | F/M Ratio | Male [000] | Female [000] | F/M Ratio |
|---|---|---|---|---|---|---|
| | Secondary | | | College | | |
| 1990-91 | 6540 | 2395 | 0.36 | 390 | 222 | 0.56 |
| 1991-92 | 6608 | 2374 | 0.35 | 400 | 233 | 0.58 |
| 1992-93 | 6297 | 3029 | 0.48 | 406 | 243 | 0.59 |
| 1993-94 | 6513 | 3142 | 0.48 | 403 | 248 | 0.61 |
| 1994-95 | 6682 | 3323 | 0.49 | 421 | 257 | 0.61 |
| 1995-96 | 6710 | 3329 | 0.49 | 439 | 276 | 0.62 |
| 1996-97 | 6965 | 3394 | 0.48 | 450 | 287 | 0.63 |
| 1997-98 | 7591 | 4019 | 0.52 | 480 | 309 | 0.64 |
| 1998-99* | 7800 | 4500 | 0.57 | 509 | 344 | 0.67 |
| 1999-2000* | 8000 | 4600 | 0.57 | 509 | 344 | 0.67 |
| 1990-2000 | | 0.45 | | 0.60 | | |

Source: FBS 2000 Statistical Year Book 2000.
* Economic Survey 2000-2001
Ratios are calculated by authors.