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Article

Assessing Gender Inequality in Pakistan's Primary Education Sector

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Though the furnished educational quality of the enrolled students leads towards the positive example of success of not only in education but also in practical life of the ensuing generation, yet to alleviate gender disparity in social and cultural context, special measures are needed for the success and improvement of females overall in the country to participate in share contributed by experience of development. This experience would help to gain the required momentum and extol a new development practice in implementation of educational policy. Millennium development goal (MDG 3) for gender equality and the empowerment of women was the goal that was set with the earliest date for achievement. The target associated with MDG 3 was an end to gender disparity in primary and secondary education (Unterhalter, 2006). Despite adoption of the several policy measures and program initiatives, gender gap at primary school level was estimated to the extent to 11.13%. The gap due to treatment of parent with the boys and girls under normal routine and societal aspirations was estimated at 10.956 or 98.4% of the estimated entire gap. This situation leads towards the dimension that boys are preferable group in Pakistan. Since the disparity was due to preference to males over females at school level, underlying reasons might be the cultural, societal, and traditional expectations, that is, linked future of females with expected husband s' households after marriage and all obligations of parents for males, considering them heir of all types of properties.

Key words: Gender disparity, education, policy measures, preferable societal aspirations.

INTRODUCTION

Despite criticism on Chicago School Approach that productivity role of education is negligible (Arrow, 1973; Spence, 1973), but consistent re-emergence of faith in human capital marked the 1980s and the developing countries and international agencies started to have attention on human investment. In Pakistan like other countries education has been considered an important tool for mobilization of human resources for sustainable socio-economic growth. By this raising primary school enrollment, reforms have also been formulated and implemented to end up gender disparity. Though Alleviation of gender disparity has been given the top priority in considering not only in formulation and implementation of education reforms, yet in certain areas there exists a wide gap between male and female literacy level. More-over a difference in enrollment between genders has been observed at the level of school education.

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Though the furnished educational quality of the enrolled students leads towards the positive example of success of not only in education but also in practical life of the ensuing generation, yet to alleviate gender disparity in social and cultural context, special measures are needed for the success and improvement of females overall in the country to participate in share contributed by expe-rience of development. This experience would help to gain the required momentum and extol a new deve-lopment practice in implementation of educational policy.

Millennium development goal (MDG 3) for gender equality and the empowerment of women is the goal that was set with the earliest date for achievement. The target associated with MDG 3 was an end to gender disparity in primary and secondary education (Unterhalter, 2006). We know now that target has been missed in 94 out of 149 countries for which data is available (UNESCO, 2005). It is a matter of great concern that the countries despite inclination and having the required resources were una-ble to bring the equal number of boys and girls even to primary schools and proved failure to complete just pri-

mary level. Pakistan is among the signatories of Millennium Development Goals (MDGs) as was targeted at the Dakar World Education Forum 2000. The Government of Pakistan has initiated several policy measures to achieve these set goals, that is, education for all. The national plan of action was implemented in response to be active for the implementation of decisions made at Dakar for world summit.

Access to education is the basic right of every individual. The education increases the comprehension and capacity of human beings to understand the things and make them useable and bring them in use under productive process. Education is an important tool to link the characteristics of every individual to societal aspirations and helps one to choose the income generating activities. Considering the committed concern of the international declaration of providing the facilities physically and financially to all educational institutions, the education reforms action plan which was formulated for three years was initiated to provide basic facilities to school to bring them to the status compatible with the requirements of the education system so that the enrolled students could be kept within school premises till the completion of the relevant cycle.

Despite adoption of the several policy measures and program initiatives, Pakistan was unable to achieve the basic objectives linked with alleviation of gender disparity at all levels particularly at primary school level. Even adult literacy rate remained to the extent to 53%, while net enrollment at the primary level is 52%. The retention rate for 2004-05 was estimated at 61% with gender gap at all levels. Rural area was lagging behind in this context specifically in creating parity by gender. The objectives relating to all these programs were universal access to primary education, increasing net enrollment, higher rate of children completing the primary cycle, increase in the adult literacy rate and to minimize gender disparity at all levels specifically at school level. Despite all efforts of the public sector gender disparity was obvious at all levels of school education (primary, middle and matric level) with 43, 41 and 41% female enrollment at school level in 2005-2006 (Economic Survey of Pakistan, 2006, 2007). So according to the declaration South Asia needs to go further in order to fulfill the education aspirations having concerned with MDG 3 by 2015.

Government of Pakistan is currently spending 2.1% of its GDP on education sector which is very low as compared to other countries in the region. The share of education sector has not been changed for many years. Government has launched several policy projects to meet enrollment targets and improve the overall quality of education. Despite focusing on education in general and gender disparity in particularly, the country has not re-corded a step towards gender equality. Gender disparity in literacy is lower in urban areas (16%) whereas in rural areas it is estimated to the extent to 29% in 2004-05. Actually no progress has been registered in the context of reducing the gender gap (Government of Pakistan, 2005). As described above various strategic measures have been implemented to increase net enrollment and minimize gender disparity, this paper has been organized to assess gender inequality at primary school level. Re-sults in this regard would reflect the allocation pattern of resources to achieve the MDG 3.

Objective of the study

The study on hand has been focused on measuring gender disparity at primary school level. The following are the principal objectives of the study:

i.) To examine gender inequality status at primary school level in Pakistan.
ii.) To see the gender inequality in Pakistan and to make comparison with other developing countries of South Asia.
iii.) To identify the possible causes of gender disparity at this level of education.
iv.) To suggest possible policy measures to minimize the gender inequality at primary school level in Pakistan.

Review of literature

Though the literature on local education school system has been vastly available on many aspects, yet the issue of gender disparity has not been considered at any level of school education. For this aspect Pakistan has been among the signatories of millennium development goals (MDGs), as was targeted at the Dakar world education forum, 2000 and the Government of Pakistan has initia-ted several policy measures to achieve the set goals. Pakistan has been active for the implementation of deci-sions made at Dakar for world summit, but like many other developing countries this aspect of gender re-mained ignored for formal elaborated studies/study. Consequently the research studies conducted in some other countries on the considered issue has been re-viewed here.

Unterhalter (2006) in his report, “measuring gender inequality in education in South Asia,” suggests that improving girls ‘NER, (Net- Enrollment Ratio) GEI (Gender Related EFA Index) and GEEI (Gender Equality in Education Index) represent formidable tasks for the next decades. In countries where there has been political commitment and ambitious programming significant gains have been made. Achieving gender equality is generally linked with multi-sectors development and often with popular mobilization in support of political, economic and social demands particularly with regard to education, health and sustainability. There is much consensus on what needs to be done. This paper has tried to show with what intensity and urgency we need to act. The GEEI presents an alternative means of measuring gender equality gains and losses in and through education. Huge

challenges remain to increase GEEI in South Asia. Reaching the targets for MDG 2 and 3 by 2015 is not impossible, given the talent and wealth of the world. This assessment of GEEI gives some indication of the size of the task and the level of mobilization needed. This task falls not only to the people who live in the countries with low GEEI. The MDGs are challenges to global collaboration and resource mobilization. The numbers point to the heightened levels at which we need to work together.

Klasen (2000) in the article, "does gender inequality reduce growth and development? Evidence from cross country regressions," concluded by using cross country and panel regressions, what extent gender inequality in education and employment may reduce growth and development. The paper finds a considerable impact of gen-der inequality on economic growth which is robust to changes in specification and control for potential indigo-nities. The results suggest that gender inequality in edu-cation has a direct impact on economic growth through lowering the average quality of human capital. In addition, economic growth is indirectly affected through the impact of gender inequality on investment and population growth. Point estimates suggest that between 0.4 to 0.9 of the differences in growth rates between East Asia and Sub-Saharan Africa, South Asia and the Middle East can be accounted for by the large gender gaps in education prevailing in the latter regions. Moreover the analysis shows that gender inequality in education prevents progress in reducing fertility and child mortality rates, thereby comprising progress in well being in developing coun-tries.

EFA Global Monitoring Report Team (2006) UNESCO 's 2006 Global Monitoring Report draws on data from the 2002 to 2003 school year to forecast which countries are likely to achieve the goals of UPE, gender disparity in primary and secondary education and a 50 percent improvement in level of adult literacy by 2015.Steady progress has been made since1998 towards universal primary education (UPE) and gender parity among the poorest countries, but the pace is not enough to reach the six Education for All (EFA) goals by 2015. Increased political will and funding is required if countries are to meet the commitments they set at the World Education Forum in Dakar in 2000. Public spending on education has increased in about 70 countries. Aid for basic edu-cation has gone more than doubled between1999 and 2003. Girls' primary enrollments have risen rapidly, espe-cially in some of the lowest income countries of sub-Saharan Africa and South and West Asia. Gender and educational quality measures are increasingly visible in national education plans. Public spending has increased in nine countries including Indonesia and Pakistan. Yet the share is less than 2% of Gross National Product.

UNICEF (2000) advocates quality education for all with an emphasis on gender equality and eliminating disparities of all kinds. In particular, getting girls into school and ensuring that they stay and learn under multiplier effect. For the education goal to be met, action needs to be addressed both human and material needs—building, books, and teachers—and the organic requirements of geting all the children into school and ensuring they complete a quality education. These include gender equality in society good health and nutrition and the strong back-ing of governments and communities. Globally, significant progress has been made in primary enrollment/attendance and if current trend continue most of the countries in the Middle East/North Africa, East Asia and the Pacific and Latin America and Caribbean regions appear to be on course for 2015. UNICEF estimates and projections indicate that three regions (Middle East /North Africa, South Asia and West / Central Africa) will not meet the gender parity goal in primary education by 2005. Global policies and strategies for the future will need to help countries achieve exponential growth in AARR (Average Annual Rate of Increase) through a series of 'quantum leaps' in their enrollment rates.

Illahi (2001) Using data from Peru investigated the determinants of time allocation of boys and girls to schooling, housework and income generating activities. Specifically, it explores whether sickness, employment of adult women, infrastructure and female headship have different impacts on the time use of boys and girls. Girls mostly engage in housework and boys mostly work outside the home. As a work activity housework responds to economic incentive and constraints. The econometric findings suggest that changes in household welfare affect the schooling and work of girls more than boys. Even though educational attainment rates of boys and girls are the same, girl s' education responds more to changes in household welfare than does that of boys. Similarly, girl children are more likely to adjust their home time in response to changes in adult female employment and to sickness of household members than boys. Lack of access to energy infrastructure lowers the educational attainment of both boys and girls. It has little effect on their labor. The traditional approach to the determinants of child labor and education, which excludes housework, may understate children s' time use, particularly that of girls. It may therefore also overlook an important gender dimension of educational policy. Safety nets that protect household incomes from employment shocks and sick-ness and childcare programs that allow adult women to work would decrease the likelihood of girls being pulled out of school.

Subrahmanian (2006) in his study, "mainstreaming gender for better girl's education: policy and institutional issues," suggests that implementation of gender equi-table policy needs to move beyond targeting women and girls to thinking systematically about the linkages bet-ween different sub-sectors of education and developing measures of progress that move beyond quantitative outcomes captured at different points. Measures to improve the functioning of gender mainstreaming units are important. There is still a huge task ahead in terms of making

gender awareness a feature across system. However, providing these units with adequate resources as well as important roles in oversight of policies and implementtation measures is critical. Three levers that GEM suggests are important to emphasize: awareness, communication and incentives. However underlying all of this is the need to locate 'mainstreaming' within the wider sphere of work and influence that goes under the rubric of governance reform, Gender mainstreaming will conti-nue to be seen as an add-on, not a fundamental part of system change.

Thomas (2004) in his study titled, "study shows educational achievement gender gap shrinking," describes that in elementary school, females in fourth grades outper-form their male peers in reading (2003) and writing (2002) assessments Gender differences in mathematics achievements have been small and fluctuated slightly between 1990 and 2003. At the secondary school level the gap in the National Assessment of Educational Pro-gress (NAEP) reading achievement grew from 10 points in 1992 to 16 points in 2002 with male performing lower than females. Females entering college baccalaureate program were more likely than their male counterparts to graduates within six years. In 2001 the overall participa-tion rate of females in adult education was higher than that of their male peers (53% vs. 46 %)

World Bank Group (1993) in the study," Measuring the Gap : female education in Sub-Saharan Africa," female education and national development have been proven to be closely linked. While the education of both males and females is crucial to development, the failure to ensure equality in education between the sexes can reduce the potential benefits that educating man has on social welfare. Further a nation with a large gender gap in enrollment will have lower economic productivity than another country with similar capital and labor resources but a smaller gender gap in schooling.

The report defines eighteen indicators grouped into three categories, that is, access, attainments, and accomplishment that provide information on the performance of education system. The gender ratio of each of these indicators indicates that a gender gap exists in education in Sub Saharan Africa that increases in se-verity with each level of education. Females are some-what disadvantaged in both primary admission GR = 0.88) and gross enrollment (GR = 0.77) and repeat at approximately the same rate as males (GR=1.01).

Although a smaller proportion of females enrolled in grade one actually completes primary school (GR = 0.81), those enrolled in the final grade of primary conti-nue on to secondary as close to the same rate as males (GR = 0.92). In secondary school female repeat at a rate slightly higher than males (GR = 1.10). Women have on average slightly more than three –quarters of a year of schooling, a rate that is 40% of the male rate, and the only 30% of adult women are literate, just over half the male rate (GR = 0.57). Finally, 32% of women participate in the labor force, a rate that is 63% of the male rate. Rahji M.A.Y in his study, "primary school enrollment and gender gap of rural *households' children in South Western Nigeria," examined school enrollment and gender gap of rural household children at the primary level. A multistage sampling technique was used in data collection. Probit model was used in analyzing the data set. Evidence from the analysis indicated more boys were enrolled than girls. The factors considered affect male and female children differently. Father's education varia-ble is significant for boys. It is not significant for girls. Mother's education variable though positive in both cases is not significant. The Probit model predicted a gender gap of 12.56 percent in favor of boys. Most of the gap is due to differences in the ways households perceive male and female children. There is thus a preference for boys over girls in the demand for schooling. Based on the find-ings of this study, incentives for the enrollment of more girls were recommended. These include: differential fees, free tuition, and increased public subsidies for female education.

Macpherson and Even (1993) concluded that private sector unionism fell by 9.5 percentage points more for men than women, and the gender wage gap (one minus the ratio of the female to male wages) decreased by 0.09. These trends support two findings: First unionism fell more slowly for women primarily because the probability of unionism fell most rapidly in jobs dominated by males. Second, the greater decline in unionism among males is responsible for approximately one seventh of 0.09 declined in the gender age gap.

Data and data source

Taking into consideration the scope and objectives of the study, mainly primary data was used to derive the answer of principally required questions. So the required data was taken from the Federal Bureau of Statistics collected for the study titled, "Pakistan Social and Living Standard Measurement Survey (PSLM), 2004-05, National/ Provincial. The study was conducted by Statistics Division, Federal Bureau of Statistics, Government of Pakistan. The universe of PSLM study was all urban and rural areas of the four provinces and Islamabad excluding mili-tary restricted areas. FBS has developed its own urban sampling frame which was up-dated in 2003.

So the data collected from a fixed number of 74420 households comprising 5204 sample villages/enumeration blocks, which were expected to produce reliable results at each district ,which was collected for PSLM study was analyzed to derive the results according to the objectives of the gender disparity study. However the total sample size including AJK, NA and FATA is 76520 households.

Since the data was collected for some other study, and the objectives of this study were not kept in view, the data available was considered to fulfill the requirements. So

the characteristics of households with male children and the characteristics of households with female children were considered for analysis, A family, with two school age children of opposite sex, (one boy and one girl) were included in both the categories with the similar characteristics. To convert the available data according to the requirement, the house holds data was arranged on the basis of enrolled children that is, males and females.

METHODOLOGY

Handa (1996) applied Probit model to decompose gender gap of rural households children enrolled at primary schools. The same Probit model analysis was used by Rahji to assess gender gap in primary school enrollment in South Western Nigeria, which was already adopted by Even and Macpherson (1993) to assess wage gap between men and women in their article,

Consequently, using the same strategy, gender disparity was assessed by applying Probit model on primary data of gender enrollment in Pakistan. The Probit model analysis was presented as:

$Pr(E_i = 1/X) = 1$

and $Z_i = b_o + b_1X_1 + b_2 X_2 + \text{---------} + b_n X_n$

For i = boys (b) or girls (g)
The Probit model can be written as:

$Pr(E = 1/X_i) = (X_iB_i)$

Where E_i = school enrolled child of i sex
X_i = Observed individual and household characteristics B_i = Coefficient of variable i
= the standard normal cumulative density

function Generalized form of the Probit model was:-

$Z_i = b_0 + b_1$ FS+ b_2 HA + b_3 HE + b_4 DIS + b_5 HG + b_6HHV + b_7INC/FS + b_8(FEM_W/WO) + b9(MAL_W/WO) + b_{10}UR + b_{11}Punjab + b_{12}Sindh + b_{13}NWFP +

$Z_g = b_0 + b_1$ FS+ b_2 HA + b_3HE + b_4 DIS + b_5 HG + b_6HHV + b_7INC/FS + b_8(FEM_W/WO) + b9(MAL_W/WO) + b_{10}UR + b_{11}Punjab + b_{12}Sindh + b_{13}NWFP +

Where: Z_i = Dummy dependent -- i = boys
Z_g = Dummy depenent -- g = girls
FS = Family size
HA = Age of the head of the household
HE = Education of the head of the household

DIS = School Distance
HG = Gender of the head of the household
HHV = Household assets value
INC/FS = Per capita income of the house hold
FEM_W/WO = Female Working/Working
MAL_W/WO = Male Working/Working
UR =Dummy for Urban = 1 and Rural=0
Punjab = 1 otherwise = 0
Sindh = 1 otherwise = 0
NWFP =1 otherwise = 0
= Error term

The Probit coefficients were estimated by applying two models (one for male and other for female enrolled students). The estimated coefficients were decomposed to assess gap between males and females enrollment at school level. The estimated probability of enrollment by sex has been presented as follows:-

The predicted probability of enrollment for boys was:

$$P\left(\overline{X}b, \hat{\beta}b\right) = \frac{1}{N_b}\sum_{i=1}^{N_b} \varphi\left(\overline{X}b, \hat{\beta}\, b\right)$$

M = males

The predicted probability of enrollment for girls was:-

$$P\left(\overline{X}g, \hat{\beta}g\right) = \frac{1}{N_g}\sum_{i=1}^{N_g} \varphi\left(\overline{X}g, \hat{\beta}\, g\right)$$

g = females

The gender gap (GAP) in enrollment was estimated calculating the difference in the predicted enrollment by sexes so:

GAP = P(Xb, $\hat{}$b) – P(Xg, $\hat{}$g)

In this specification the girls group was the reference group. The decomposition of gender gap was classified as the explained por-tion of the gap (EXP), the difference due to the explanatory varia-bles. This is obtained by estimating the enrollment rate that girls would have if they had the characteristics of the boys or expla-natory variables. Hence it would be:

EXP = P(Xb, $\hat{}$g) – P(Xg, $\hat{}$g)

The unexplained portion of the gap (UEX) was the change in enrollment that would be expected to occur if the probability of the girl enrollment is determined by the boy coefficients such as:

UEX = P(Xg, $\hat{}$b) – P(Xg, $\hat{}$g)

Lastly, the classified gap was the residual (RES) of the total enrollment gap which forces an adding up constraints that was represented as:

(GAP) = EXP + UEX + RES or

(RES) = GAP - EXP - UEX

The residual gap indicates by how much the estimated enrollment gap would change if the boys are used as the reference group (Even and Macpherson, 1993). Value of the residual was known to be equal in size but opposite in sign when the reference group was switched.

RESULTS

As described in methodology the gender disparity was measured applying Probit model. Gender disparity was assessed at primary school level. Though the data was not collected specifically for this study dependency of available data was confined to specific variables for measurements by applying Probit model. The results of both the considered models were described in this sec-tion.

Overtime change in status of girls' NER in South Asia

Overtime change in net enrollment of girls will reflect the

Table 1. Percentage gain in girls' NER South Asia: c, 1990- c, 2003.

Country	Girls' NER c.1990	Girls' NER c.2001	Improvement (%)
Sri Lanka	90	100	11.1
Bangladesh	66	87.5	32.6
India	61	75.7	24.1
Nepal	41	66	61.0
Bhutan	50	60	20
Pakistan	62	50	-19.4
Afghanistan	27	67*	148.1

*Source: Measuring Gender Inequality in Education in South Asia (2006).

Table 2. Percentage gain in GEI, South Asia: c. 1990 -c 2001.

Country	GEI c. 1990	GEI c. 2001	Change in %
Nepal	0.42	0.68	(+) 62
Bangladesh	0.62	0.76	(+) 23
Pakistan	0.52	0.64	(+) 23
India	0.64	0.74	(+) 16
Sri Lanka	0.98	0.99	(+)3
Bhutan, Maldives Afghnistan	n .d	n .d	

Source: Measuring Gender Inequality in Education in South Asia (2006).

status or inclination of the responsible or decision making personals at household level in the context of sending the school going age group female children to school. The data presented in the Table 1Áindicate that except Pakistan there registered positive change in net enrollment in about all the countries in enrollment of school going age female children from 1990 to 2001. However it was negative (-19.4%) in Pakistan in the same period. Afghanistan remained ahead with enormous positive change of 148.1% in net enrollment of school going age female children in 2001 over 1990. The follower in this regard was Nepal with the change in similar direction (+61%) in the same period. However in all the countries for which the data was available, except Pakistan, made per-centage gains in the level of enrollment of female school going age children. Some sizeable reduction in net enroll-ment of females in Pakistan in this data could not be justified in the normal environment of the country (Table 1).

Overtime change in status of GEI in South Asia

The measurement of primary enrollment through gender disaggregated, Ger and NER, the gender related EFA index (GEI) developed by UNESCO for use in its Global Monitoring Reports, is an attempt to indicate the extent to which boys and girls are equally present at different levels, in the education system (primary, secondary, and adult education). However a country can have a GEI of 1, indicating complete equality between boys and girls but still have low rates of access retention and achievement for girls and boys (Unterhalter, 2006). The data presented in Table 2 reveal that there emerged improvement in GEI overtime though there is still option for improvement, since in all the countries, for which the data is available, GEI is estimated to less than 1. For Bhutan, Maldives, and Afghnistan the needed data is not available. The percentage gain in GEI was equal in Pakistan and Bangladesh (+23%) in 2001 over 1990. This again indicates the data mistake in calculation of NER in case of Pakistan and may be said in case of considered other countries as well. The data also show the positive improvement in percentage gain in GEI (estimated) in 2001 over 1990 for the countries for which the data is available (Table 2).

For the purpose of this analysis, movement towards disparity in favour of girls/ women is included in the calculation for improvement.

Estimated results of the model

As described already in the methodology the gender disparity was estimated by applying the Probit model coefficients. Since the data used in estimating the probit mo-dels was collected by Federal Bureau of Statistics (FBS) for some other study, matching the data to the objectives of the current study, the following options were consi-dered:

i.) Data was classified on the basis of male and female children enrolled in classes of respective ages.

Table 3. Results of probit models for primary level enrolled children

	Males		Females	
Variables	**Coefficients**	**Z-Value**	**Coefficients**	**Z-value**
HE	0.05752	33.17	0.06799	37.51
HA	0.00662	10.70	0.00910	13.77
FS	(-) 0.00447	(-) 2.24	(-) 0.00710	(-) 3.43
DIS	(-) 3.76845	(-)7.76	(-) 4.14392	(-)6.16
H-INC/Fs	2.73E-06	3.67	2.30E-06	3.36
HHV	9.36E-10	0.78	5.97E-08	3.45
HW	0.05862	17.91	0.07645	22.80
FEM_W/WO	(-) 4.8756	(-) 0.72	(-) 12.095	(-) 0.85
Mal_W/WO	(-) 4.791	(-) 0.70	(-) 11.863	(-) 0.84
UR	(-) 0.2156	(-) 13.35	(-) 0.4113	(-) 24.56
Punjab	0.47476	23.02	0.7408	32.83
Sindh	(-) 0.01543	(-) 0.74	0.0630	2.69
NWFP	0.348	15.35	0.348	13.68
Constant	4.7696	0.69	11.667	0.67
Total	39860		35847	
Enrolled	25028 (63%)		18541 (52%)	
SE (Regression)	0.4463		0.4374	
Log-Likelihood	(-)23062.1		(-) 20061.3	
LR_Statisrics (13df)	6496.2		9629.2	
McFadden R^2	0.123		0.191	

ii.) Family having both categories of children was include -ed in both the categories (male and female) students separately and the characteristics of such households were included in both the models established for male and female students separately.
iii.) The probit model was applied separately on male as well as female data.
iv.) The considered official age was 5 to 9 years for primary classes.

The results of the models for male and female primary school children aged 5 to 9 years were presented in the Table 3. The data in the table show that family size and the distance of the school contributed not only negatively but also significantly in both the cases (male and female students) enrolled at primary level. Moreover the negative and insignificant contributing variables were ratio of male workers by family members as well as ratio of female workers by family member workers. The economic variable specifically per capita income of the households was found contributing positively and significantly in case of male students and positively and insignificantly in case of female students. This indicates principal economic variable (Per Capita Income) was one of the causes of gender disparity at primary school level. It could be concluded that implementation of policy measures specifically the financial help of every student in rural areas was justifyable keeping in view the poverty status of the rural areas of the Punjab province and it needs to be implemented in all other provinces. Perhaps due to such measures the Punjab province was at the bottom with respect to gender disparity among all the provinces. However to make these policy measures more effective to bring the female children to school, other steps regarding awareness of significance of the female children education need to be the part of campaign of measures of universal slogan “education for all”. Moreover such misconception that the girls were to become ultimately the member of expected husband s’ households after marriage and the boys remained principal heirs of the all types of properties owned by the parents while looking after of the aged parents became responsibility of the males under societal aspirations, should be improved and female children should be considered the effective member of the society and be given equal attention in all spheres of life. The policy of financial assistance has already been implemented in the Punjab province under PSER to get all the children of school going age (males or females), enrolled at primary school and its positive impact was obvious that Punjab was at the bottom with respect to gender disparity. So such financial measures should be implemented in other provinces to get the positive results regarding elimination of gender dis-parity. All other economic and considered social variables except that of gender head contributed not only positively but significantly in both male and female categories. Moreover the difference of rural and urban area was affecting negatively and significantly for both the cate-gories of students but the estimated coefficients were higher for females. This indicates that the area boundary was affecting both the categories of the students but its

Table 4. Decomposition of gender gap at primary school Level.

Code	Items	Value	Value %	Overall GAP %
EXP	Gap due to Xs	-0.00316	-.316	-2.84
UEX	Gap due to Bs	0.10956	10.956	98.44
RES	Gap due to interaction	0. 00489	0.489	4.40
GAP	0 .11129	11.13	100.0	

effect was more obvious for female children causing gender gap more widen. This indicates that above described con-cepts were stronger even in rural areas. The estimated coefficients of other considered variables were generally more in case of female children. This indicates that all the economic and social variables, that is, age of the head of the household, education of the head of the households, education of wife of the head of the households that is considered proxy for children mothers' education contri-buted positively but also significantly not for male only but similar contribution was obvious for female children en-rolled at primary level. The negative contribution of school distance was not the matter in case of male child-ren, because according to the public sector implemented development program a primary school has been esta-blished in every village. Undoubtedly coeducation has been allowed in every primary school level specifically in rural area, but literacy level of education in this area and other misconceptions of parents regarding female child-ren s' education were widening gap in males and females enrollment at primary level in this area.

Estimation of gender gap at primary level

Following the methodology, the Probit model was used to assess the gender disparity at primary school level and the gender gap was decomposed considering:

i.) The gender gap in enrollment is decomposed by using the estimated probit coefficients. The gender gap (GAP) in enrollment was predicted by probit equations by sexes, that is, male and female children models separately.
ii.) Explained portion of the gap, (the difference of males and females in explanatory variables, this is obtained by estimating the enrolled rate that girls would have if they had the boys characteristics or explanatory variables.
iii.) Unexplained portion of the gap (UEX) is the change in the enrollment that would occur when the girls' enrollment probability would be determined by the boys.
iv.) The residual gap indicates by how much the esti-mated enrollment gap would change if the boys would be used as the reference group (Even and Macpherson, 1993). The value of residual is known to be equal in size but opposite in sign when the reference group is switch-ed.

GAP = EXP + UEX + RES
RES = GAP – EXP - UEX

The decomposition of gender gap estimated considering various options has been presented in Table 4.

As described above, the gender disparity was estima-ted applying Probit models, has been classified as ex-plained portion of gap (EXP) that is, the difference of males and females in explanatory variables which was estimated the enrolled rate that girls would have if they had boys' characteristics or explanatory variables. This was GAP due to Xs. Unexplained portion of gap (UEX) that is, the gap due to Bs and residual of the total enroll-ment gap (RES) due to interaction. Gender gap at pri-mary school level was estimated to the extent to 11.13% whereas EXP gap was (-) 0.316 which was due to diffe-rence in characteristics of the considered variables of the sexes. This was -2.84% of the entire estimated gap. The gap which was the effect of parent characteristics con-sidered as variables for the models and the way, the households treat the boys and girls under normal routine and societal aspirations was estimated at 10.956 or 98.4% of the estimated entire gap. The remaining gap 0.489 or 4.4% of the entire estimated gap was due to interaction effect. This situation leads towards the dimen-sion that boys are preferable group in Pakistan. Since the disparity was due to the preference of the males over the females for enrollment at primary school level. Underlying reasons might be the cultural, societal and traditional expectations. Moreover, superstitious concept regarding linked future of females with other households after mar-riage while all obligations of parents were for males con-sidering them heirs of all types property specifically in rural areas pushes the females in darkness of illiteracy.

Conclusion

Millennium Development Goal (MDG 3) for gender equality and the empowerment of the women was the goal that was set with the earliest date for achievement. The target associated with MDG 3 was an end to gender disparity in primary and secondary education (Unterhalter, 2006). Despite adoption of the several policy measures and program initiatives,

Pakistan was unable to achieve the basic objectives linked with alleviation of gender disparity at all levels particularly at school levels. Despite focusing on education in general and gender disparity in particularly the country has not recorded a step towards gender equality. Actually no progress has been registered in the context of reducing the gender gap.

Except Pakistan there registered a positive change in net enrollment in about all the considered countries (Sri Lanka, Bangladesh, India, Nepal, Bhutan, Afghanistan) in enrollment of school going age female children from 1990 to 2000 however, it was negative (-19.4) in Pakistan in the same period. The percentage gain in GEI was equal in Pakistan and Bangladesh (+23%) in 2002 over 1990.

In the model the economic variable specifically per capita income of the households was found contributing positively and significantly in case of male students and positively but insignificantly in case of female students. This indicates that per capita income was one of the causes of gender disparity at primary school level. The policy of financial assistance has already been implemented in the Punjab province under PSER, to get all the students (males and females) of school going age enrolled at primary school and its positive impact was obvious that Punjab was at the bottom with respect to gender disparity. By this it could be concluded that the policy of financial help was justifiable under economic environment or poverty status of the country and this should be implemented in the other provinces to get the positive result regarding elimination of gender disparity. The difference of rural-urban environment was affecting negatively for both the categories of students but impact was more on female students causing gender gap widen. The other social variables, that is, age of the head of households, education of the households, educational status of the wife of the head of the household (that is considered proxy for children's mother education) contri-buted positively but also significantly for both the catego-ries of the students but the estimated coefficients were higher in case of female students. The negative contribu-tion of the school distance was not the matter in case of both the categories because according to the public sec-tor implemented development program a primary school has been established in every village. Undoubtedly co-education has been allowed at every primary school level specifically in rural areas but literacy status of rural areas and other misconception of parents regarding co-educa-tion were the causes of widening the gender gap.

Gender gap at primary school level was estimated to the extent to 11.13%. The gap which was the effect of parents' characteristics considered as variables for the models and ways households treat the boys and girls under normal routine and societal aspirations was esti-mated at 10.956 or 98.4% of the estimated entire gap. This situation leads towards the dimension that boys are preferable group in Pakistan. Since the disparity was due to the preference of the males over the females for enroll-ment at primary school level.

Underlying reasons might be the cultural, societal and traditional expectations that is, superstitious concept re-garding linked future of females with expected husband households after marriage, while all obligations of parents were for males considering them heirs of all types of pro-perty specifically in rural areas.

Policy implications

On the basis of conclusion gender disparity was con-firmed and preferred group was found the male children. The highest gap estimated was due to difference in treat-ment, as the male children were considered the preferred group relative to females of the same age. There is thus a need to initiate the campaign regarding indifference treatment of both the categories of children not only in education but in all walks of life. So the families should treat both the sexes equally in all routine of daily busi-ness and education be preferred and given priority in this context.

The significance of female education and its likely contribution to the development of the country must be the first and foremost focus of the awareness campaign specifically in rural and remote areas. Here a notable point was that the Punjab government was already adopt-ing necessary measures to enhance enrollment of fe-males at all levels of school education by providing finan-cial assistance and it reached at the bottom with respect to gender disparity. So the similar measures need to be introduced in all other provinces.

Increase in number of primary school for girls should be one of the significant policy options. The distance of the schools and family size contributed negatively in the models it is thus recommended that school should be established nearest to villages. Along with other incentives already implemented in rural areas the reduce-tion in school distance may prove a good step to reduce gender disparity at primary school level. Moreover the family planning concept introduced in the country needs to be implemented more effectively for the development process and to exhaust gender disparity specifically.

Last but not the least, a special suggestion is recom-mended for the policy makers to exhaust gender gap not only at primary but also at middle school level. There is a need to introduce a policy of appointing female teachers in all the schools considering co- education up to middle level in rural as well as in urban areas. This would pro-vide job opportunities for educated rural females on one hand and on the other hand the affectionate behavior of female teachers may prove having positive effects on enrollment of both the categories (males and females) of the students. This may result in longer stay of the stu-dents with in school premises and would assist in provid-ing the environment to complete the primary circle of edu-cation by the enrolled students.

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