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EMPIRICAL IMPACT OF HIGH GROWTH IN POPULATION, POVERTY AND INSUFFICIENT GOVERNMENT, EDUCATION EXPENDITURE ON LITERACY RATE IN PAKISTAN

ABSTRACT

The economy of Pakistan suffered by multiple social and economical issues, this includes the burden of high growth in population, poverty, insufficient growth in GNP, illiteracy and so on. Development of any economy of a country highly depends on proper utilization of human resource. Education is the most important source of human resource development, and literacy is the basic component of education. Government of Pakistan took many initiatives to overcome the problem of illiteracy and introduce various literacy plans and schemes. However, there are various direct and indirect factors affect education scenario in the country and a large proportion of the population in this modern age remains illiterate. Therefore, this research study focused to evaluate the trend in literacy rate in Pakistan compare to reset of the world and examine the literacy rate among both gender (i.e. male and female). This study also finds out the degree at which macro economical issues such as high growth in population, poverty and short of government attention (such as insufficient government expending for education sector) affect the literacy rate in Pakistan.

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KEY WORDS: Literacy Rate, Illiteracy, Human Resource, Economy Development, Population, Poverty, Government Expending

INTRODUCTION

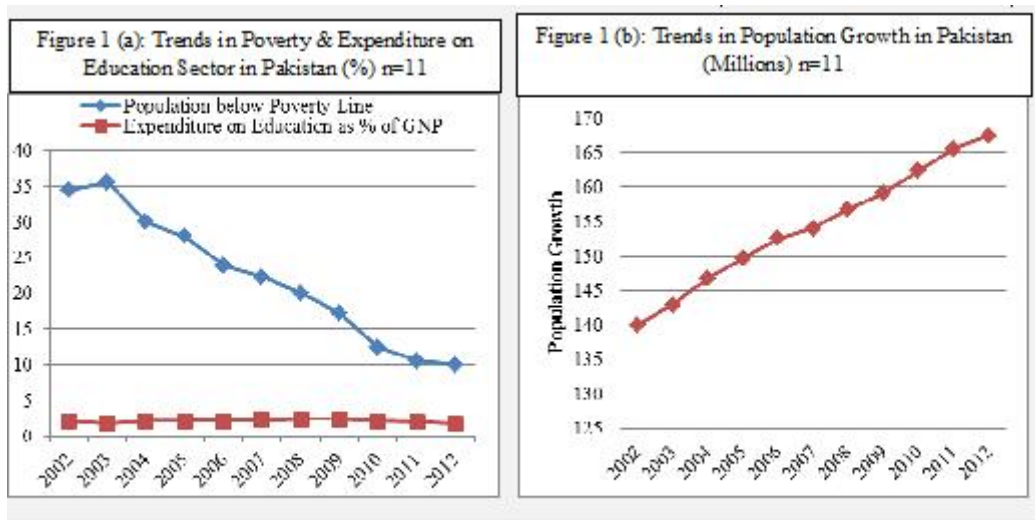
Pakistan is characterized as developing country of the world and since its existence country suffered by economy instability. Pakistan is rich in human resource and availability of education to all can make its human capital more productive, as a result, economy of Pakistan will be more stable. However, after 65 years of independence, Government of Pakistan not able to provides even basic education to its whole population. Therefore, this research paper presents to determine the empirical impacts of different macro economic variables (i.e. poverty, size of population and public sector expenditure on education sector) on literacy rate in Pakistan. The paper has three different parts. Part one based on introduction and conceptualized literature review. Part two briefly discusses research methodology of the study and last part consists on finding, conclusions and recommendations.

CONCEPTUALIZATION

Education plays a very significant and crucial role in the socio-economic development of a nation (*United Nations Educational Scientific and Cultural Organization*, 2006). According to Chitrakar (2009), literacy is the foundation pillar of the education. **Literacy rate is defined as "the ability to use written language actively and passively"** (*Literacy from Wikipedia the free encyclopedia*). **"Literacy rate refer to the "ability to read, write" (Oxford Advanced Learner's Dictionary, 2005).** Literacy rate of a country refers to the particular proportion of population who are supposed to be able to read, write, to understand and to speak a language. According to *United Nations Educational, Scientific and Cultural Organization* (2010), literacy is at the heart of basic education which is essential for eradicating poverty, reduction in child mortality, curbing rapid growth of population, and ensuring sustainable development, peace and democracy. Whereas, in many countries of the world literacy rate is not satisfactory, particularly, in under developed and less developed countries (Global Gender Gap Report, 2011). There are more than 780 million population is literate in the world, at the same time million are unable to get their fundamental right, to be literate (United Nations, 2010).

Pakistan came in to existence as independent state in 1947, the founder of Pakistan Quaid-e-Azam Muhammad Ali Jinnah, provided principles and guidelines for the education system in the country (Zaidi, 1999). At national and international level, Pakistan makes commitment to provide basic education to all such as Beijing Declaration and Platform for Action 1995, World Declaration on Education For All 2000, Dakar Framework for Action, Education for All: 2000 and The Millennium Declaration and Millennium Development Goals (MDGs). Government of Pakistan develops series of education policies such as national education policy 1972, national education policy 1979, and national education policy 1992 for the development of education sector and to achieve 100 percent literacy rate (Isani & Virk, 2003). However, United Nations (2010) reported that in respect of literacy rate country Pakistan stand at 160th with 50% percent literacy rate in list of countries of the world, in other word country ranks among bottom countries of the world. According to Economic Survey of Pakistan (2010-11) the overall literacy rate of age 10 years and above are 57.7 percent on other side, regional and gender discrimination (that favors males) also be present in Pakistan. According to Social Policy and Development Center (2003) and Qasmi (2009), literacy rate in Pakistan negatively affected by various macro economical issues such high growth in population, poverty and lack of government expenditure in education sector. Figure 1 (a) shows that during mentioned years, ratio of population below poverty line was decrease this is the positive sign for enhancing literacy rate in the country. Insufficient financial resources for education sector hampered the efforts to open more education institutions at all levels, provide missing facilities in educational institutions, and offer incentives to female child from poor families. Government expenditure on education sector (i.e. in percent of GNP) was not significantly increase. High growth in population supposed as burden on economy in less developed countries like Pakistan. Whereas, figure (b) indicates that in Pakistan growth in population is very fast.

Figure-1: Trends for Growth in Population, Poverty and Government Expenditure in Education Sector in Pakistan n=11 Years (2002 To 2012)



Data Source: State Bank of Pakistan 2010; Pakistan Economic Surveys 2004-05, 2008-09, 2009-10 & 2012-13

To sum up, literacy is the basic component to make human resource proficient. Government of Pakistan makes policies to provide education to all however, due to burden of population, poverty and lack of public expenditures on education sector, large proportion of labor force remain illiterate in Pakistan. This opens the area to investigate literacy trends and major obstacles of illiteracy in Pakistan.

METHODOLOGY

This research study focused to scrutinize the trend of literacy in Pakistan and to identify the impact of major macro issues of illiteracy in the country. This study is secondary data based and annual time-series data was collected on selected variables such as on literacy trends, population, poverty and public spending on education sector (i.e. in percent of GNP). To measure the significant impact of independent variables (i.e. population, poverty and government education expenditures on dependent variables (i.e. literacy rate) Ordinary Least Squares (OLS) was applied. The secondary data was taken for these variables from the website of State Bank of Pakistan and Economic Surveys of Pakistan. SPSS and MS-Excel were used to analyze the data and to present the findings. The findings of this study would provide numerical facts about the impact of population, poverty and government expenditure (i.e. in education sector) on literacy rate in Pakistan which help to generate compatible initiatives to overcome the problem of illiteracy in the country.

Multiple Regression Equation:-

$$y = b_0 + b_1x_1 + b_2x_2 + b_3x_3$$

Where:

y= dependent variable (i.e. literacy rate)

b₀=intercept/constant

b₁, b₂ & b₃= coefficients

x₁= population below poverty line

x₂= expenditure on education as % of GNP

x₃= population

STUDY RESULTS

The table 1 indicates the literacy rate in various countries of the world. Presented data reveals that to achieve 100 percent literacy rate is not only a dream. There are many countries in the world who already achieved this ratio or at the nearest standard to educate their whole population. However, the comparative analysis of literacy rate in Pakistan with other mentioned countries indicates that Pakistan still remain far to realize the economic importance of educated human resource in the social and economical development of the country.

Table 1: Trends in Literacy Rate by Country n=11 (%)

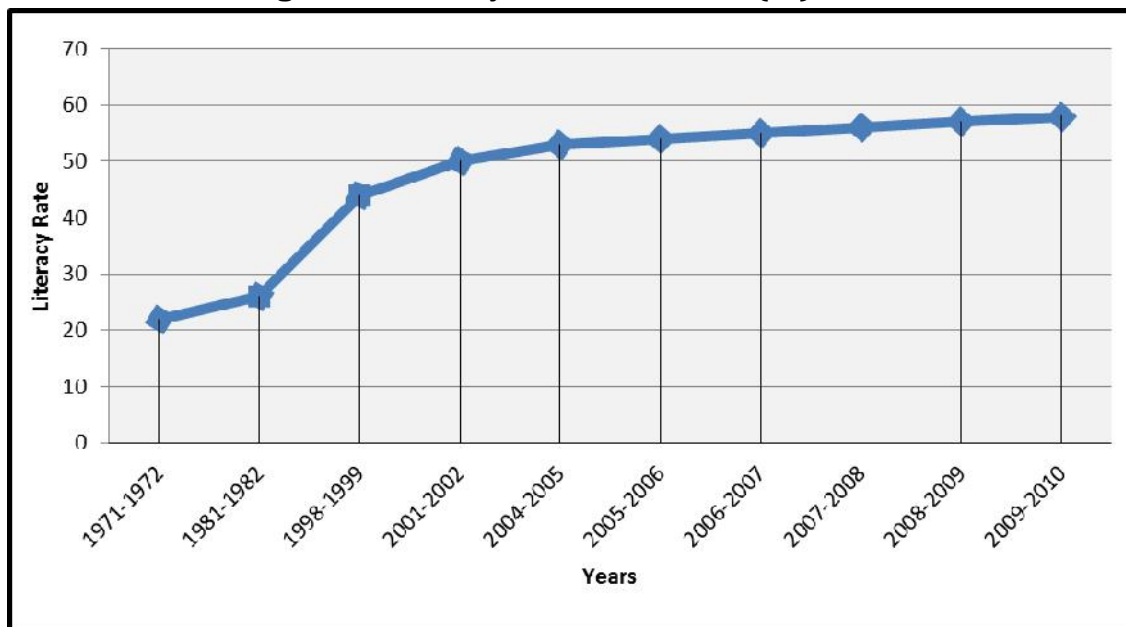
Countries	Literacy Rate
Russia	100
Australia	99
Japan	99
U.K	99
U.S.A	99
China	93
Sri Lanka	91
Saudi Arabia	83
Iran	82
India	61
Pakistan	50

Source: United Nations (2010)

Figure 2 shows literacy trends in Pakistan over past years. Presented trend indicates that literacy rate in Pakistan slowly and gradually has been continuing to improve whereas, 50 percent out of total Pakistani

population have no access to get basic education and remain illiterate. According to Qasmi (2009), due to socio-economic environment and government ignorance, access to basic to all remained unsolved issue in Pakistan.

Figure-2: Literacy Rate in Pakistan (%) n= 10



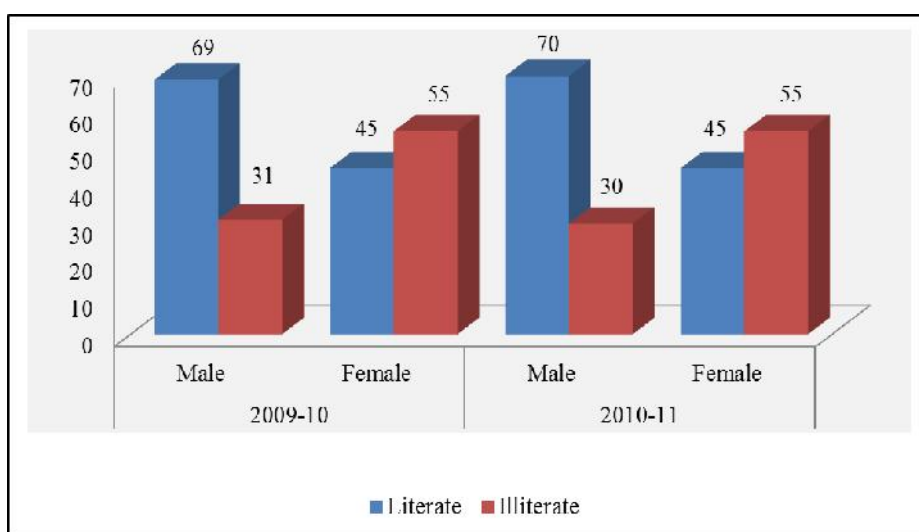
Source: Federal Bureau of Statistics of Pakistan 2011; Pakistan Economic Surveys 2004-05, 2009-10

Figure 3 highlights literacy trends in Pakistan by gender. Data show up that gender disparity to get education, exists in Pakistan. Comparative analysis shows slightly improvement in literacy rate among male during mentioned years whereas, female reported without any positive change during mentioned years. United Nations Educational, Scientific and Cultural Organization (2010),

reported that regional disparity (i.e. rural-urban regions) in order to get education also exists in Pakistan and rural female remain more illiterate than urban female.

According to Pakistan Education Statistics (2010-11), high growth in population and poverty have more powerful negative impact on education sector in Pakistan, and this trend is more prominent in rural areas.

Figure-3: Literacy Trends in Pakistan by Gender (%)



Source: Economic Survey of Pakistan (2011-12), p.34

Table 2 presents empirical results of regression model. The value of R Square for this regression model is 0.86, this indicative that 86 percent variation in literacy rate in Pakistan explained by this model. Small value of

standard error (i.e. 1.3) and value of durbin-watson (i.e. 1.4) under acceptable range indicative that model fulfill the requirements of good model without any numerical error in predicting literacy rate.

Table-2: Summary of Empirical Results for Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.946 ^a	.896	.844	1.395	1.481
<ul style="list-style-type: none"> ▪ predictors: (constant), population, expenditure on education as % of GNP, population below poverty line ▪ dependent variable: literacy rate 					

Data Source: State Bank of Pakistan 2010; Pakistan Economic Surveys 2004-05, 2009-10, 2012-13

Table 3 presents ANOVA (i.e. analysis-of-variance) statistical test results. This test is used to determine the impact of independent variables on the dependent variable in a regression analysis and assesses the overall significance of the model (Christopher, 2011). The F-test

estimates the statistical significance of the regression equation and indicates the global significance of the model (Jeffrey, 2012). In this case model has a significant value of F-statistics (i.e. 17.17) this indicative that regression is useful for predicting literacy rate.

Table-3: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	100.319	3	33.440	17.177	.002
	Residual	11.681	6	1.947		
	Total	112.000	9			
<ul style="list-style-type: none"> ▪ Predictors: (Constant), Population, Expenditure on Education as % of GNP, Population Below Poverty Line ▪ Dependent Variable: Literacy Rate 						

Data Source: State Bank of Pakistan 2010; Pakistan Economic Surveys 2004-05, 2009-10, 2012-13

Table 4 presents variables in equation for multiple regression model. Values of t-statistics for all independent variables are significant however, expenditure on education as % of GNP has positive impact. Whereas, population below poverty line and size of population has negative impacts on literacy rate in Pakistan. The value of B-coefficient for expenditure on education sector as % of Gross National Product (GNP) shows average increase in literacy rate (i.e. 8.608)

associated with one percent add to government expenditure on education sector (i.e. as % of GNP). The value of B-coefficient for the ratio of population below poverty line shows average decline of literacy rate associated with a rise of 1.137 percent of ratio of population below poverty line. The value of B-coefficient for population size shows average decline in literacy rate associated with a rise of 1.018 million of population.

Table-4: Variables in Equation for Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	216.698	58.915		3.678	.010			
	Population Below Poverty Line	-1.137	.306	-2.810	-3.715	.010	-.787	-.835	-.490
	Expenditure on Education as % of GNP	8.608	2.635	.485	3.267	.017	.649	.800	.431
	Population	-1.018	.346	-2.259	-2.943	.026	.722	-.769	-.388
<ul style="list-style-type: none"> ▪ Dependent Variable: Literacy Rate 									

Data Source: State Bank of Pakistan 2010; Pakistan Economic Surveys 2004-05, 2009-10, 2012-13

The values of t-statistics for all independent variables show significant impact (i.e. either positive or negative) of all independent variables on literacy rate. However, the comparative value of t-statistics for ratio of population below poverty line (i.e. -3.719) with other independent variables indicates that poverty has more powerful negative impact on literacy rate.

CONCLUSIONS & RECOMMENDATIONS

It is concluded that literacy has enormous significance in economic expansion of the country whereas, illiteracy slow down the socio-economic growth of the nations. In 21st century many nations of the world already pull off 100 percent literacy rate and successfully competing in global economy. Whereas, in Pakistan literacy rate, in term of most significant education indicator far from being satisfactory and doesn't compare favorably with many countries of the world. On other hand, substantial disparity in literacy rate also exists by gender and regions (i.e. rural-urban) in Pakistan. Government of Pakistan makes serious efforts as to boost up literacy rate. However, economy of Pakistan suffered by many economical and non-economical issues including high growth in population and poverty. On flip side, empirical results confirmed that, enlargement in population and poverty has more significant negative impact on literacy rate in Pakistan. In addition, insufficient financial resources for education sector hampered the efforts to open more education institutions at all levels, provide missing facilities in schools, and offer incentives to motivate families to educate their children, particularly, in low income household. Therefore, lower investment is one of the major reasons of high illiteracy in Pakistan. In the light of study results, it is suggested that low and uneven literacy rate has to be addressed and government should have to uplift its policy initiatives to remove the regional and gender discrimination in access to basic education. Public expenditures on education sector (i.e. as ratio of GNP) should be enlarged and educational institutions should be upgrade to improve both output and quality of education.

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