Impact of Human Capital on Poverty Alleviation in District Karak, Khyber Pakhtunkhwa

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Abstract

The eradication of poverty has become a foremost challenge across the developing world and universally acknowledged as a multidirectional phenomena. The study in hand explores the role of human capital in mitigating the thrust of poverty dilemma in the district Karak Khyber Pakhtunkhwa. The present study endeavor based upon the primary data, gathered though a comprehensive questionnaire from randomly selected sample of 150 households at the tehsil level in the district Karak. The study employed logistic regression model to explore the variety of human capital factors i.e., level of education, training programs etc. Education, technical training and provision of employment opportunities are some of the factors eliminating poverty. It revealed that the prevalence of poverty is more a rural than urban dilemma and it necessitates the multi-prong strategies and regional i.e. rural and urban specific and gender focused specific intervention to wipe out the problem of poverty.

Keywords: Human capital, Poverty alleviation, Karak.

Introduction

Eradication of poverty remained a foremost challenge across the developing world.[1] Poverty is a condition where a person is unable to earn enough money to satisfy his basic needs of food, clothing and housing.[2] Conventionally, it can be defined as lack of income, denial of resources and justice, low expenditures and absence of basic requirements. It can be judged in the form of limited asset and lack of dwelling ownership. Poverty is a curse and in fact it is responsible for the occurrence of majority of the crimes. Being a complicated phenomenon, it comprises of financial, political and

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social deprivation of the people.[3] The literature expose that it is mainly regarded as rural phenomena[4] and its magnitude varies across the region and over the space. In rural areas, poverty is severe because of the homogeneity of population.[5] As the rural population lack skillful knowledge, so there is no attractive employment opportunities to the rural population. Whereas, in urban, the population have diverse skills so diverse employment opportunities and attractive packages are available to them.[6]

Alleviation and eradication of poverty is a big concern in a country like Pakistan. In 2007-08, 17.2 percent of the population was estimated to be living below the poverty line[7], which was the lowest in Pakistan's history. With the every coming day in Pakistan, escalation is observed in poverty level and more than 40 percent of total population lives their lives as poor.[8] History shows that in rural areas of Pakistan, poverty was at the highest while in cities, it was low. In Pakistan, poverty had increasing trend during 1960s. The main reason was the deficiency of policies for poverty eradication.[9] However poverty was observed to decline in 1970s. In 1990s, a rising trends in poverty were observed which continued till to 2000s.[10] Researchers did their best efforts to identify the roots of poverty since 70s and 80s and they suggested various policies for poverty eradication but unfortunately made focus on one variable and left the others.[11]

In the way to achieve economic development, the prevalence of poverty is crucial obstacle. By providing employment opportunities, easy approach to basic services like health, nutrition and education, poverty can be reduced. There is more poverty among the deprived section of the society, so it can be reduced by providing accessible educational facilities to that section.[12] Despite the multiple measures, education is considered one the important pillar to eliminate poverty.

Poverty is closely connected with human capital. It revealed from different studies that human capital has positive impacts on income and negative impacts on poverty and it was submitted that to enhance the welfare of the people investment in human capital is the best way to eliminate poverty.[13] Human capital comprise of health, education, training of skill and considered as a capital, because these are the incorporated parts that make the individual more stable for a long time, just like machine plant lasts.[14] Human capital was defined by Peter Kooreman and Sophia Wunderink as "all those qualities of a person including training, skill, health and know-how affecting his/ her money earning possibilities". [15]

Before nineteenth century, human capital investment was not given due importance but with the passage of time the magnitude of human capital realized to materialize the economic development. Thus, during the nineteenth century, the trend began to change when countries started to discover and develop new things and new methods of production. Such changes came first in UK and then spread progressively to other countries. During twentieth century, education, training, skills have turn out to be the important factors determining labor's productivity. Twentieth century is rightly to be called the era of human capital. Empirical studies are carried on how a nation can improve the knowledge, skills, health and habits of its people to raise their living standard. Less developed countries are characterized by low education and health level and the understanding of how poverty varies with improvement in human capital is important. An individual can be more efficient and more productive through investing in education.[16] The individual acquiring quality education and skills has more opportunities and could get good job and carry out favorable business, while enhancing the earnings. Consequently, education is helpful for an individual to get rid of poverty.[17]

To improve human capital and human welfare, education is regarded to be the most important. Education improves health and life expectancy which in turns affects the investment in education. The health and education of the children are affected by the education of their parents because the educated parents can better care of the health and education of their children. The children of educated people are not confronted with the stunting problem which is helpful in the achievement of better job and earn more income.[18] Rise in education significantly speed up the wages and output in non-farm activities.[19] At the same time, education is regarded as the foundation for human capital because knowledge, ability and skills could be increased through education, as all these are the characteristics of quality human capital.[20]

Education has both direct and indirect effects on poverty. Directly, education affect poverty in the way that higher the education, higher will be the income and lower will be the chances for a person being poor. Indirectly, education affects poverty in terms of the achievement of non-economic benefits by the people.[21] Low levels of income and material wealth are not the only determinants of poverty but non-availability of job opportunities, vulnerability and lack of basic services of health and education are also considered the basic important determinants of poverty.[22] Attention given and focusing on the system through

which poverty works and knowing the answer to question as how and why a person be poor is helpful in understanding the poverty.[23]

Statement of the Problem
Poverty is a crucial constraint in the way of economic development, particularly across the developing countries especially in Pakistan. In Pakistan, more than 70 percent people live in rural area and engage with forming. In rural area, the poverty was not control due the lack of education and health facilities. The people keep away their children especially female from education because some people cannot afford while some believe that it's just waste of time and money. In Karak district, the literacy level is high as 55 percent and also enriched with abundance of natural resources comprising of oil, gas, salt, gypsum, uranium etc revealing the rich economy of Karak. Thus, keeping in mind the above facts, this study investigates the indicators of poor human capital in terms of education in a district which is rich in natural resources. The present research endevour also aims to aware people about the importance of education because it is the only way to increase the human capital in order to eliminate poverty.

Objective of the Study
- To explore the role of human capital in the elimination of poverty.
- To explore the fundamental links between human capital and poverty alleviation in the district Karak.

Significance of the study
A large number of studies are available on the significance of improved human capital at regional, national and international level. Across the nations quality is being preferred for improvement of human capital over quantity. The human capital can be improved through improved educational and health institutions. The present study is being carried out to investigate the policies and steps to be taken for the enhancement of human capital in a single district in relevance to the country as a whole. This study highlights important clues for the policy makers in knowing the trends and to eliminate poverty in any area of Pakistan especially in Khyber Pakhtunkhwa & Punjab.

Literature Review

Rana Ejaz Ali Khan, Hafeez ur Rehman, and Muhammad Abrar-ul-Haq carried out a research to estimate the relationships and dependency between different factors Human resource (education & health) development and the incidence of poverty.[24] Muhammad Afzal conducted a study in which he explored the factors affecting the earnings and calculated the educational returns for the educational institution's workforce in Lahore in 2011; they collected information from the 8327 Individuals. According to him, family back ground, experience, gender, training, family status, education, nature of job, marital status etc were the main contributors contributing to the earning capabilities of work force of educational institutions of different categories. They calculated that with attainment of extra year of education, the returns to education increased by 12.4 percent, 15.8 percent and 12.5 percent respectively for schools, colleges and universities workforce.[25]

M. Azhar Khan and Hafeez Ur Rehman analyzed eloquently the human capital in various areas of Pakistan. They framed human capital as overall, urban and rural for the provinces of Pakistan. They found great regional disparities in human capital in Pakistan. They suggested that marginal productivity of labor could be increased if invested in human capital. So the government should allocate more finance to education and hospital in order to increase the human capital level but focused more on rural.[26]

Equal and easy access to electricity and quality education for all especially for female and the existence of better health facilities and services are crucial for good and efficient human capital.[27] So they suggested that for providing quality education and good health facilities, investment in these is thus a key to enhance the incomes of overall population and thus poverty will reduce.

According to Rashida Haq and Hina Nazli the conditions of the people of Pakistan are very worse as they are characterized by low level of human capital. Low housing standard, worse health conditions, shortage of safe water for drinking, mostly suffered from severe diseases and lack of garbage collection system all indicate the poor and shocking situation of the poor localities in most of the cities of Pakistan.[28]

Andrew McKay and David Lawson argue that the importance of distinguishing chronic and transient poverty has been recognized particularly in relation to income or consumption poverty. [29] Large family size is an additional load on the wealth

and resources of household. But the same point applies to some other dimensions of living conditions, though not to all.

Methodology of the Study

Sources of Data Collection
The study in hand based upon the primary information to be collected from the area under consideration through a comprehensive questionnaire. The questionnaire consists of opened ended and closed ended questions, while addressing the educational level, experience and gender aspects of the individuals. However, to accomplish the core objectives of the study, present research base upon 150 questionnaires containing the appropriate proportion of the respondents from each tehsil of the district Karak. Out of 150 questionnaires, sixty questionnaires are collected from Takht-e-Nasrati, 50 from Karak and 40 from Banda Daud Shah.

Selection of Model and Structure of Variables
To materialize the core ideology of the study, that, how poverty is affected by human capital is being estimated by using Binomial logistic regression model. Explanatory variable is given value 1 if below and 0 if above the poverty line. So functional form of the model is as follow:

$Y_i = f(X1_i, X2_i…Xk_i)$ ………….. 1

Where
Y_i= level of household's poverty
X_i= level of education and experience.
 Let's assume that y* is the variable that reveals the real status of the poverty (poor or non-poor), then the regression equation will be:

$$y_i^* = \sum_{j=0}^{k} X_{ij}\beta_j + \varepsilon_i$$

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y* is observed as a dummy variable with value 1 if $y^* > 0$ and 0 otherwise. βi in the equation, are the parameters and ε_i is the error term with zero mean assumption and its basic distribution is logistic. Let the probability of the *ith* household lying below the poverty line is represented by P_i assume that the *P* is a Bernoulli

variable and depends on the vector of *X,* the explanatory variable*,* so that

$$P_i(X) = \frac{e^{\alpha+\beta x}}{1+e^{\alpha+\beta x}}$$

………….. 3

Where
β = row vector and
α = scalar
Then Logistic function becomes

$$ln\left[\frac{P_i}{1-P_i}\right] = \alpha + \Sigma\beta_i X_{ij}$$

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$ln\left[\frac{P_i}{1-P_i}\right]$ is the natural log of the probability of being poor, while β_i is the logarithmic change of the ratio of the poor to non poor household. Maximum likelihood method is used to estimate equation (4) and there is no need of the assumption of homosecadasticity. X_i, the independent variables, represents experience and levels of education from middle till professional education. However, the general form of the model is given as below:

$P_r=\alpha+\beta_1 X_{Ex}+\beta_2 X_{Md}+\beta_3 X_{Mt}+\beta_4 X_{Int}+\beta_5 X_B+\beta_6 X_{Pro}+\beta_7 Sx+\beta_8 Xreg +\varepsilon$

P_r= Poor (1for poor, 0 otherwise)
X_{Ex} = Experience (Continues, number of years)
X_{Md} = Middle Education (1for middle education, 0 otherwise)
X_{Mt} = Metric (1for Metric, 0 otherwise)
X_{Int} = Intermediate (1for intermediate education, 0 otherwise)
X_B = Bachelor (1for bachelor education, 0 otherwise)
X_{Pro} = Professional (1for master and above qualificati0n, 0 otherwise)
G = Gender (1for male, 0 otherwise)
Xreg= Region (1 for urban, 0 otherwise)
ε = Disturbance Term

The above variables of human capital are constructed after the classification of individuals as poor and non-poor. Dummy variables are used for education and one who acquires the highest education will get value 1, otherwise 0. This will showed that

individual either acquire middle, matriculation, intermediate, bachelors or masters and above education using primary education as a reference. The experience is calculated by subtracting the schooling years and the age from which the start to go to school from a person's age. It is not the real but the possible experience. To make latent experience more momentous,

Results and Discussion

Profile of Education
To improve human capital and human welfare, education is regarded to be the most important factor. The current study show as in Table-1, the literacy rate 37 percent, Out of this, 42.3 percent literate people lived in tehsil Takht-e-Nasrati, 34.2 percent in Karak while 23.5 in Banda Daud Shah tehsil. The urban literacy rate is 21.7 percent and the rural rate is almost 78.3 percent. Out of total population, the male literacy rate is 80.4 percent and total of 19.6 percent of female were literate. In the rural areas male literacy is 63.5 percent while that of female is 14.8 percent. On the other side, in urban areas, literacy rate of male is 16.9 percent and that of female is 4.8 percent. The Table-1 reveals that literacy rate regarding female is very low as compared to that of male.

Table 1: Literacy rates across regions and genders

Area	Overall %	Urban			Rural		
		Total %	Male %	Female %	Total %	Male %	Female %
Takht-e-Nasrati	42.3	14.3	11.0	3.3	28.0	22.3	5.7
Karak	34.2	7.4	5.9	1.5	26.8	22.0	4.8
Banda Daud Shah	23.5	-	-	-	23.5	19.2	4.3

Source: Data collected by Author

Dynamics of Poverty
It is clear from the results composed in the Table-2 that poverty is the highest in Banda Daud Shah Tehsil and lowest in Takht-e-Nasrati. In tehsil Takht-e-Nasrati, 42.4 percent of the total sample population was poor, out of which 34 percent lived in urban region and 47.1 percent of the poor were in rural side while in Banda Daud Shah it was 58.5 percent. In Karak, total poverty level was

53.5, out of which 56, 52.9 percent lived in urban and rural areas respectively.

Table 2: Poverty across Region in Karak district of Khyber Pakhtunkhwa

Area	Overall %	Urban %	Rural %
Takht-e-Nasrati	42.4	34.0	47.1
Karak	53.5	56.0	52.9
B.D.Shah	58.5	-	58.5
Total	50.1	41.0	52.6

Source: Data collected by Author

Out of total poor population, from Table-3, 41.9 percent of the male and 80.1 percent of the female were poor. Twenty nine percent of the total male population lives in urban area and 45.5 in rural. Urban and rural male poverty ratios are 78.9 and 80.5 percent respectively. Of the total male poor, 35.2 percent lived in Takht-e-Nasrati, 45.4 percent in Karak and 48.5 in Banda Daud Shah. The female poverty ratios in the three tehsil were 67.2 87.2 and 94.6 percent respectively. Female share of the total poor is 80.1 percent. Of the total female poor, urban female poverty level is 78.9 percent while rural female poverty level is 80.5 percent.

Table 3: Poverty across Gender in Karak district of Kyber Pakhtunkhawa

Area	Overall		Urban		Rural	
	Male %	Female%	Male %	Female%	Male %	Female%
Takht-e-Nasrati	35.2	67.2	20.3	74.1	43.0	62.5
Karak	45.4	87.2	45.2	86.1.0	46.2	90.0
Band Daud Shah	48.5	94.6	_	_	48.5	94.6
Overall	41.9	80.1	28.8	78.9	45.5	80.5

Source: Data collected by Author

From the Table-3, it is clear that of the total male poor, 35.2 percent live in tehsil Takht-e-Nasrati and the urban male poverty in Takht-e-Nasrati is 20.3 percent and rural male poverty is 43.0 percent. In tehsil Karak, total male poverty level is 45.4 percent. Rural and Urban male poverty ratios are 46.2 and 45.2 respectively. As tehsil Banda Daud Shah is totally comprised of rural areas, so the overall and rural male poverty ratios are the same that as 48.5 percent in tehsil Takht-e-Nasrati, female poverty is 67.2 percent, out of which 74.1 percent are in urban and 62.5

percent are in rural. The female poverty in tehsil Karak is 87.2 percent and the 86.1 and 90.0 percent lives in urban and rural areas respectively. In Banda Daud Shah the female poverty level is 94.6 percent which is also the rural poverty level. The reason for this high female poverty ratio in Banda Daud Shah is that as the Banda Daud Shah is totally rural area, so that education facilities are not enough to satisfy the educational need of the people and female are bound to serve their family only.

It is evident from the Table-2, that poverty is lower in Tkhat-e-Nasrati tehsil while its magnitude remains higher in tehsil Banda Daud Shah. The main reason for this high level of poverty is the lack of higher education and lack of training facilities and income earning chances. The people of Banda Daud Shah are deprived of basic education. There are great numbers of natural resources like Gypsum, salt, oil, gas, uranium etc. but in the face of bulk natural resources, the people of District Karak are still poor.

Multivariate Model

Results depicted in Table-4 accounted the maximum likelihood estimates of the analysis of poverty for the District Karak. It is clear from the results that as a whole all of the variables were significant at less than 5 percent level of significant except middle education level. The logistic regression coefficients expressed the effectiveness of the explanatory variables on explained variable. The coefficients of education, experience, and gender are negative indicating the negative relationship between these and poverty. With increasing level of education, one extra addition years of experience and gender being male, poverty will decrease. On the other hand, the coefficient regarding region is positive means that household relating to rural area are more vulnerable to be poor. The results also show that almost all the levels of education are significant at less than 5 percent confidence level except middle. All the levels of education i.e. middle, Matric, intermediate, bachelor and master and above, gender and years of experience are negatively linked with poverty alleviation. As the levels of education increased the probability to fall to poverty trap decreased.

Table 4: Profile of Logistic Regression Model

	Coef	Std. Err.	Z	P>IZI	95% Confidence Interval	
Xex	-.4622877	.1148263	-4.03	0.000	-.6873432	-.2372322
Xmidd	-3.125216	3.028228	-1.03	0.302	-9.060434	2.810002
Xmet	-6.342893	2.357093	-2.69	0.007	-10.96271	-1.723075

Xint	-6.258289	2.286574	-2.74	0.006	-10.73989	-1.776686
Xbch	-6.59058	2.328328	-2.83	0.005	-11.15402	-2.027141
Xprof	-7.646694	2.279787	-3.35	0.001	-12.11499	-3.178393
G	-.9166396	.2937964	-3.12	0.002	-1.49247	-.3408093
Reg	.8799854	.3122834	2.82	0.005	.267921	1.49205
_cons	7.291892	2.523911	2.89	0.004	2.345117	12.23867
No of Obs			709			
Wald chi2 (8)			86.44			
Prob> chi2			0.0000			
Pseudo R2			0.6850			
Likelihood rati chi-sq test statistic			642.15			

Source Created by Author through STATA

The household with master and above education have more opportunities to earn more Income. The matriculation level has more significant impact than intermediate education regarding the data in hand. The results also reveals that as the experience increase, chances to earn more and to get rid of poverty increases, with additional years of experience the income of the household increases. It is also proved that with increasing years of education, the household will move towards the higher income stage (Table-4). On gender side, there are greater opportunities for male to earn as compared to female. The incidence of poverty is high in rural areas than in urban areas. It is found that with the increase in experience by one extra year will results in the decline of poverty by 0.10566 percent. If the household's member acquire one additional year of education, his probability of being poor will decreased as compared to those of low level of education. It is found that poverty decreased by -.6353399 for those who get Secondary School Certificate while with the attainment of master and above education, the probability of being poor will be decreased at a margin of 0.808966. The probability of male being poor decreased by 0.2191507 as compared to female. The households live in rural areas has highly probability to fall in poverty. Any variation from 1 to 0 resulted in increase in poverty by 0.2022285.

Table 5: Profile of Marginal Effects

Variable	dy/dx	Std. Err.	Z	P >IZI	95% Confidence Interval		X
Xex	-.10566	.02034	-5.19	0.000	-.145532	-.065788	7.74753
Xmidd*	-.3707074	.12285	-3.02	0.003	-.611485	-.12993	.062059
Xmet*	-.6353399	.12628	-5.03	0.000	-.882849	-.38783	.184767
Xint*	-.5902262	.12114	-4.87	0.000	-.827652	-.3528	.156559
Xbch*	-.5357306	.11093	-4.83	0.000	-.753149	-.318312	.114245
Xprof*	-.808966	.10568	-7.65	0.000	-1.01609	-.60184	.269394
G*	-.2191507	.07352	-2.98	0.003	-.363247	-.075054	.787024

Reg	.2011285	.07915	2.54	0.011	.046005	.356252	1.77997
y= Pr (poor)(Predict)	.35357215						

Source Created by Author through STATA

Conclusions and Suggesstions

The main objective of this research is the examination of how human capital affect poverty in Karak district, Khayber Pakhtukhwa. To satisfy the aim of the study, a survey was conducted. It is found that human capital indicators i.e. various levels of education, experience and gender has significant results on poverty alleviation in district Karak. It was found that education has negative effects on poverty. With the increasing level of education, poverty reduces rapidly. Those with higher education are far from poverty line. Those with professional education (degree in medicine, engineering, polytechnic diploma and master) earned more than those with low level of education. Household acquiring low education are near to poverty line. Income also increased with with the increasing years of experience. As much as the household get job and he obtains additional experience, his income earning capbilities increases. With each extra year of experience, his income increase. So, the experience is negatively affecting the poverty. Female is more exposed to poverty. As they are deprived of basic education, they fall more into poverty line. Poverty is also high in rural areas. In rural areas poverty is 52.6 percent while in urban region 41.0 percent. So the household in rural areas are poor than those in urban region.

It is suggested that government may invest in order to improve human capital particularly in highly affected segments of the populat may make availability of quality educational facilities easily across the region, especially for the women folk. Employment oriented situation should be promoted. Keeping in view the abundancy of ntural resources in Karak district, steps should be taken to provide technical education and technical training institutions in the area. Steps should be taken that no one specially female should be deprived of the basic educational services.

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