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The Impact of Tourism on Local Livelihoods; A Case Study of Galliyat, District Abbottabad

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Abstract- Tourism is the third biggest industry in the world and plays a key role in earning foreign reserve. Most of the developing countries spend income from tourism on infrastructure development and service delivery. It is a poverty reduction strategy because it supports and improves economic and social life of households who are involved directly or indirectly. The current study analyses the relationship between tourism and livelihood. The study concludes that tourism has a positive and significant bearing on productive human capital, square of physical capital, participation and square of household size and negative but significant impacts on physical capital and Household size. On the other hand, it has positive but insignificant impacts on household's Livestock and Education. The result of the sample data shows that that tourism has a positive and significant effect on the income, culture and social structure of the residents. The Study recommended that pro poor tourism strategy should be devised for the development of this sector.

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The Impact of Tourism on Local Livelihoods; A Case Study of Galliyat, District Abbottabad

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I. INTRODUCTION

The tourism-livelihood nexus is a focus of concerted debate in the current literature on sustainable development. It is generally believed that tourism generates livelihood, enriches cultural heritage and brings overall prosperity. United Nation Conference on Environment and Development (UNCED) in 1992 concluded that tourism is one of the important and main sectors for the growth of economy, which has significant effect on culture, environment and provide economic incentives.

Tourism has both direct and indirect effects on the local community. The direct effects are increase in income of the people who directly participate in the tourism related activities while the indirect effect is the increase in the purchase of commodities (Indrila and Santadas, 2007). The tourism has positive effect on culture and do not create problems like unequal distribution of income.

In the context of Pakistan, tourism is regarded as a growing industry because of its diverse cultures, people and landscapes. Pakistan and especially NWFP is endowed with a variety of natural resources offering plentiful opportunities for ecotourism.

Thousands of tourists come to Pakistan every year and benefit the local communities and economy as a whole. The Ministry of Tourism in Pakistan (2006), Economic Analysis Wing reports the data about the economic impact of tourism on the economy. According to State Bank of Pakistan, the tourism receipts are 0.2% of GNP for the year 2005-06 while tourism receipts are 1.3% of the total exports of the country. Pakistan tourism industry growth in the year 2006 was 12% while its share of tourists in the world market is 0.11 %.

In NWFP one scenic ecotourism site is district Abbottabad. Ayubia, Nathiagali, Dongagali and Thandiani are some of the district's preferential tourist destinations. The study conducted by Sana (2006), shows that 38,400 visitor stayed in Abbottabad and Nathiagali in 1991, in which 1.3% were foreigner tourists. This figure excludes daily visitors during the peak season.

Arguments and examples abound on each perspective; this study aims to explore the interplay of tourism and livelihoods and how livelihood means translate into better living in Galliyat.

1) *Justification of the study*

Literature suggests that there is a strong relationship between economy and environment. It is no wonder that poor people are mostly residing in the worst degraded environments and vice versa. The literature strongly suggests that poverty level is high in impotent environments. Since resources are scarce in such areas, it is paramount to provide opportunities to poor areas for substituting their eco-services' loss. One known way of doing this is the development of ecotourism²⁹ with the golden principle of sustainability in perspective.

This study aims at assessing the impacts of tourism on livelihoods' generation thereby ensuring sustainable income generation and poverty reduction. The theme of livelihoods and tourism is thus one of the important issues on the development agenda.

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²⁹ Visit to natural sites, which maintain the environment and change the local living positively.

II. RESEARCH DESIGN

1) Objectives

The present study has the following main objectives:

1. To empirically find the impact of tourism on local livelihoods.
2. To document the perception of local community about the social effects of tourism.
3. To suggest policy measures based on empirical analysis of data

2) Research Hypothesis

The following hypotheses are to be tested in this study.

1. Income generated from tourism significantly affects the livelihood of the local residents and negatively affects their perception of its social effects; and
2. Direct participants in ecotourism have slightly better conditions of living than indirect beneficiaries.

III. REVIEW OF LITERATURE

Tourism is the by product of leisure, mobility and wealth. Tourism has been an important part of the socio-economic development. Various studies show that tourism is an important sector of the developing economics. While some studies show that tourism is one of the biggest industries in the world through which developed as well as developing countries earn the much needed foreign reserves. This can bring further improvement in the telecommunication, transportation, and health and over all standards of living of local people. According to Papaadopoulos (1998), the income received from tourism sector has been used for the improvement of infrastructure in Greece.

Similarly, United Nation Conference on Environment and Development (UNCED) in (1992) concluded that tourism is one of the important and main sectors for the growth of the economy, which has significant effect on culture, environment and provide economic incentive.

World tourism industry is growing at a moderate pace of 4.1% annually, whereas the growth of the industry for 2005 was 5.5% as reported by United Nations World Tourism Organization (UNWTO), (2006). UNWTO further reports that terrorism, natural disasters, health scares, rising oil prices, exchange rate fluctuations and economic and political uncertainties were few of the issues which effected the industry overall. Africa is leading in terms of growth prospects as the African tourism industry is growing by 9% annually, followed by Asia (8%) and especially the Middle East where the industry is growing at a good pace of 8%. The increase in the rate of growth of the tourism industry raises questions as to whether the tourism really helps

the economy or does it play an important role in economic development?

Tourism contributes to both poverty alleviation and conservation. Many countries of the world depend on tourism and every year receives a good amount of foreign exchange earning. Study conducted by Lee, (1992) shows that tourism is the main source in the economic development of developing countries of Latin America.

According to ashely (2000), tourism has grown rapidly in Namibia since the country gained independence from South Africa in 1990. The study shows that the development of tourism has positive impact on jobs and cash flow in Namibia. But due to different livelihood priorities tourism had negative effects on the local people directly and indirectly.

According to Anna Hundt (1996), international tourism has become quickly one of the most economic industries of the world. Tourism can be a lucrative industry if it is properly planed. Because through proper planning, tourism industry can improve balance of payments, generate foreign exchange which could be spent on physical infrastructure development (road, sanitation and communication) and social infrastructure (health and education) of the country. But most of the small and developing countries do not have many resources to develop this sector. Therefore there is a need to provide financial assistance by the international financial agencies for the development of this sector in the developing countries. The study further shows that planned tourism will have significant positive effects on the health of native communities.

Similarly, Ratz and Puczke (1997), found that tourism generated 25% employment in the area in which women participation is more than men. The study further shows that in Budapests, 71.2% people are involved in tourism related activities.

According to Tony and Etienne (2002), tourism is one of the main and important sources for economic uplift, community development and poverty eradication in the developing countries of the world. In the last decade tourism has shown significant impact on the development of communities with limited resources in South Africa. The study further discusses that tourism contributes to economic growth, poverty alleviation and decrease in discrimination and inequality among communities in South Africa.

Pakistan is a good site for all sorts of tourism. Tourism is a growing industry in Pakistan because of its diverse culture, people and landscapes. Pakistan is endowed with lots of natural resources with plenty of sites for ecotourism, archeological tourism as well as for other types of tourism. Haroon (2002) studied the impact of ecotourism on the local area uncover that tourism activities in Pakistan are currently far from being sustainable, as in many other mountainous regions worldwide; deforestation, uncontrolled land utilization,

unplanned growth of tourism, mushroom growth of accommodations, and above all, out migration of young, energetic people as a result of limited job opportunities and lack of local ownership and participation in tourism ventures make change imperative. There are a lot of ecotourism sites and archeological sites as well as museums and galleries in Pakistan, which tells us about the old civilization in this country.

As thousand of tourists come to Pakistan every year and benefit the local communities and economy as a whole. According to State Bank of Pakistan the tourism receipts were 0.2% of GNP for the year 2005-06 while these receipts were 1.3% of the exports of the country. Pakistan tourism industry growth in the year 2006 was 12% and its share of tourists in the world market was 0.11 %.

In NWFP one beautiful ecotourism site is district Abbottabad. Ayubia, Nathiagali, Dongagali and Thandiani are of few of the district's favorite tourist's destination. Due to the bad law and order situation and insurgency in Swat valley since 2007, most of the tourists visit this area. The study conducted by Sana (2006), shows that in 1991 a total of 38,400 visitors stayed in Abbottabad and Nathiagali in which 1.3% were foreigners. This figure excludes the daily visitors during the peak season.

From the above literature, it can be conclude that tourism has positive effects on the local and national economy as it increases the livelihood opportunities for the local community. It has also some negative and positive social effects. There are a small numbers of households who participate in tourism. However, there is enough scope for increasing local participation in this sector. Tourism is a poverty reduction strategy because it supports and improves the households economically and socially. There is varying little trickle down effects for those who do not participate in this sector. Participation of local communities in tourism is essential to maximize the potential benefits of this sector and to eliminate poverty and conserve nature.

IV. RESEARCH METHODOLOGY

The study focuses the relationship between tourism and livelihood. The aim of the study is to investigate local community participation in tourism activates and to suggest policy interventions for a pro-poor tourism strategy. Policy interventions will increase livelihood opportunities in the local area, which will improve the living standard of the people. Most of the variables and questioner of this study have been taken from Indrila and Santadas study which was conducted in the Indian Sunderban in 2007. Household consumption is dependent variable while physical capital, human capital, livestock, tourism participation

and place are independent variables. Dummy variables for livestock and tourism participation were taken from Indrila and Santadas study. However, some additional variables have also been used according to the scope of this study.

1) Sources and Nature of data

The present study is based on primary as well as on secondary data. Primary data was collected through a detailed questionnaire in the area while secondary sources were used for description purposes.

2) Research Instrument

A comprehensive interview schedule was used for the data collection on qualitative aspects, where the respondents were interviewed and information was gathered / collected.

3) Sample Size and its distribution

Sample was drawn through multi stage sampling. In this first stage the population was distributed into two strata i.e. "Study area"³⁰ and "controlled area"³¹. Intervention area for this study is Nathiagali and controlled area is Baragali. Two villages from each of the strata were selected for this study. Furthermore one village near to the main road and one at the farthest end were selected. On this technique villages selected in the intervention area were Malach and Seer Pata while Dahliya and Tatyal were selected in the controlled area. Sample size was then calculated on scientific method using the following technique: The area population was taken from District Census Report (DCR) 1998 and projected population was estimated for 2009 on the following formula.

$$FV = PV(1+i)^n$$

OR

$$P_i = P_0 \left(1 + \frac{r}{100}\right)^n$$

Where;

Pi=Future population

Po=Current Population

r=Growth rate

n=Number of years

A pilot study was then conducted for household size and to feed into the following formula for calculating the sample size.

$$n = \frac{N(z\alpha/2\sigma)^2}{(N-1)e^2 + (z\alpha/2\sigma)^2}$$

Where;

³⁰ Area where there are tourism activities

³¹ Area where there are limited or no tourism activities

n=sample size

N=Population or total household i.e $\frac{\text{population}}{\text{householdsize}}$

σ = Standard deviation

$$e^2 = \frac{\sigma^2}{4} \quad (\text{Error})$$

$\frac{\alpha}{2}$ = Level of significance

4) Analytical Technique

1. Ordinary Least Square (OLS) has been used for both controlled and interventions areas. Dependent variable "Per Capita Household Consumption" was regressed upon independent variables "Physical Capital", square of "Physical Capital", "Productive Human Capital", "Household Size", square of "Household Size", "Education", "Livestock", and "Tourism participation". Dummy variables were also used for livestock, participating and non-participating households and for the Study and controlled areas.

Model used for the study:

$$PCHC = f(PC, PC^2, PHC, TP, ED, LS, SH, SH^2)$$

Where;

$$PCHC: \text{Per capita Household Consumption} = \frac{T.Consumption}{Household.number}$$

PC: Physical Capital PC: Square of Physical Capital

PHC: Productive Human Capital TP : Tourism Participation

ED: Education LS: Livestock

SH: Size of Household SH: Square of Size of Household

Physical Capital includes land while Productive human capital measures the ratio between working and non working people within household. Education

variable has been used to investigate the education ratio within households and measure its relationship with the household consumption. Livestock shows the number and kind of livestock of the household, Tourism Participation means engagement in activities like working as a tourist guide, serving in a hotel and/or restaurant, facilitation in transport, entertainment, handicraft business, dry fruits business, other micro business and photography in a tourist area. Size of household means number of adults households. .

2. After applying the OLS method the problem of heteroskedasticity occur due to the cross sectional data.

3. The data was also tested on Brusch-pegan technique which is as following.

$$\hat{u}^2 = b_0 + b_1 PC + b_2 PC^2 + b_3 PHC + b_4 TP + b_5 ED + b_6 LS + b_7 SH + b_8 SH^2 + \varepsilon_i$$

4. To correct heteroskedasticity problem the WLS/GLS technique was used.
5. Partial correlation result/ pair wise correlation among the explanatory variable was also checked.

V. DESCRIPTIVE STATISTICS

The study was conducted in Nathiagali and Baragali areas of District Abbottabad. As per the study design Naithagali was taken as the study area and Baragali as control area for comparison purposes.

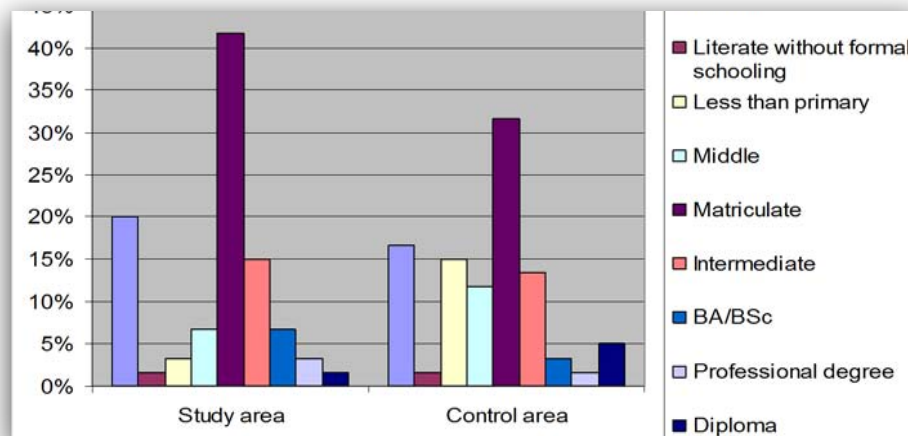
Table.1 shows landholding of households in the study and controlled areas. For study area the landholding mean is 1.5667 and standard deviation is 2.33156 while for controlled area mean is 1.7333 and standard deviation is 2.77750.

The average year spent in school for study area is 4.5167 and standard deviation is 2.18230. The mean is 4.3167 and standard deviation is 2.08702 for the same variable for control area. The mean is greater in study area than control area which shows that the average year spent in school in control area is a bit less than the average year spent in school in study area.

Table. 1: Landholding of households

Area	Variable	Definition	Mean	Standard Deviation
Study	Physical Capital	Landholding of Household (Kanal)	1.5667	2.33156
Control	Physical Capital	Landholding of Household (Kanal)	1.7333	2.77750

Chart-1: Education Status of Study and Control area



The chart shows a comparative analysis of the two areas. The 20% illiterate ratio in study area is higher than 16.7% in the control area which can be attributed to more employment opportunities in tourism hence distracting some local from education. Literate with formal education ratio is the same for both areas. Due to higher employment opportunities the people join jobs quickly and hence depict a lower ratio. However, the ratio of matriculate in study area is higher than the control area. Similarly, the ratio of intermediate is 15% in the study area while this ratio is 13% for control area. Graduates (14 years education) are 7% and 3% in study and control areas respectively. People with professional degrees are 3% in the study area and 2% in the control area. People having diploma are 5% in the control area which is higher than 2% in the study area. This was attributed to affordability as people in the control area can not continue spending on education for longer term and opt for short term technical education. This is also helpful in getting job quickly domestically or abroad especially in Gulf countries.

In present study, The average size of household is 6.32 and standard deviation is 2.397 in the study area while the average size of household for control area is 7.23 and standard deviation is 3.301. This shows that

average size of household is small in the study area than in the control area. One of the possible reasons may be the urban character of the study area as compared to a relatively rural outlook of the controlled locality. In urban area people tend to live in nuclear families and small households.

Data shows that average household livestock ownership is 1.7500 and standard deviation is 0.43667 for study area and mean is 1.4333 and Standard deviation is 0.49972 for control area. The mean is greater for study area than control area, which suggests that study area with more employment opportunities has a higher average number of livestock than control area. Dummy is used for the livestock in the analysis where 1 represents households who own livestock and 0 represents households who do not own any livestock. The following bar chart shows livestock ownership.

The study shows that 75% households in the study area have livestock while 25 percent have no livestock. On the other hand, 43 percent of the people in the control group have livestock while the remaining 57 percent have no livestock. Moreover those people who are living in study area, have greater number of Livestock than Control area.

Table 2: Participation in tourism activities

Area	Variable	Definition	Mean	Standard Deviation
Study	Tourism participation	Measure engagement like serving in hotel, tourist guide, photographers, small vendors, facilitation in transport, other micro business in tourist area	0.5500	0.50169
Control	Tourism participation	Measure engagement like serving in hotel, tourist guide, photographers, small vendors, facilitation in transport, other micro business in tourist area	0.0833	0.27872

The survey shows participation of local people in tourism related activities. The data shows that mean or the average participation in tourism related activities is 0.5500 and the standard deviation 0.50169 for study area, while the mean is 0.0833 and standard deviation is 0.27872 for control area. The mean in study area is greater as compared to control area, which is evident that the average participation of the people in study area is more than control area.

The study further shows that participation in tourism related activities is 55% in study area and 8% in control area. These 8% people of control area who participate in tourism activities usually go to study area for participation in such activities.

Almost all people have own houses in both areas. However the structures of houses of both areas differ in terms of construction. It was recorded that 23 percent people have Kacha houses in the study area, while this was 58 percent in the control area. Similarly, the study area has 42 percent Semi Pucca houses and 17 percent people have such type of houses in the control area. The study area has 35 percent

Pucca houses while the control area has 25 percent Pucca houses.

Non productive assets show the standard of living of local people. Therefore a question was asked about ownership of radio/cassette player, pressure lamps, sewing machine, pressure cooker, watches, camera, TV, refrigerator and grinder from households in both areas. The data shows that 57% people have Radio in the study area while this ratio is 22% in control area, 30% household in the study area own pressure lamp and 17% in the control area. Similarly 38% households own sewing machines, 73% own pressure cooker, 77% own watches, 10% own cameras, 23% own Televisions, 8% own Refrigerators and 3% own Grinders, while in the control area these items 18%, 42%, 35%, 7% and 5% respectively. There were no refrigerators and grinders in the control area.

When asked about the cultural impact due to tourism in the area, 57% people of study respond that tourism has no effect on local culture, 30% answered that tourism has positive effect on local culture while 13% respond that tourism has a negative effect on the local culture. When this question was asked in the control area, 90% people answered that tourism has no effect on local culture, 5% said that it had positive effect and 5% said that tourism has negative effect on local culture.

Spring is the main source of drinking water in the both areas. The important factor to know is whether

tourism activities cause any drinking water related problems, 18% respondents of study area said that they face shortage of drinking water in the peak season, while 82% were of the view that they have no problem of drinking water. This issue was taken to Focus Group Discussion (FGD) where it was learnt that the water shortage problem is limited to main Nathiagali bazaar only which is mainly because of provision of drinking water to Murree (another tourist spot in the adjacent province)

20% of respondents in the study area said that they face problems in transportation in the peak season. However, 80% said that they do not face any such problem. Most of the respondents said that transportation has improved because of tourism activities.

According to the survey, 23% respondents said that pollution has increased due to tourism in the area while 77 percent were against this view point in the study area.

When asked whether tourism has caused any improvement in the health facilities, 23% said yes while 77 percent said that there is no improvement in this sector due to tourism.

Similarly, when asked about forest exploitation in the area, most of the people answered that tourism does not cause forest exploitation, while 11% said that there is increase in forest exploitation in the peak season.

On the question of crime increase, a pre-dominant majority of respondents said that tourism has not caused any increase in crime but 5% are of the view that street crime has increased due to tourism, which is shown in the above chart.

When asked about any improvement in telecommunication in the area, most of the people said that due to tourism in the area the telecommunication infrastructure improved in the area.

From the above discussion, it is concluded that those people who directly participated in the tourism related activities have better condition in consumption, productive and non-productive assets compare to non-participants. Most of the people have positive perception and said that tourism does not affect the local culture neither created the social problems.

VI. RESULTS AND DISCUSSIONS

After discussing the descriptive statistics of the dependent and independent variables in the study we will now discuss the relationship of tourism and livelihood. A number of techniques are being used for this purpose. However, the most widely used method

i.e. ordinary least square (OLS) was adopted for analyses the impact of tourism on livelihood of the area.

The model used;

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \varepsilon_i$$

In this Model:

Y = Per capita Household Consumption (PCHC), which can be derived as? $\frac{T.Consumption}{Household.number}$

X_1 = Physical Capital (PC) X_2 = Square of Physical Capital (PC^2)

X_3 = Productive Human Capital (PHC) X_4 = Education (ED)

X_5 = Size of Household (SH) X_6 = Square of size of Household (SH^2)

X_7 = Livestock (LS) X_8 = Tourism Participation (TP)

β_0 = Intercept β^s = Partial Slope Coefficients

ε_i = Error $i = 1, 2, 3 \dots 120$.

When regression was run on this model, it gave the following results.

Table-3: Dependent Variable: Per Capita Consumption

Independent variables	Coefficients (B,s)	t value	p value
	5948.520(intercept)	10.470	0.000
Physical Capital	-172.135	-1.431	0.154
Square of Physical Capital	26.340	2.055	0.042
Productive Human Capital	215.546	2.229	0.028
Education	11.209	0.227	0.821
Size of Household	-965.709	- 6.554	0.000
Square of Household Size	142.860	4.419	0.000
Livestock	-38.069	-0.159	0.874
Tourism Participation	174.138	0.703	0.484
Total Observation =120	R	R Square	Adjusted R Square
	0.690	0.476	0.438
F= 12.492		p=0.000	
Breusch-Pagan-Godfrey (BPG) test (Result)	F = 4.370	p = 0.000	

The results in the table show that in our sample, Physical Capital have insignificant effect on per capita consumption with the $p = 0.154$ (> 0.005). However the Square of Physical Capital is positive and significant effect on dependent variable with $p = 0.042$ (< 0.005). Productive Human Capital is also significant with $p = 0.028$ (< 0.005), while education gives insignificant result with $p = 0.821$ (> 0.005). Size of household is negative but significant with $p = 0.000$ (< 0.005), and

Square of Household Size is positive and significant with $p = 0.000$ (< 0.005). Livestock is insignificant with per capita consumption with $p = 0.874$ (> 0.005) and Tourism participation is positive effect on per capita consumption but insignificant with $p = 0.484$ (> 0.005). Dummy was used for livestock and Tourism participation.

Regression analysis shows the value for R is 0.690, R Square is 0.476 and Adjusted R Square is 0.438, which reflects a weak and poor performance of

variables in the model. However the overall Model was found fit when F-test was applied, which is significant with 12.491.

In the above analysis the over all model seems fit with F-test with the value of 12.492. But most of the variables are insignificant and give weak results with the dependent variable. Moreover the result of R, R square and adjusted R Square also show weak and poor result in the model which does not support theory. F- Statistic show Model significance, but the above poor results of different variables indicate some problems in the Model.

To check the problem of heteroscedasticity, Autocorrelation and Multicollinearity (MC) in the Model, the problem of heteroscedasticity was found, which is shown in the following chart.

To check the hetroscedasticity in the model, formal method was also applied. By applying Breusch-Pagan-Godfrey (BPG) test hetroscedasticity was

detected which are shown in Table: 10. For the removal of hetroscedasticity from the model, the model was divided by the square of residuals. The new transformed model was then estimated by OLS technique which is called Weighted Least Square (WLS)/ Generalize Least Square (GLS).

As heteroscedasticity does not demolish the unbiasedness and consistency properties of the Ordinary Least Square

(OLS) estimators, but variables do not give efficient results. When the efficiency property of estimator violated the usual hypothesis-testing procedure will have uncertain value. Therefore, the problem of lack of efficiency should be removed from the model. For this purpose, the most accurate method is to applying WLS/GLS for obtaining BLUE estimator. More results that are significant were obtained after using WLS/ GLS technique, which are shown below:

Independent variables	Coefficients B,s	t value	p value
	5556.774 (intercept)	41.032	0.000
Physical Capital	-129.784	-3.258	0..002
Square of Physical Capital	17.184	2.609	0.012
Productive Human Capital	168.445	5.066	0.000
Education	99.369	1.369	0.177
Size of Household	-876.006	- 29.801	0.000
Square of Household Size	37.709	20.040	0.000
Livestock	19.070	0.601	0.551
Tourism Participation	165.481	1.834	0.028
Total Observations=120	R 0.991	R Square 0.982	Adjusted R Square 0.980
F= 356.408		p=0.000	

Table-4