RECREATIONAL VALUE AND WILLINGNESS TO PAY FOR TOURIST SITE: EVIDENCE FROM KALAM DISTRICT, SWAT

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CERTIFICATE

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

وَمَا خَلَقْنَا السَّمَاوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا لاعِبِينَ
مَا خَلَقْنَاهُمَا إِلَّا بِالْحَقِّ وَلَكِنَّ أَكْثَرَهُمْ لا يَعْلَمُونَ

"We have not created the heavens and the earth and all that is between them carelessly. We have not created them but for truth."

(Surah Al Dukhan 44:38-39)

Thus, the Islamic vision revealed in the Quran is of a universe imbued with value. All things in the universe are created to serve the One Lord Who sustains them all by means of one another, and Who controls the miraculous cycles of life and death:

"The world is beautiful and verdant, and verily God, be He exalted, has made you His stewards in it, and He sees how you acquit yourselves."
(Saheeh Muslim)

All of the resources upon which life depends have been created by God as a trust in our care. He has ordained sustenance for all people and for all living beings.

DEDICATION

I dedicate this research to My Parent for their patience and encouragement, they are the reason behind all my success, their prayers and effort supported me and brought me to this level.

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First of all, I would like to thanks ALLAH ALMIGHTY, who is the most merciful and beneficent, without HIS help I would not be able to complete my thesis.

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LIST OF ABBREVIATION

CS	Consumer Surplus
ITCA	Individual Travel Cost Approach
KPK	Khyber Pakhtunkhwa
MHNP	Margalla Hills National Park
NRS	Natural Resource System
TCM	Travel Cost Method
TIC	Tourist Information Centers
WTP	Willingness to Pay
ZTCA	Zonal Travel Cost Approach

Table Contents page

DEDICATION ..... **i**

ACKNOWLEDGEMENT ..... **ii**

LIST OF ABBREVIATION ..... **iii**

LIST OF TABLES ..... **vi**

LIST OF FIGURES ..... **vii**

ABSTRACT: ..... **viii**

Chapter 1 ..... **1**

INTRODUCTION: **1**

1.1 Background and introduction of the study 1

1.2 Problem statement: 2

1.3 Research questions 5

1.4 Objectives of the study 5

1.5 Hypothesis: 6

1.6 Significance of the study 6

Chapter 2 ..... **8**

DESCRIPTION OF THE STUDY SITE (KALAM SWAT) 8

2.1 SWAT 8

2.2 Kalam 10

2.3 Lake Mahodhand 10

Chapter 3: **13**

LITERATURE REVIEW: **13**

3.1 Conclusion 21

3.2 Theoretical framework: 22

CHAPTER 4 ..... **25**

RESEARCH METHODOLGY **25**

4.1 Sampling Design: 25

4.2 DATA AND VARIBLES: 25
4.3 Explanation of the variables 26
4.4 Econometric Model: 28
4.5 Poisson regression 30
CHAPTER 5 31
RESULTS AND DISCUSSION 31
5.1 DESCRIPTIVE STATISTICS 31
5.2 EMPIRICAL RSULTS 42
5.3 THE RECREATIONAL VALUE OF KALAM SWAT. 46
CHAPTER 6 47
CONCLUSION & POLICY RECOMMENDATIONS 47
6.1 Major findings of the study 47
6.2 Summary 47
6.3 Policy Recommendations 49
6.4 Limitations of the study 49
REFRENCES 50
APPENDEX 53

LIST OF TABLES

Table 4.1 SAMPLING DESIGN ----------25

Table 5.1Percentage Distribution of Each Variables: ----------31

Table 5.2 If there is no other way but to raise the entry fee, would you be still visit the area ----------33

Table 5.3 Descriptive Statistics of the Respondents ----------34

Table 5.4 Question about Visiting Kalam gives you a sort of relief in terms of mind change or not. ----------35

Table 5.5 Question about weather of Kalam ----------35

Table 5.6 Correlation Matrix ----------42

Table 5.7 Estimated Results of Poisson Regression Equations ----------43

Table 5.8Estimated Results of Poisson Regression Equations ----------45

LIST OF FIGURES

Figure 1.1 Lake of proper waste disposal Management in Kalam. 4

Figure 1.2 Problem of in congestion due to bad condition of the road in On Season. 5

Figure 2.1 On the way to Kalam 9

Figure 2.2 Picture of Mahodhand Lake in winter season. 11

Figure 2.3 Lake Mahodhand in Summer season. 11

Figure 2.4 Lake Mahodhand in Summer season. 12

Figure 5.1 Question about Number of Visit after improvements. 36

Figure 5.2 Income of the household by categories. 37

Figure 5.3 Question about spending time at site. 38

Figure 5.4 Respondents suggestion for improving the Roads 38

Figure 5.5 Question about the waste disposal Management. 39

Figure 5.6 Question about the problem of congestion. 40

Figure 5.7 Question about the scenery of Kalam Swat 40

Figure 5.8 Question about Availability of TICs 41

ABSTRACT

This study, which is among the first in swat valley to value the recreational benefits, to estimate the recreational value (benefits) of the Kalam Swat and find out the responsible factor that affects the visitors' willingness to pay (WTP). To investigate the desirable changes for increase in the recreational benefits of the site using primary data and applied individual travel cost analysis. The study examined that almost 98 % of the visitors to Kalam valley are willing to pay for further improvements and maintaining the site, in which about 37 % of the of the total respondents are willing to pay PKRS 100 to visit and enjoy the site. There can be considerable revenue, as the total annual consumer surplus or the economic benefit obtained from the recreation in Kalam is approximately Rs.421 million. Various factors influence the number of visits to the site, these includes travel cost, residence of the visitor, gender and quality of the site. However, quality of the site was also expressed as good by as 59.8 % of the visitors. The study recommends improvements in road, construction of safe parking, fun lands and camping sit at Mahodhand Lake. Moreover, the study suggests introducing an entry fee of Rs. 100 based on willing to pay. All the collected money has to be utilized for sustaining the resources.

Chapter 1

INTRODUCTION:

1.1 Background and introduction of the study

The recreational visits are mainly concerned with human activities which involve visits of the individuals from an originating place to a destination for social exchanges, economic and cultural processes Rafiq (2007) . People visit these exotic sites for natural and scenic beauties, picnicking, bird and nature watching, hunting and for cultural settings. However, access to such sites is mostly free or at a nominal entry fee. The free access of the traveler's results in environmental hazards and it leads to the exploitation of the natural resources Khan, (2006). Governments are also deprived of potential revenue that could be generated in the form of entry fee.

Government has scarce resources for protection, conservation and use of natural resources especially in developing countries. In such conditions, for achieving the economic growth and to conserve natural resources, recreational visits can play a vital role, Provision of resources could take place through natural resource system (NRS) and environmental resources such as minerals and waste sink absorption etc. Use of these resources has increased since second half of twentieth century ("demand analysis of recreational viists to chitral valley," 2007; khan, 2004).

Society gets advantage in various ways from environmental resources, both direct and indirect benefits they receive Khan, (2006). These sites are not only offering the ecological functions but are also the sources to provide recreational amenities to visitors. Various studies have been conducted in Pakistan as well as in rest of the world for measuring the benefits of the recreational sites. Individuals travel to these sites in order to enjoy and get utility. Natural resource management

policies can be formulated by examining the preferences of tourists towards different sites through which they get recreational benefits. Flow of tourists may decrease due to low quality of those sites, bad conditions of road and transportation.

Various studies have worked on finding the marginal utility (willingness to pay) for certain sites around the globe. In Pakistan, (khan, 2004) have found the willingness to pay for Margalla Hills National Park (MHNP) ,("Demand Analysis of Recreation Visits to Chitral Valley: A Natural Resource Management Perspective," 2007) found it for Chitral, Khyber Pakhtunkhwa and (Ahmed, 2015) estimated the marginal utility value in terms of willingness prices for Rohtas Fort in Jhelum. Across the globe, some studies for the sake of reference are (Álvarez-Farizo, Hanley, & Barberán, 2001), (Beal, 1995),(John Dixon, 2001),(Cesario, 1976).They have sought to find the maximum willingness to pay for visiting a site using different models e.g. Travel Cost Method (individual travel cost and Zoning travel cost) and Contingent Valuation Method. So objective of finding the maximum willingness to pay will be achieved by employing the individual travel cost method as used in Khan (2006) and Ahmad (2015).

1.2 Problem statement:

For the management of natural resources there is need to frame an appropriate policy, and valuing recreational sites based on the visitor's preferences, can help in designing an appropriate policy, Rafiq et al (2007).

Several studies have been conducted on valuing recreational or historical sites in this respect. Beal (1995) using travel cost analysis to estimate the value of carnarvon gorge national park the overall benefit was estimated $ 2.4 million per year. Haldkon et al (1996), using contingent valuation method finding the recreational benefits of Borivli National Park (BNP) Bombay, people are

willing to pay in order to preserve the environmental amenities the total benefits of Borivli national Park was estimated Rs 1 billion per year. Khan (2004), Margalla Hills National Park (MHNP) using the travel cost approach to find the recreational value and suggest optimal fee for (MHNP). The aggregate benefits of the park were calculated Rs 23 million per year base of Rs 20 entry fee. Furthermore, the study assumes the opportunity cost of the site is equal to the full wage of the visitor. Rafiq (2007), using Zonal Travel Cost (ZTC) method to highlight the recreational value of Chitral valley, found out the total consumer surplus (CS) to be 5225190 rupees for the year 2007.

Khyber Pakhtunkhwa in general and Swat in particular have many exotic locations and these attract a large number of foreign and domestic tourists and Kalam is one of them. Adequate management is provided to very few of these recreational sites. The reasons can be government of Pakistan has not enough resources to facilitate these sites or may be the unrestricted access of the visitors to those places. According to the (Khyber Pakhtunkhwa (KPK) annual budget report, 2014-15) tourism along with sports, archaeology and youth affairs gets only 1350 million rupees which is approximately 0.965% of the total budget, and is insufficient for the maintenance and development of recreational sites. No doubt Swat is a beautiful place to attract not only local but also foreigner tourists around the world for its beauty, due to lack of attention of provincial and federal government as well as lack of enough resources, due to no entrance fee, shortage of funds to maintain, establish more recreational sites to reduce congestion, lack of proper waste disposal management. Due to the problem of congestion, bad condition of the roads and waste disposal this beautiful recreational site is losing their beauty and are going to be destroyed eventually. Lack of studies on the related topic as well as low level of awareness have added to the destructive impacts. So investigation about good administration and environmental resource valuation is needed thoroughly. Furthermore, due to shortage of funds the concern authority is unable to manage this

attractive site, so willingness to pay of the tourists can play a vital role, therefore investigating the influencing factors of willingness to pay are the matter of concern. This study is designed for the valuation of tourism benefits in Kalam valley which provides adequate attractions ranging from cultural products to natural beauties. Besides estimated economic value will increase the importance of the site. Although this research is about a single recreational site, among many other sites in Swat, it can provide ground for establishing and developing other recreational sites.

Figure 1.1 Lake of proper waste disposal Management in Kalam.

Figure 1.2 Problem of in congestion due to bad condition of the road in On Season.

1.3 Research questions

What is the impact of increasing travel cost of the trip on visit rate to the site (Kalam)? By imposing entry fee (based on consumer willingness to pay), what is the total benefit of the site? What are the influencing factors which affect the visitor's willingness to pay (WTP)? And what are the additional benefits provided to the consumers which increase the consumer's demand?

1.4 Objectives of the study

a) To estimate the recreational value (benefits) of the site
b) To analyze the responsible factors that affects the visitors' willingness to pay (WTP) and suggest entry fee based on tourist willingness.
c) To investigate the desirable changes for increase in recreational benefits of the site.

1.5 Hypothesis:

1. Travel cost of the trip has negative impact on visitation rate to site (Kalam).
2. Income of the household, travel cost to the substitute site, education, age, and family size of the household are the influencing factors of the number of recreational visits.
3. Improvement would lead to increase in the demand of the visitors.

1.6 Significance of the study

Natural resources like forests, lakes, rivers, streams and parks are widely used by consumers for recreation. All these natural resources are providing valuable services; they provide both direct and indirect benefits (ecological functions). Accessibility to such site is often or at a very low price compared to the providing costs. The study will see if an entry fee can be determined for the study site, in order to conserve, protect and enhance the natural resources will be an earning source for government revenue. The process will be carried out through demand estimations of the site. Similar to other developing economies, Pakistan is seeking to expand its tourism sector comprising with the nature tourism to an intensifying system of national parks and reserves(khan, 2004). Furthermore, current study is also helpful in developing those areas which are known for their beauty but not being developed yet, due to less attention of the local government.

It has been observed in the literature that recreational studies can help in management of the natural resources. This type of study was not conducted for Kalam (Swat) and also there is no entry fee[1]

[1] There is no entry fee on the visitor to visit Kalam Swat.

to such sites although this study will be find out if we can impose an entry fee with a minimum impact on consumer surplus.

Study is mainly focus on the visitors' willingness to pay for the maintenance of the mentioned site. Also, in suggestion section, new potential sites are identified which could make those sites the tourist hubs as well as high economic activity will also take place in those areas. Other benefits of new sites will include reduction in the congestion in Kalam valley which poses threats to the beauty of the site in peak seasons. Due to the same features of Kalam valley and other potential sites, recreational value is intuitively expected to be almost the same so current study will found a base and the government can also establish those sites and generate economics benefits.

Chapter 2

DESCRIPTION OF THE STUDY SITE (KALAM SWAT)

2.1 SWAT

Talking about history of the Swat, it was invaded by Muslims at the golden age of Islam. Swat was the life center of Buddhism, after Hindu shah kingdom. The yousafzai tribe migrated from Afghanistan in sixteenth century and were settled in Swat. Yousafzai invited Abdul Jabbar khan for a unified government. Abdul Jabbar Khan, also known as Wali Swat made government and was ruler of Swat. The system of roads, the judicial system and public education was developed after his rule. The next and last wali Swat was miangul Jehanzeb who build achievements of his father. Providing hospital facilities, construction of roads and modern education for both boys and girls. All these were for promotion of social and economic development of Swat.

The most exciting things in Kalam valley is the celebration of festivals that occurs in summers. This time it was in august which includes Para jump and Para gliding, traditional dance competition, jeep rally, car and motor cycle jumps, arm and dance shows, cultural and music shows, shopping gala and much more things were arranged to attract tourists.

All the cultural things, festivals, scenic and natural beauties are offering different use and non-use benefits to the current and future generations.

The Kalam valley is located in the northern areas of Pakistan at an elevation of 2,074 meters, (6,800 feet). It is situated in Khyber Pakhtunkhwa at a distance of 350 km from the capital, Islamabad. Kalam is a popular spot for tourism; it lies along the upper reaches of river Swat. The area is also known for its natural beauty, which is fed of streams, waterfalls, lakes and lush green hills. As beauty of the area is praised by people and even some are naming it as mini Switzerland of Pakistan. The area is also famous for its forests and Swat River. Other attractions are the availability of many comfortable hotels, where tourists have their stay. Tourists also can easily walk over the hills for hours in the pleasant weather and unspoiled nature (Tourism Corporation Khyber Pakhtunkhwa).

Figure 2.1 On the way to Kalam

2.2 Kalam

Kalam is a town in Pakistan situated along the Swat River in the Swat Valley. The quiet town is a favorite tourist destination in the Swat Valley for the rivers of Kalam which has been described to be formed by snow melting on the mountains. The town is surrounded by lush hills, sparkling lakes and waterfalls tucked away in the surrounding forests. Kalam makes for a good picnic spot and serene holiday getaway, according to the hotel association of Kalam Swat about 30,000 people visit Kalam per year and expected to increase this year because of no security issue. Kalam is a very scenic town (Tourism Corporation Khyber Pakhtunkhwa).

2.3 Lake Mahodhand

Mahodhand Lake which simply means Lake of fishes is an amazing fishing spot. Accessible by road with a four-wheel drive vehicle, the lake is about 40 km to Usho Valley in the Swat District. This lake is a must see for the visibly brimming fishes and due to its beautiful view, about 40% of the tourist in Kalam go there to get joy of the pleasant view of the lake (Hotel Association Kalam Swat).

Figure 2.2 Picture of Mahodhand Lake in winter season.

Figure 2.3 Lake Mahodhand in Summer season.

Figure 2.4 Lake Mahodhand in Summer season.

Chapter 3:

LITERATURE REVIEW:

Plenty of literature is available on estimation of values that are associated with non-market environmental goods. Recently used two types of methods for valuation are Contingent Valuation and Travel Cost Methods.

Seminal work about the recreational benefits have focused on value of time. The primary economic benefits and facilities that are provided by the outdoor recreation are estimated widely by the consumer's surplus criteria. Most of the public recreation sites provide services to the consumers which are non-marketed and they charge a negligible price. A favored method for estimating the recreational demand of a site is the so called Hoteling-Clawson-Knetsch (HCK)[2] approach that is travel cost method, which estimates the demand curve. It has been discussed that time cost of the trip has to be incorporated in the travel cost model otherwise the demand will be downward biased from its true position and the benefits will be estimated conservatively. The per-day or per cost minute cost was estimated while the time value was given as one third of the average wage rate. (Cesario, 1976).

[2] The basic Hotelling-Clawson-Knetsch approach (HCK) approach to estimating the demand for outdoor recreation is to statistically regress the number of trips taken to a recreational site on the round trip cost of the travel between origin and the site

Starting with most seminal work, it was observed that time value is important and therefore it will be incorporated in our model. Importance of the time value is to have unbiased estimates. Several methods are predominantly used in the USA for valuing the environmental goods and services which has no market value. A widely used method is TCM, which gives value to a specific site which has either a nominal entry fee or no entry fee. However, the TCM does not estimate the value of non-use benefits of environmental goods. It has been observed that an increase in awareness or education level has developed such methods and people are becoming conscious of the benefits provided by the natural environment. The natural resources are used by consumers for outdoor recreation. The demand schedule to a particular site for a consumer is formed by the recreation time and transport services. It was found that an increase in travel time and cost will decrease the demand of recreation for a site. The demand schedule involves two steps. That is to derive the demand curve for a site and to estimate the consumer surplus. Finally assumption of TCM was discussed, that is reaction of the consumer to an imposition of entry fee and it is considered as an increase in the travel cost (Beal, 1995).

We have seen improvements over time that consumer surplus was estimated. Entry fee was incorporated in order to put some value on the natural resources. It has been found that travel cost and travel time has negative relationship with visitation to a site. Here we observe the variables which affect the demand for recreation.

Due to problems in estimation methods, a review of the methodologies and their functional form was required and hence the demand estimations for recreation were re-examined. Inconsistency and estimation procedures were corrected in the previous studies. It has been found that consumer estimations are sensitive. The choice of functional form was also examined. Careful use of the estimations and functional form was suggested as these were to be used for policy implications of

natural resources. Sampling errors were rectified in the travel cost method and appropriate functional form was introduced by increasing the number of observations (Chotikapanich & Griffiths, 1998).

Coming again to the valuation of recreational sites; the contingent valuation and travel cost methods are combined used to determine the value of a recreational resort. It has been believed that recreational resorts value can be increased with improving quality of the site. (Yaping, 1999) valuated East Lake (Donghu) China, for recreation and its facilities make people willing to pay for the site. Mean of the payment for improving the water quality was entry fee. A hypothetical improvement in the water quality of the site has shifted the demand curve outward. Pollution at the site is considered as a loss to the consumer surplus because recreational value was lost due to pollution at the site (lake). Different measures can be developed for discouraging the free riders and to elicit payment for better quality (Yaping, 1999).

It has been focused in the literature that economic benefits provided by the environmental resources have to be managed sustainably. This management of the natural resources should be by joint responsibility of three major groups; the local residents, tourism industry and visitors themselves. It has been discussed that entry fee money in necessary but not a sufficient condition for improvement and sustaining the natural resources. Along with financial resources, three important and linked types of expenditures are also required. That is, investment in environmental infrastructure particularly, waste management and water treatments. Secondly, capacity building and resources has to be provided for operations and maintenance of the sites. Findings of the study shows environmental resources have many economic benefits, therefore both government and visitors have to pay for it to keep it safe from any harm and to manage the resources. This means

to collect money from tourists is to increase rents of the hotel rooms and to charge a user fee or entry fee to the site. (John Dixon, 2001)

It has been highly argued in the literature, that travel cost method is one of the vital techniques that help in estimating the values of natural environment. However, TCM does not take into account the non-use value of the parks. Although choice of the functional form and selection of the zones are considered important factors in TCMs for estimating consumer surplus. The study is helpful in differentiating travel cost models and how it can be improved. TCMs are credible for estimation of the recreational benefits, for giving weight to the consumer surplus and for governments in helping to keep an appropriate policy for the natural environment. The study has found that visitation patterns are referred to pulling power and proximity power of the parks. As these parks have something unique in qualities (that are natural resources) and these parks are of convenient location so they are visited. The number of visits will be high if the site has some uniqueness. Finally, it has been observed that an increase in travel cost of the regional zones, the park will have fewer visitors (Lansdell & Gangadharan, 2003).

A growing body of literature has presented and estimated the importance of recreational benefits of parks, the use and non-use benefits are also discussed. The resources of the parks are threatened due soil erosions, forest fire, and human settlements inside the parks, pollution created by local and visitors. Due to open access, free entry to the parks and insufficient governmental funds the resources are mismanaged. The study has shown that these natural resources can be valued and the economic information about the benefits of recreational site has been obtained. Consumer surplus and recreational benefits were estimated through individual travel cost method. The type of valuation will help in management of the natural resources, its conservation and in policy implications. Finding is to keep an entry fee to the park and the government has to make strong

arguments for sustaining the parks and natural resources for current and future generations. Such sites and parks will generate money and will be spent for sustaining resources of the park (himayatullah, 2003).

In a (Rafiq, Shafiqullah, & Malik, 2007) study, value of the recreational benefits was estimated on the basis of tourists' preferences and it was concluded that it can help in formulating an appropriate policy for management of the natural resources. The literature has discussed the demand estimations of recreational sites in accordance with the consumer surplus and most importantly the welfare changes that are associated with the change in environmental policy. The recreational values can obtain the option of cost benefit analysis for a policy option. In order to estimate the demand for recreations, zonal travel cost method has been used. The travel cost methods for each region/ district/zone has to consider the round trip monetary cost, food and accommodation costs on average. Also the time costs or time value is considered, that is the time spent on the site and time taken to travel the site. It has been found that people are willing to pay in the form of an entry fee and it is for the sake of generating more natural resources. Literature is also helping that these studies will be good for managing the natural resources efficiently and to observe changes in it over time. Keeping an entry fee to recreational sites can even increase the demand for the site, if it has been spent for providing the transport and improving the roads.

The attraction of historical places and buildings capture the attention of local and foreigner tourist, which contribute in tourism industry (khan, 2004), valuation of such places is very important for the economy in this regards (Ahmed, 2015) carried out study using individual travel cost method to analyze the value of Rohtas Fort in Punjab province. The study finds out that US $ 8.71 million is its consumer surplus and recreational values as 11.70 million US dollar. Furthermore, the study focused on to highlight the influencing factors of the number of visitation to the fort. Hence Travel

cost, income of the household, age, gender, number of family members and level of education are found the major influencing factors. Moreover, the study suggests that increasing the entry fee based on high willingness to pay not only increase the revenue of the fort but also the authority would have to fund the renovation project. Besides the responsible authority should take initiative for the waste disposal system.

Demand of tourism depends on willingness of individual or groups of people to visit certain places. This choice depends on economic status and social characteristics like age, literacy level and income of the tourist. It also depends on attitude of tourists towards tourism. Access to information about specific site will help the visitor about services and facilities available at that particular place. Beside all these things choice of any site also depends on the distance of that site from visitor, cost of traveling to that site. (Herlina, 2015)

Furthermore, the study highlighted that demand of tourism is of three types. 1st one is known as actual demand, it consists of people currently traveling to any particular area and using the facilities and services available at that area. 2nd type is called potential demand, in this type those people include who are willing to visit that site but unable to visit due to multiple reasons like high traveling cost, and unavailability of time etc.3rd type of demand is postponed demand. Consist of people who are interested to travel in future. So demand for tourism could be increased by facilitating current visitors by improving the facilities provided to them so that in future they visit more often, besides this by improving infrastructure can also increase in the amount of visitors, like constructing wide roads so that traveling time could be minimized. (Herlina, 2015)

Willingness to pay for any site depends on individual's willingness to pay for environmental condition. Natural resources could be economically valued by using Marshallian and Hicksian

demand curves other method that is used in literature is demand curve approach. Economic valuation of any natural resource or environmental goods could be measured through willing to pay. It means that what is the maximum amount someone is willing to sacrifice to for environmental goods and services

Travel cost method is an old technique used for economic valuation of any recreational site. In this method two techniques could be used. 1st one is zonal travel cost method. Secondary data is used in this technique by using questionnaire method. In this method study area divided into different zones. 2nd method discussed in the literature is individual travel cost method. For this method data will be obtained from complex survey and statistical techniques will be used. Individual travel cost method provides many correct results compare to zonal travel cost method.

Travel cost method will address the questions like if there is a change in entrance fee of any recreational site, how it will affect willingness to pay to visit that site and what will be the effect of this increase on total cost of visiting and how environmental quality will respond to this change. This method will determine the price of a particular natural resource indirectly(Herlina, 2015).

Natural resources that could not be traded in markets but they can affect human wellbeing and stability. Valuation of such resources can help to improve the condition of that particular resource in this way maximum benefit could be obtained from any environmental good. Ecosystem services have supply and demand side and it is really important to understand in order to make an effective management policy. Direct and indirect influence of ecosystem services on people welfare will determine the economic value of that ecosystem service.

Preference of any place mostly doesn't influence by economic factors, it use to influence by non-economic factors like social factors, cultural factors etc. There are many factors that are responsible

for change in the condition of recreational site. For example, amount of people visiting that site, and most importantly their behavior. So the effect of these factors could be minimized by measures like limiting the use of the place and making environment strong enough to absorb the negative effects. Besides this providing awareness among the visitors to change their behavior of carelessness and irresponsibility towards environment can also be a good move(Ezebilo, 2014).

Combination of travel cost method and a contingent behavior method is another important technique to estimate for the valuation of any site. In this combination travel cost is use for non-economic valuation of such thing which doesn't have any market to sold or bought. Mishra 2014 (Mishra, 2014)have investigated the valuation of Hussain Sagar Lake situated between Hyderabad and Secunderabad in India. Study is based on the stated and revealed preferences as underlying theories and methodologies used are CVM, and TCM respectively. Furthermore, their study used the combination of the two methodologies. Study was based on the primary data collected from on and off site visitors. Study found the consumer surplus value for both type of visitors and found that CS is 35 USD for on-site and 16 USD for off-site visitors. Keeping in view the responses and the model, total value of the site was 0.36-1.48 million USD which is a possible positive contribution to the government revenue per annum beside it will make sure improvement in quality of the lake and its surroundings

Natural resource management is very important step towards preserving natural resource base of any region. Valuation of any such site can help to design a policy for natural resource management. For this valuation travel cost method is one of the best choices. In literature some study concluded that in travel cost method the cost of fuel and accommodation should also be included. It also depends on visitor how much he spends on them on each trip. Besides this other studies discussed that to estimate the monetary cost only is not enough, non-monetary cost is also equally important.

This non-monetary cost includes time cost. Time which has been spent on visiting has a value and must be considered, because the time which has been spent there could have an opportunity cost.

So specific proportion of one's income could be used as time cost.

Estimating the use value of any recreational site is very important. Use value of a recreational site depends on the use value of each individual for that site. So individual use value depends on certain factors like, time of trip it includes total traveling time staying time etc. total time of tour also depends on the distance of that recreational site from the area visitor lives. Monetary cost of traveling time cost, number of visits and most important indicator that will define the use value of any recreational site is the environmental quality of that site. To estimate the environmental quality of any recreational site travel cost method, by asking the perception of visitors about the quality of environment at that site and what changes need to be made that will increase the number of visitors to that site along with increase in number of visits(Pienaar, 2016).

3.1 Conclusion

Hence from the above literature we conclude that in most of developed and some developing countries valuing the recreational sites is not only contributing in government revenue but also quite helpful in the maintenance and development of these sites. It maybe because in developing countries valuing recreational site is new therefore a very small literature is available (Ahmed, 2015). Furthermore, literature is suggesting that travel cost methods are viable techniques for estimating the value of the recreational sites. (Mayor, Scott, & Tol, 2007) highlight that travel cost method provide is more reliable results than contingent evaluation method. Therefore, the available literature is providing sound footing to estimate the demand for recreational visits to

KALAM swat by using individual travel cost method. So this study is also follow the method used by (himayatullah, 2003) and (Ahmed, 2015).

3.2 Theoretical framework:

As environmental goods provide both the direct and indirect benefits to the consumers, and we are interested to measure the demand for recreational benefits of a site. Therefore discussing the direct cost only (e.g. entry fee) will underestimate the importance of the good("demand analysis of recreational viists to chitral valley," 2007).

A growing body of literature is available which focuses on valuing recreational benefits, or valuing ecotourism and wilderness areas in developing countries. Most primary approaches which are widely used by economists in different studies are travel cost methods (TCM) and contingent valuation (CV), to assess willingness to pay (WTP). (himayatullah, 2004)

In travel cost models consumer is assumed to choose his/her visits to a recreational site, just as he consumes other goods.

According to Nelson (2002)

$$Max_{x\,v}\, U\,(x, v)$$

Where:

U = utility

x = market goods

v = visits to the site.

Consumer faces the following budget constraint

wL = $x + P_o v$ ..…… (1)

Where:

w = wage rate

L = labor hours/ working hours

P_o = it's the cash cost associated with the visits, which can be accommodation, fuel and food cost.

Further, is to consider the additional cost that is time spent in travelling to and from the site and also time spent at the site. Consider that an individual has T hours of time to spend, either to work or visit a site. So the time constraint to be faced by the individual would be as follow:

T = L + $(t_t + t_s)\, v$ ……. (2)

T = total hours of time

t_t=time to and from the site to residence.t_s = time spent at the site.

For maximization of utility,$Max_{x\,v} U\ (x, v\ )$

Substitute eq (1) in (2)

wT =$x + (P_o + w\ (\ t_t + t_s)\, v = x + P_v v$ ……. (3)

Here TC is given as price of the visit while:

$P_v = P_o + w(\ t_t + t_s)$

The utility maximization problem is a standard process, except the price of visit is newly introduced here, which is considered not only in money spent but also in time consumed.

Solving for maximization, the demand function for visiting the site for each individual would be:

$$V_i = f(TC, X_i, \dots, X_{ni}) \qquad \dots\dots\dots\dots\dots\dots\dots\dots \qquad (4)$$

This is the basis for travel cost method. Where: $X_i, \dots, X_{ni}$ are the socio economic variables, such as age, education, family size, income, close substitute that can be included in the model. (Hanley and Spash 1993).

The travel cost method is means of finding values of the visits. The idea was initially developed by Harold hoteling in 1947. Estimation of the demand curve for any site, requires the costs incurred by the individuals in travelling to the site. There are two approaches to the travel cost method, the individual travel cost approach (ITCA) and its alternative zonal travel cost approach.

Zonal travel cost Approach (ZTCA) is quite useful when one is interested to evaluate the recreational site as a whole. But the possibility that it may not consider some factors which might be important for determine the value of the site, not only that but also not easy use to value change in the quality of the recreation site. Therefore, this study is using individual travel cost method (ITCA) to evaluate the recreational site (Kalam). Individual Travel Cost Approach (ITCA) is similar to the zonal travel cost approach however it's utilize the data of individual respondent in the statistical analysis instead of data of each zone. Moreover, this approach required more information and to some extent more complicated analysis but provide more accurate result.

CHAPTER 4

RESEARCH METHODOLGY

4.1 Sampling Design:

According to Kalam Hotel Association the total average number of tourists is about 30,000 per year. Keeping confidence level 95% and Confidence interval is 6% the appropriate sample size for this population was derived as 264 respondent calculated through sample size calculator. Furthermore, around 40% of the visitors visit Mahodhand Lake (nearest tourist spot to Kalam) therefore our sample allocation is:

Table 4.1 SAMPLING DESIGN

Spot	Number of visitors	Samples respondent
KALAM	18,000	158
MAHODAND	12,000	106
Total	30,000	264

4.2 DATA AND VARIBLES:

The study is based on primary data. Primary data was collected in Kalam swat through a survey using a questionnaire from 26th of July till 18th august 2016. The data was collected randomly at exit point of Kalam Swat from 264 sample respondent on the following variables. Economic theory and the substantial experience of recreation managers highlighted that demographic variables such as age, sex, education, income, employment status, rural versus urban residence, family size and

other factors which include travel cost, travel time, substitute sites and site quality and congestion are believed to influence recreation visitation.

4.3 Explanation of the variables

Age: Age (in years) of the visitor/respondent at the time of interview. The hypothesis is that the visitor's age and the no. of visits to recreational site are inversely related (Khan, 2004), (Wynen, 2013), (Ketema, 2014), (Ahmad, 2015).

Gender of respondents: is another determinant of the visitation of recreational sites. We assumed men visit recreational sites more often than females (Khan, 2004), (Wynen, 2013) (Ahmad, 2015).

Education: Highest level of education (in years) of the respondent. It is expected that the level of education of visitors and the no. of visits are directly/positively related. Means that higher the education levels the more will be the visitation rate to recreational sites (Khan, 2004), (Wynen, 2013), (Ahmad, 2015).

Household income: Household average monthly income in Pak. Rupees. It has been observed that income have positively related to participation in outdoor recreational activities. We also hypothesize that household income and the no. of visits to the site are positively related (Khan, 2004) (Wynen, 2013), (Ketema, 2014), (Ahmad 2015).

Location/Residence: Respondent's local or non-local, local visitors will visit the recreational site more often than those from non-local areas (khan, 2004), (Wieland, 2007).

Quality of the recreational site: better quality of the recreational site attracts the visitor towards it. It is expected that if the visitors know that the quality of the site is good, then they will visit it more often than those who think that the quality of the site is not good (Wynen, 2013).

Travel Cost: travel cost may also effect the visitation of the recreational site now the question is what cost should be included in the existence literature the researcher investigated that the depression[3] cost of the vehicle plus the oil cost (Seller, Stoll and Chavas (1985), OECD (1995), Fernando 2015) used the cost of food, accommodation and fuel costs. Therefor accommodation, food and vehicle cost is the most appropriate cost regarding the value of on-site time, Keith, ,(1975)McConnell, (1992), Smith, (1996) Acharya, (2003) Khan ,(2006) ,Bockstael , (2011), suggested that opportunity cost, the time spent on-site should be include in the travel cost. Thus it includes round trip total cost to and from Kalam Valley including spending on (food and beverages, accommodation, opportunity cost of time spent on site, and transportation cost etc.). It is hypothesized that the no. of visits to the site and travel cost were inversely related. Furthermore (khan, 2004) highlighted the exogenous variable which effect the number of visit to the recreational site.

Travel cost from a residence (place of living) to and from the next best alternative substitute site: including travel time and time spent at that site.

Marital status:

It's expected that unmarried people are visits more recreational site like Kalam then those who are married are divorce Wynen (2013).

[3]Costs of fuel, tires, repairs and maintenance for vehicles to estimate appropriate travel costs and other accommodation cost.

4.4 Econometric Model:

In the existence literature many economists such as (Freeman, 1984; Smith, 1984 & Feenberg and Mills, 1980) suggest methodology to value a non-market resource based observable consumption behavior. Which is known as travel cost method (TCM). TCM is first introduced by the Hotelling (first reported in Prewitt, (1949)) though Clawson (1959) and Clawson and Knetsch (1966) develop empirical model for the travel cost.

$$v_i = \beta_0 + \beta_1 STC + \beta_2 Y + \beta_3 ST + \beta_4 Ag + \beta_5 Ed + \beta_6 HHS + \beta_{6+k} \sum_{k-1}^{4} D_k + \varepsilon_i$$

where $\mathbf{v_i}$ **,** the dependent variable stands for the number of visits by the *ith* individual to the Swat valley Kalam per period of time, **STC** the sum of all cost occurred on the round trip in rupees to the site including travel time; **Y** for household income (PKR/month); **ST** for Price or the cost occurred to visit a substitute site; **Ag** for age of the respondent/visitor; **Ed** for highest level of education gained by the respondent/visitor**; HHS** for family size; **D1** for the marital status: 1 if the respondent are single 2 if the respondent are married and 3 if the respondent are Divorce/widow D2 for the Gender 1 if the respondent are male and 0 otherwise; **D3**for Location 1 if the respondent are non-local and 0 otherwise; **D4** for Quality/satisfaction1 if the visitor's perception about the site's recreational facilities is good and 0 if bad. And $\varepsilon_i$is the random error. All though Kalam has no close substitute to be matching with cost incurred and distance. Also the respondents haven't mentioned any close substitute for Kalam Swat, beside these household family size is highly insignificant in our analysis therefore the variable was dropped.

$$v_i = \beta_0 + \beta_1 STC + \beta_2 Y + \beta_3 Ag + \beta_4 Ed + \beta_{5+k} \sum_{k-1}^{4} D_k + \varepsilon_i \mathrm{W}$$

Besides the study analyze the factors which effecting the willingness to pay of the tourist for the recreational site KALAM SWAT for that we construct another regression model.

$$\text{WTP} = \beta_0 + \beta_1 ImRoads + \beta_2 Red_{conj} + \beta_3 Avail_{Parking} + \beta_4 WDM + \beta_5 Quality\_site + \beta_6 \text{ satisfaction\_con} + \varepsilon_i$$

Where, WTP is willingness to pay, impRoads is Improvement in Roads, Red_conj is Reduction in congestion, Avail_Parking is availability of Parking, WDM is Waste Disposal, Quality_ site is Quality of the Site, Satisfaction_con is Level of satisfaction of the consumer.

Imp Roads is Improvement in Roads, it's expected that people will pay more for the improvement in road if the road confection is bad. Reduction in congestion, it is hypothesized that if the problem of congestion exist tourist will likely to pay more in order to reduce in the congestion problem. Availability of Parking tourist expected pay more for the facility of parking. WDM is waste disposal Management is waste disposal will lead to decrease the beauty of the site so tourist will likely to pay for its management. If the overall quality of the site people will likely to pay with the argument that quality is already better why should pay for it, if the tourist is highly satisfied they will likely to pay less for the quality of the site.

4.5 Poisson regression

This study is using the Poisson regression model. Poisson regression model is based on the positively skewed dependent variable which the author has in the current case in the form of the number of visits to the recreational site of Kalam in last 5 years. This study uses the said regression technique because the data on dependent variable is discrete in nature as well as it cannot assume negative values. In such cases, models that assume the continuous data distribution like OLS cannot be used and instead we should use a model that assumes the discreteness in data (Hellerstein, 1991) this method also has been used by Ketema et al (2014) in their study.

CHAPTER 5

RESULTS AND DISCUSSION

5.1 DESCRIPTIVE STATISTICS

Table 5.1 shows the demographic characteristic of the sample respondent.

Table 5.1 Percentage Distribution of Each Variables:

Variables	Percentage
Gender:	
Male	95%
Female	5%
Marital Status:	
Married	70%
Single	28%
Divorce/widow	1%
Education:	
Illiterate	1.9%
Primary	6.1%
Secondary	9.5%
University	82.6%
Residence:	
Non-Local	80%
Local	20%
Need for quality improvement	
Yes	58%
No	42%
Source of Fund Raising	
Increase entry fee	51%
Govt. budget reallocation	48.5%
Donation	0.4%
Visits to Mahodhand Lake	
Yes	48.9
No	51.1

The above table indicates the frequency distribution of each variable. Starting from the Gender of the respondent the results depicts that there were about 95% of the respondent among total respondent, while the remaining were women. Most of the respondents were males; only from12 female data was collected because of social, religious and cultural constraints. Although families were present in the study site. Similarly, the results of marital status indicate that there were around 70% married respondent, followed by 28% single and 2% are either widow or divorced. The results suggest that married people like to visit more recreational site Kalam with their spouse. Further it's also indicate that marital status is an important factor for the visit valley Kalam.

Moreover, the level of education shows a very positive response, as around 82.6% of the respondent which has been taking into consideration in this study are university graduates, followed by 9.5% Secondary level of education, primary 6.1% and a very minor amount of the respondent are illiterate which is about 1.9%. On the other hand, 80% of the respondent of are non-local resident, while only 20% of the respondent are local residence of Swat.

The key question which related to the improvement in the quality of the Kalam site, which includes infrastructure, camping sites, Parking areas, Hotels, reduction in congestion, mapping and tourist information center. We got a mixed response, however; majority of the respondents agreed with the statement, in which almost 58% of them supported the improvement of quality of Kalam site. In contrast, around 42% of them replied no for this query. The reason provided by the respondent support the idea that this is the sole responsibility of the government to improve the quality of Kalam sites.

In order to increase the source of funding for the improvement of Kalam sites, most of the respondents, around 51% supported imposed entry fee on the visitors in order to increase the

financing for the quality improvement of the area. However, around 48.5% suggested that government should ensure the budget allocation for the improvement of the quality of Kalam sites, moreover; around 0.4% mainly support Donations for this cause.

Mahodhand Lake, which is the key site of attraction for most of the visitors, as 48.9% of the total visitors responded that they visit Mahodhand Lake while travelling to Kalam. However, 51.1% of the respondent argued that they don't pay visit Mahodhand Lake when travelled to Kalam.

Table 5.2 If there is no other way but to raise the entry fee, would you be still visit the area

	Frequency	**Percent**
No	4	1.5
Yes	260	98.5
Total	264	100.0
Entry fee	Frequency	Percent
100	96	36.3
50	64	24.2
70	35	13.3
30	23	8.8
20	25	9.5
Below 20	21	8.0
Total	264	100

If there is no other way, but to raise the entry fee question was responded positively, and 98.5 % of the total respondents said that they will be visiting the site, even if entry fee is imposed. It points that people have the willingness to pay for a visit to the site. Furthermore the respondents were asked for their willingness to pay an entry fee which will be used on the maintenance of the infrastructure thus, About 36.3% of the total respondents responded that even if entry fee of PKR100 is payable, they would pay it willingly, 24.2% of the total respondent were willing to pay PKR 50, 13.3% of the respondents RS 70, 8.8% of the respondent PKR 30, 9.5 are willing to pay

PKR 20 while only 8% percent of the total respondents were agreed to pay an entry fee below PKR 20 as an entrance to Kalam Swat.

Table 5.3 Descriptive Statistics of the Respondents

Variables	Mean	Minimum	Maximum
No. of Recreational Trips in previous five years	10.69	0	50
Yearly Spending on Ecotourism (PKR)	163901.52	0	600000
Household Monthly Income (PKR)	36443.18	0	90000
Distance (Km)	393.77	3	2000
No. of Trips to KALAM in last five years	1.94	0	24
Age (Years)	35.56	20	58
Household Size	5.24	2	12

Table 5.3 shows the descriptive statistics for different variables. Average number of recreational trips in last 5 years for all the respondents is 10.69 with the range of 50 trips in last 5 years. Spending on eco-tourism in the same period has an average of 163901.52. Here data is spread between minimum of 0 and maximum 600000. The minimum value of monthly income of household is 0 and maximum value is about 90000 and the mean value is 36443.8. The mean distance to Kalam from visitor's destination is approximately 393.78. However, the maximum distance from visitor's destination is almost 2000 KM, whereas the minimum distance is almost 3 KM. The average number of trips from in the last five years by the visitor's to Kalam is almost 1.94 during five years to Kalam, while the maximum number of visit paid during the stated period is almost 24 times, whereas the minimum number of visits are zero. On average the age the of the respondent who visits to Kalam is 35.56, whereas it touches 58% the maximum while following 20% as the minimum age to of the respondent visitor's to Kalam. The average size of the

respondent household is about 5.24, ranging from 2 as maximum followed by 2 as minimum size of the households, who visits to Kalam.

Table 5.4 Question about Visiting Kalam gives you a sort of relief in terms of mind change or not.

Visiting Kalam gives you a sort of relief in terms of mind change or not		
	Frequency	**Percent**
No	236	89.4
Yes	28	10.6
Total	264	100.0

Most of the respondents, when asked, told that whenever the pay visit to Kalam, it gives them a sort of satisfaction, while travelling all the way from urban areas to Kalam. Around 89.4% of the respondent favored that visiting to Kalam help them to spend a refreshing time with families and friends.

Table 5.5 Question about weather of Kalam

The Weather of Kalam Pleasant and joyful.		
	Frequency	**Percent**
No	85	32.2
Yes	179	67.8
Total	264	100.0

Most of the respondent, around 67.8% found the weather of Kalam very pleasant, while only 32.2% of the respondent said that the weather of Kalam is not pleasant.

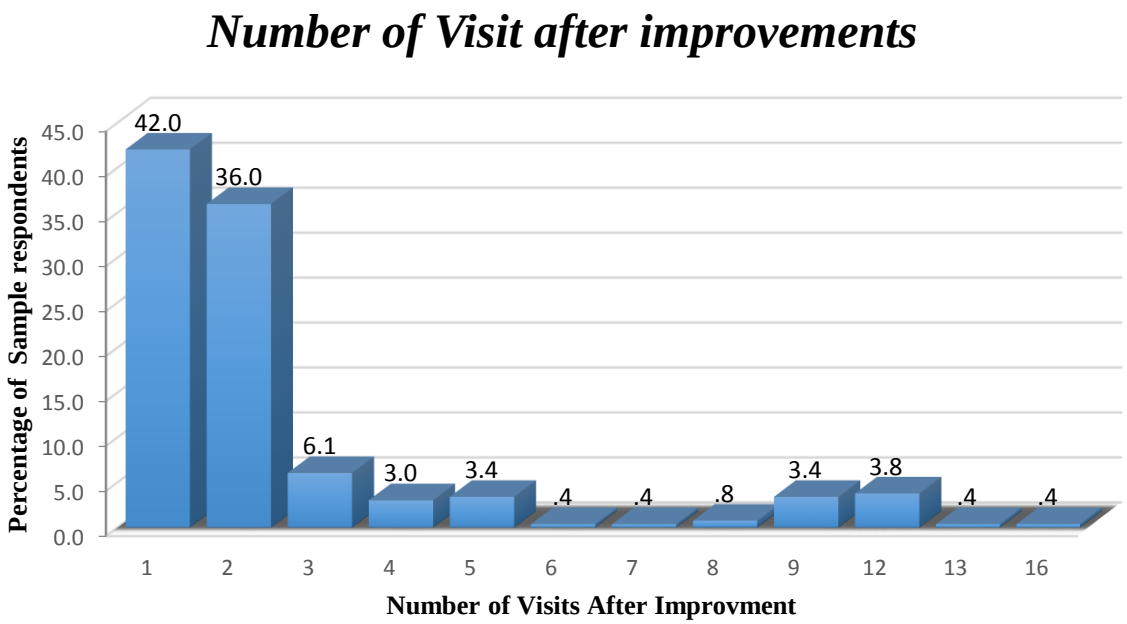

Figure 5.1 Question about Number of Visit after improvements.

How many times you would like to visit this site again after improvement you've suggested are implemented.

The above graph highlights the respondents' prospective visits after improvements. Around 42% of the total respondents were willing to visit the site 1 time a year, 36% of the total respondents were willing to visit 2 times in a year, 0.4 of the total respondents were agreed to visit 6 times, 6.1 % will visit 3 times, 3% will visit 4 times, 3.4 will visit 5 times, 0.8% of the total respondents are willing to visit 8 time per year, 3.8% will visit 12 time per year, 0.4% will visit 7 time per year, 0.4 will visit 13 time, another 3.4% of the total respondents willing to visit 9 times per year, while only 0.4% of the total respondents were willing to visit 16 times per year.

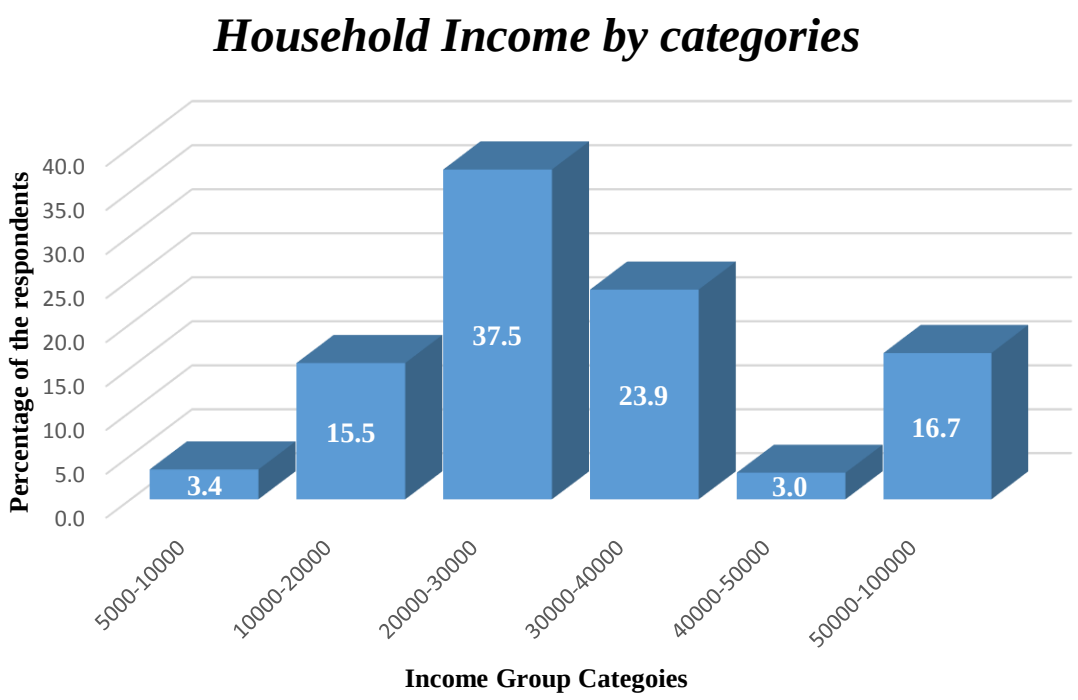

Figure 5.2 Income of the household by categories.

The above figure shows the income distribution of the household by categories, the figure indicates that about 37.5% of the total respondents lie in the third income category which is (20000-30000), 23.9% of total respondents is in 4th category which is (30000-4000000), 16.7% lies in the category which is also consider high category among the others (50000-100000),15.5% of the total respondents lies in the category of (20000-30000), 3.4% of the total respondents lie in 1st income class which id (5000-10000) and in only 3% of the total respondents occurred in the (40000-50000) income category.

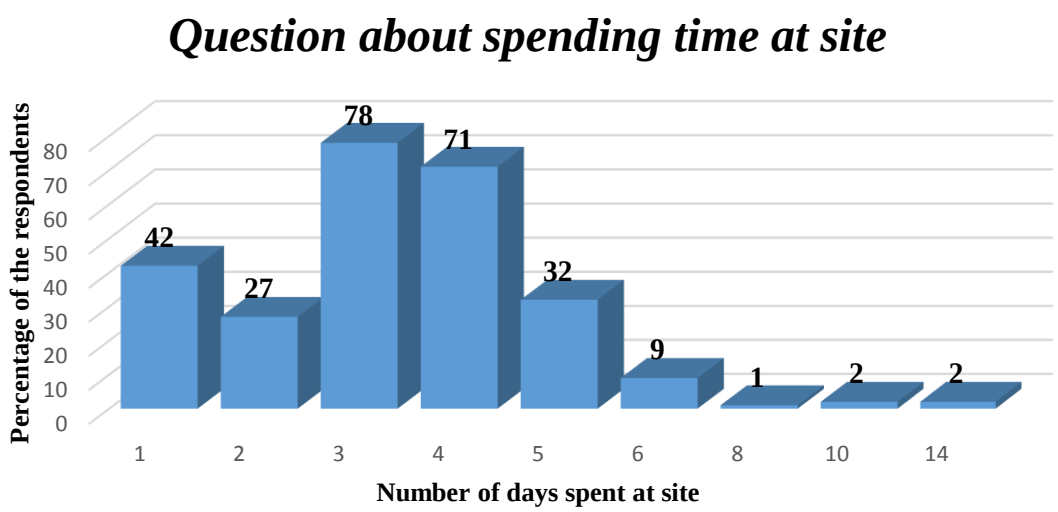

Figure 5.3 Question about spending time at site.

Figure 5.3 highlights total time spent by the visitors at site Kalam. When the respondents were asked how many days you spent at site? Around 29.5% of the total respondents said that they spent only 4 days at site, 26.9% said 3days, 15.9% replied 1 day, 10.2% answered 2 days, 12.1% of total responded 5 days, 3.4% of the total respondents spent 8 days, 0.8% of the total respondent spent 10 days while only 0.8% of the total respondents are those who spent 14 days at site Kalam Swat.

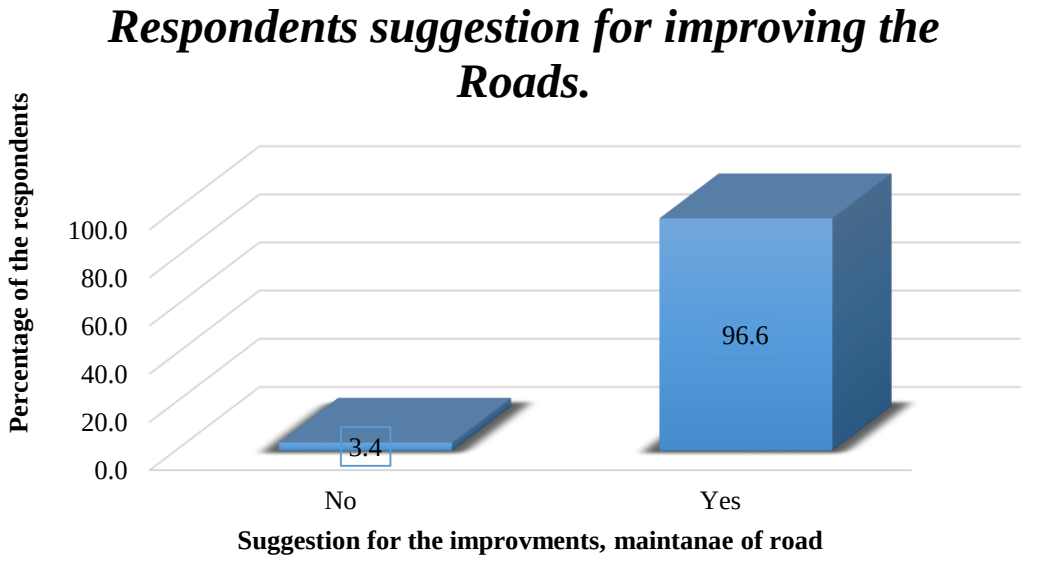

Figure 5.4 Respondents suggestion for improving the Roads

The above figure indicates the suggestions of the respondents for construction and maintenance of the roads. Around 96.6% of the total visitors have highly recommended improvement in roads and safety measures on road side which will increase the flow of tourists and also the value (benefits) of the site as well it will be easy for them to travel again and visit the site in future. Furthermore, when roads are constructed properly then it will take very short time to reach the site as well as the cost of maintenance of the vehicle will cut down.

Figure 5.5 Question about the waste disposal Management.

When question about the waste disposal management was asked from the respondents that what do they suggest for the waste disposal management? As the waste disposal problem is one of the serious issues over there. The above graph shows the respondents' suggestion towards for its management around 93.9% of the total respondent highly recommended that the responsible authority should take care of this problem w while the remaining 6.1% of the respondents have shown no response.

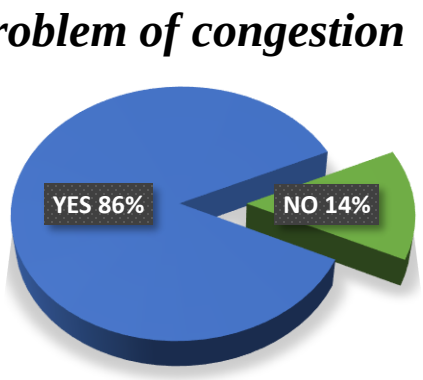

Figure 5.6 Question about the problem of congestion.

Did you face the problem of congestion while visit to Kalam swat?

The Above figure indicates that 86% of the total respondents' response that there was serious problem of congestion due bad condition of the road. Which leads to increase the travel time of the visitors reach to Kalam Swat, while the remaining 14% of the total respondents' response that they did not face the problem congestion while traveling to Kalam swat and they reached on time.

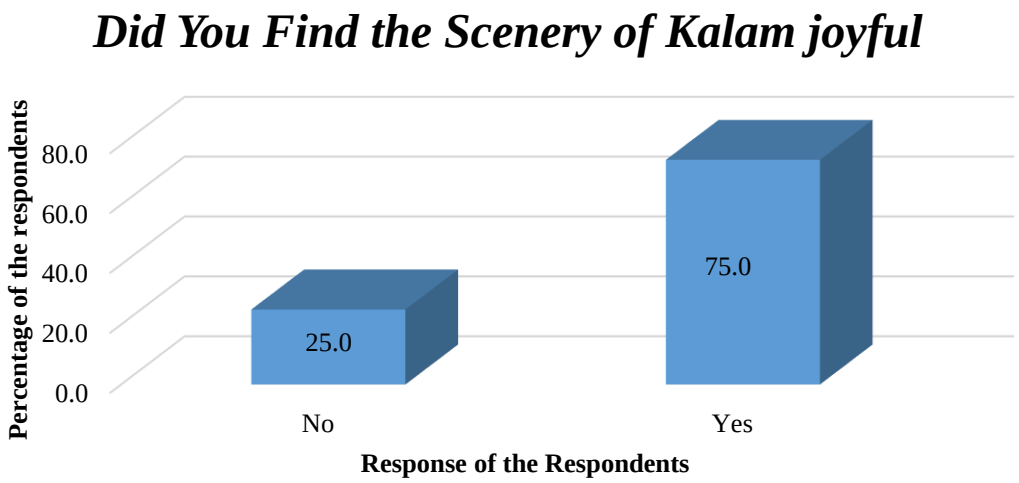

Figure 5.7 Question about the scenery of Kalam Swat

Figure (5.7) shows the respondents' response to the question, did you find the scenery of Kalam Swat joyful? About 74% of the total respondents responded yes to this question, while the remaining 25% of the total respondents were not fully satisfied from the scenery of Kalam Swat.

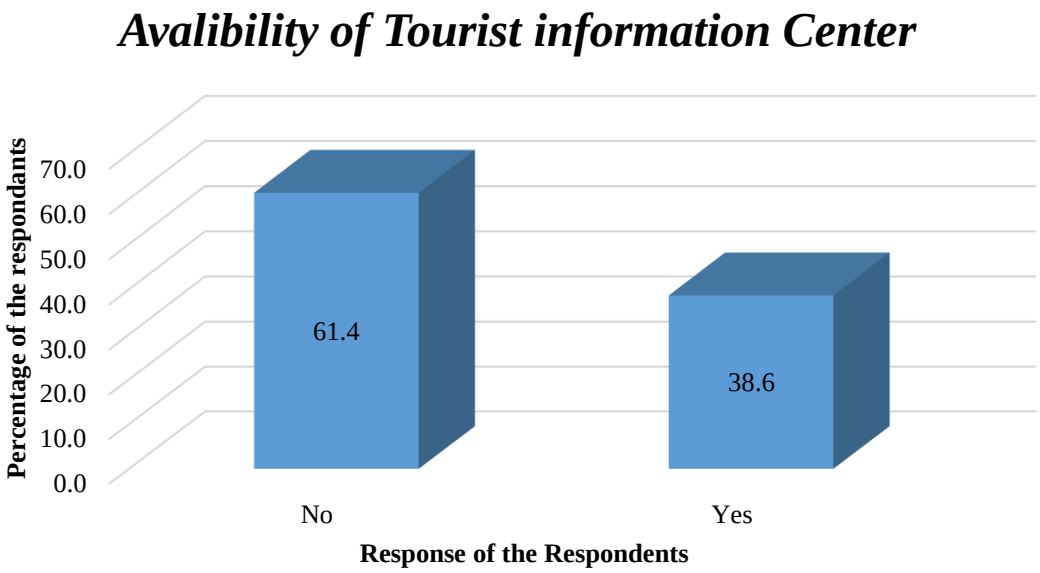

Figure 5.8 Question about Availability of TICs

On inquiring about the requirement of tourist information centers (TICs), 61.4% of the total respondents replied that there is no need of the TICs while, 38.5% of the total respondents replied yes to this question. No respondent left this question unanswered. So it means that Tourist Information Center is an important component for quality tourist services. It will not only attract the tourist to visit the site by helping them in their visits but also generate employment for the local people.

5.2 EMPIRICAL RSULTS

Table 5.6 Correlation Matrix

Variables	Lepl5yt	Gender	lc	Age	Ms	Edu	Lmincome	SQ
logEpl5yt	**1.0000**							
Gender	**0.0921**	**1.0000**						
Location	**0.2373**	**-0.1085**	**1.0000**					
Age	**0.4919**	**0.0410**	**0.0729**	**1.0000**				
Marital status	**0.2289**	**-0.0914**	**0.0116**	**0.6522**	**1.0000**			
Education	**-0.0182**	**-0.0908**	**0.0256**	**-0.0160**	**-0.0246**	**1.0000**		
Log Monthly income of HH	**0.6507**	**-0.0203**	**0.2840**	**0.3008**	**0.1145**	**-0.0564**	**1.0000**	
Satisfaction from the site Quality	**0.3830**	**0.1938**	**-0.0148**	**0.2227**	**0.1146**	**0.0501**	**0.2795**	**1.0000**

Above are stated the correlation coefficients of independent variables. From this table, we could see that no two variables are so strongly correlated that their relationship could be termed as that of Multicolinearity. The strongest coefficient of correlation appears between monthly income of HH and the expenditure incurred in previous 5 years, and it makes sense.

Table 5.7 Estimated Results of Poisson Regression Equations

Variable	Coefficients (t-stats)
Dependent Variable	Total No. of Visits in previous 5 years
Log STC	**-0.57 (0.311) *** **
Log Y	**0.19 (0.211)**
Marital status 0 single 1 married	**-0.26 (0.239)**
Age	**0.019 (0.014)**
Education	**0.19 (0.136)**
Dummy1 (1 for Male, 0 female)	**0.72 (0.409) *** **
Dummy2 (0 for local, 1 for non-local)	**-3.54 (0.364) ***
Dummy3 1 if Visitor's Perception is Good/satisfied 0 otherwise	**0.46 (0.181) ***
	Chi-sq value: 219.87
	Prob. Of Chi-sq: 0.0000

*, **, *** indicates significant at 10, 5 and 1% respectively.

Results obtained from Table-1 indicate that there exists positive association among number of visits to Kalam, Education, Gender, Age, Visitors Perception and Household Monthly income. However, monthly income, education and age of the respondent have positive but statistically insignificant impact on the number of visits to Kalam. While, gender and visitors' perception appears with significant magnitude, which indicates that gender and visitors' perception significantly affect the number of visits to Kalam. The coefficient associated with gender reveals that the average number of visits to Kalam for male on average is higher by 0.72(visits) as compared to females. Our results are consistent with the study of (khan, 2004; Twerefou & Ababio, 2012) who reached the same conclusion except insignificance of age with a negative sign and significant positive coefficient of monthly income of the respondent, in our result coefficient of household monthly income consistent with the study of Wynen (2013) and Ahmad (2015).

Furthermore, data was collected mostly from male respondents, due to social, religious and cultural constraints. Coefficient of marital status is negative and insignificant. Level of education is positively related to the number of visits our results is consistent with the study of Wynen (2013). Sign is correct according to a priori expectation but problem is with its insignificance which could be attributed to the fact that in our sample, a very large number of respondents had a university level education.

On the other hand, the results for total cost occurred on trips, marital status and locality have negative relationship with the number of visits to Kalam. In contrast, local and non-`local visitors and total cost occurred on trips have negative and statistically significant relationship with the number of visits to Kalam our results are consistent with the study of Khan (2004), Wynen (2013), Ketema (2014), Ahmad (2015). This is in accordance with the law of demand, that is as price or travel cost increases the quantity of the visitation rate per zone will decrease. Therefore, it can also be observed that as consumers belong to far away distances, their Travel Cost will be higher and so maximum the distance the fewer will be the visits to the site and as consumers live nearby their distance will be less so visits will be more. Furthermore, the coefficient of the total cost occurred on trips in previous five years indicates that 1% increase in the cost of the trip will lead to decrease of about 1 trip in to site, for locality of the visitors, on average the non-local people visits less by -3.54 to Kalam as compare local visitors. Here our results are consistent with the early findings of (khan.2006) except marital status Besides these the coefficient of the visitors perception about quality of the site is positively and significantly associated with the number of visits to the recreational site Kalam Swat, its means that visitors will visit increase if quality of the site improve further our result is consistent with the study of (Wynen, 2013).

Moreover, the results obtained from Poisson regression the value of Chi-sq indicate that overall model is highly significant and fit.

Table 5.8Estimated Results of Poisson Regression Equations

Dependent Variable	**Maximum willingness to pay**
Variable	Coefficients (t-stats)
improvement of Roads	12.98(2.35) ***
Reduction in congestion	0.757(1.45)
Availability of Parking	5.293 (1.05) ***
Waste disposal management	2.052 (2.066)
Quality of the Site	-1.207(0.69) *
Satisfaction of the consumer	-13.255(1.09) ***

*, **, *** indicates significant at 10, 5 and 1% respectively.

The results obtained from Poisson regression analysis shows that how improvement in roads, reduction in congestion, availability of parking, waste disposal management, quality of site and visitors satisfaction effect the maximum willingness to pay. The results indicate positive and statistically significant relationship among maximum willingness to pay, Improvement in Roads, reduction in congestion and availability of parking. However there exist positive but statistically insignificant relationship between maximum willingness to pay and waste disposal management. On the other hand, negative and statistically significant relationship exists among maximum willingness to pay, quality of site and visitors satisfaction.

5.3 THE RECREATIONAL VALUE OF KALAM SWAT.

Estimation of the consumer surpluses were obtained through the following formula: using the method of Creeland Loomis (1990)

$$\boldsymbol{CS = -\frac{1}{\beta stc}}$$

Where, the coefficient of the sum of the travel cost in the above regression model.

The recreational value of the site or the consumer surplus estimated value for the year (2014) for Kalam was PKR 421.45 million this method also followed by(Ahmed, 2015).

CHAPTER 6

CONCLUSION & POLICY RECOMMENDATIONS

6.1 Major findings of the study

The main purpose of the study to find the recreational value (benefits) of the site, to analyze the responsible factors that affects the visitors' willingness to pay (WTP) and to investigate the desirable changes for increase in recreational benefits of the site which lead to increase the total economic value of the site Kalam.

As finding of the study clearly highlight the importance of the site Kalam by estimating the total economics value of the site which PRS 421 million. Additionally, the study finds out that improvement in roads, reduction in congestion, perception of visitor about the quality of site and satisfaction of the visitor after visit to the site are significantly influence willingness to pay of the visitors. Moreover, findings of the study suggest improvement of road, reduction in congestion, proper management of disposal waste are the desirable changes which improve the quality of the site and ultimately will increase the benefits of site Kalam Swat.

6.2 Summary

The study has revealed higher "use value" of the visits to Kalam valley by the tourists. Although it is a lower bound and the estimated recreational value on average PKR 421.45 million per year is only one aspect of the total value of the site, it indicates that, with proper conservation and management, tourism can be a significant source of benefits. This study constitutes the first estimate of economic values of natural resources in Swat (KPK). This type of valuation has

implications for management and sustaining the natural resources throughout Swat and Pakistan. Sustaining the resources will benefit people of the current and future generation.

The results indicate that education, age, gender, visitors' perception and household monthly income of the respondent has a positive impact on the number of visits to Kalam. However, variables like gender and visitor's perception showed positive significance with the number of visits to Kalam, hence males are more likely to visit the study area for recreation. The fact that income shows positive but insignificant result is due to the reason that even respondents with less income visit Kalam because they find more utility there. Hence low income group respondents also have willingness to pay for the provision of better recreational facilities in Kalam. The results also show that marital status, locality of the respondent and the total cost on the trip bear but the respondent has a negative relationship with number of visits to Kalam. A positive and statistically significant relationship was found between improvements of roads, measures to reduce congestion, parking availability and WTP by the respondents. There existed a positive but statically insignificant relationship between maximum WTP and waste disposal management which means that less waste at the study area attracts more tourists but many tourists/ respondents did not think that this issue is present in overall Kalam. The statistically insignificant result shows the severity of the problem. No Multicolinearity was found in the model and the results obtained from Poison regression shows that overall the model is fit and significant. The focus of the current study is the valuation of environmental resources and how this information can be used to improve planning to recreational sites and its management in Pakistan. The Kalam valley can generate large economic values through recreation. Keeping in view the large amount of consumer surplus and recreational values of the site, the Federal and Provincial level governments can allocate large annual budget for the administration and maintenance of natural resources.

6.3 Policy Recommendations

As the results of the study suggest that 96.6 percent of the total respondents highly recommended improvement of roads and safety measures on road side which will increase the flow of tourists and also the value (benefits) of the site. The study suggests imposing PRS100 an entry fee and the revenue generated should be utilize for sustaining the resources like conserving forest, development infrastructure, providing alternative source of energy and empowerment of the local people. The 'user value' of the site is providing a Guideline for the introduction of the entry fee and also 98 % of the visitors have expressed that they are willing to pay an entry fee. Keeping in view the high recreational value of the site, the study recommends more studies in Swat and in Pakistan for achieving the sustainable development goal of sustainable development. Moreover, this study recommend that the government should invest in development of other region of swat like Lalko valley and Biha valley which has the similar attributes like Kalam valley, so it will not only reduce the congestion problem of Kalam but it will push up the economics activities, which is helpful for the livelihood of the poor rural people.

6.4 Limitations of the study

- As Kalam has no close substitute recreational site nearby so this study does not incorporate the substitute price of sites.
- Financial resources and time of the study was limited to cover up the intended scope and area of the study.
- Mostly the respondents were males in survey and data collection due to the cultural, religious and traditional customs of Kalam, swat valley. So opinions from both the gender couldn't be obtained equally.

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APPENDEX

This questionnaire is designed for MPhil thesis entitled "**RECREATIONAL VALUE AND WILLINGNESS TO PAY FOR TOURIST SITE: EVIDENCE FROM KALAM DISTRICT SWAT**". The information collected through this questionnaire will use purely for academic research and will remain confidential.

S. No____

Date: _____/_____/2016

Name of Visitor/Respondent: (Optional) _____

A: General Information about the Visitor

A: 1. Gender of the respondent: ☐ Male ☐ Female.

A: 2. Age _____ (years)

A: 3. Marital Status (please circle one): ☐ Single ☐ Married ☐ widowed/divorced

Other (Please. specify) _____.

A: 5. Household Size: _____ (No. of Family Members)

A: 6. Level of Education?

i. None ☐

ii. Primary ☐

iii. Secondary ☐

iv. University ☐

v. Other (specify) _____.

A: 7. Location: Local ☐ Non-Local. ☐

A: 8. Income of the household (PKR /month):

1. ☐ 0-5000 PKR
2. ☐ 5000-10000 PKR
3. ☐ 10,000-20,000 PKR
4. ☐ 20,000-30,000 PKR
5. ☐ 30,000-50,000 PKR
6. ☐ 50,000-1, 00,000 PKR
7. ☐ More than 1, 00,000 PKR

A: 9. Nature of the Job?

a) ☐ Government Job.

b) ☐ Private.

c) Semi Gov. ☐

d) Other_____

A: 10. What is your monthly Wage (Rs) _____?

B: Visitor's Recreational Behavior

B: 10. How many times did you visit recreational sites or nature-based recreation in Pakistan within the last 5 years for recreation purpose?

No. of times: _____.

B: 11: How much did you spend on eco-tourism during the last year? _____

B: 12. How many times did you visit the SWAT (Kalama Valley) within the last 5 years for recreation purposes? No. of times: _____.

B: 13. How much did you spend on visiting Kalam Swat? Within the last five years _____

B: 14. Where do you live/ residence? Name of Place_____

B: 15. If you were not on this trip today, what would you most likely be doing?

a) ☐ Working at job

b) ☐ Other recreational site

c) ☐ Housework/Shopping

d) ☐ Other (pl. Specify) _____

B: 16. How time did you spent at Kalam today? _____Hours/ Days.

B: 17. How did you come to Kalam Swat?

a) ☐ By Tour Bus,

b) ☐ By mini bus,

c) ☐ By taxi,

d) ☐ By private car,

e) ☐ By motorcycle,

f) ☐ By public bus,

g) Other (please specify) _____

B: 18. How much did you spend on your trip from your destination to this site (Kalam Swat)?

a) Transportation _____ PKR (in case of public transport)

b) Fuel_____PKR (if private/own vehicle)

c) Food _____PKR

d) Accommodation_____ PKR

e) Other _____PKR

f) Total _____PKR.

B: 19. Please estimate the time and distance it takes you to get to this recreational site (Kalam Swat) from your home town? _____ Hours _____ km.

B: 20. If you are not from SWAT, you came to SWAT only for:

Business ☐

Visiting friends or relatives ☐

Recreational purpose ☐

Other. _____

B: 21. How would you describe the quality of recreational Site (KALAM)?

Very poor ☐ Poor ☐ Fair ☐ Good ☐ Excellent ☐

B: 22. Are you satisfied with the existing recreational benefits of the site?

☐ ☐

Yes No.

B: 23. Do you know any other Recreational site (As perfect Substitute site) that you would like to visit in swat instead of Kalam?

Yes No ☐ ☐

B: 24. If Yes to Q. B: 23, which other single site do you visit frequently? _____

B: 25. If yes, what would be your total cost to visit that Site as compared to SWAT Kalam? PKR. _____

B: 26. What is the distance from your home to that Recreational site? _____

B: 27. How much time would you spend at the next best alternative recreational site? _____hours.

B: 28. If No to Q 22, would you like to have improved recreational services of the Site? ____

Yes ☐ go to Q#30 No ☐ go to Q#29

B: 29. If No to Q 28, why?

a) ☐ Satisfied with the existing recreational benefits/services of Kalam Valley

☐

b) Don't have any money; cannot afford

c) ☐ Govt.'s responsibility

d) ☐ Not my responsibility

e) Others (Specify)_____

B: 30. If yes to **Q.28**, what types of improvements would you like to see at this Site?

i. : Recreational Site:

a) ☐ amping site

b) ☐ Stalls

c) ☐ Fun land

d) ☐ Hiking tracks

e) Other_____

ii. Information about Swat Valley:

Maps ☐ Information Sign ☐ Precaution Sign ☐ Tourist Information Centre ☐

iii. Traffic:

☐ ☐

Road Conditions Reduce congestion ☐ Traffic Sign ☐ Parking

iv. Miscellaneous:

a) Waste disposal ☐

b) Accommodation ☐

c) Others _____

C: Visitor's Attitude towards Entrance Fees

C: 31. What is the entry free to swat Kalam_____ (Rs?)

C: 32. If this site (Kalam) needs more income to provide better services for visitors, such as more recreational sites, improved cleanliness, greater traffic safety, public safety and forest fire protection, how should these recreational services be financed?

Raise the entry fees ☐

Raise govt. budget ☐

Donation ☐

Other_____

C: 33. Suppose there were no other sources of improvement except imposing/raising entry fees, would you be willing to pay higher entry fee? Yes ☐ No ☐ why_____

C: 34. (a) If the entry fee were PKR. 50, would you be willing to pay it to visit to Kalam? Yes_____ (go to Q. b), No_____ (go to Q. d).

(b) Suppose that the cost of providing better services is higher and Rs 50 entry in not enough to cover all the cost, would like to pay 100 entry fee instead of 50? Yes _____ (finished; go to Q. 35)

No._____ (go to Q. c)

(c) Suppose that instead of PKR. 100 the entry fee was PKR. 70. In this case would you be willing to pay the entry fee or not? Yes_____ (finished; go to Q. 35) No_____ (go to Q. f).

(d) Suppose that instead of PKR. 50 the entry fee was PKR. 30. In this case would you be willing to pay? Yes_____ (finished; go to Q. 35) No____ (go to Q. e)

(e) Suppose that instead of PKR. 30 the entry fee was PKR. 20. In this case would you be willing to pay? Yes_____ (finished; go to Q. 35) No____ (go to Q. f)

(f) What is the most you would be willing to pay for the entry fee to this Site?

Maximum amount _____ PKR.

C: 35. If you are willing to pay for improved quality of recreational services in the near future, perhaps you may wish to come to Kalam and spend more time for recreation. YES ☐ NO ☐

C36: How many more times would you then be here? _____ visits/year.

C37: Most valued attributes in Kalam (mark up to three)

(a) Scenery of Kalam (b) Relaxation (c) Weather (d) Outing from urban setup or outing from home

Did you visit Mahodhand Lake? ☐ YES NO ☐