

**ECONOMIC VALUATION OF WORLD
HERITAGE SITE: A CASE OF BHAKTAPUR
DURBAR SQUARE**

A Thesis

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By

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LETTER OF RECOMMENDATION

This thesis entitled **Economic Valuation of World Heritage Site: A Case of Bhaktapur Durbar Square** has been prepared by Ms. Sneha Bijukchhen under my guidance and supervision. I, hereby, recommend it, in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS for final examination.

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LETTER OF APPROVAL

We certify that this thesis **Economic Valuation of World Heritage Site: A Case of Bhaktapur Durbar Square** is submitted by Ms. Sneha Bijukchhen to the Central Department of Economics, Tribhuvan University, in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the said degree.

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LIST OF ABBREVIATIONS

BDS	:	Bhaktapur Durbar Square
CS	:	Consumers' Surplus
TCM	:	Travel Cost Method
WTP	:	Willingness to Pay
ZTCM	:	Zonal Travel Cost Method

LIST OF TABLES AND FIGURES

LIST OF TABLES

Table No.	Title	Page Number
4.1	: Gender of Visitors	24
4.2	: Age-Group of Visitors	26
4.3	: Level of Education of Visitors	28
4.4	: Occupation of the Visitors	29
4.5	: Income of the Visitors	31
4.6	: Religion of the Visitors	34
4.7	: Permanent address of Visitors	36
4.8	: Distance between BDS and Visitor's Place	37
4.9	: Time taken to reach BDS	39
4.9.1	: Average time taken to reach BDS	39
4.10	: Means of transportation used to travel Bhaktapur	40
4.10.1	: Other Specified Vehicle	41
4.11	: Transportation Cost as per the place	42
4.11.1	: Average transportation cost	43
4.12	: Airlines used to travel Nepal	43
4.13	: Destination in Nepal	44
4.14	: Substitute Sites of BDS	46
4.15	: Visitation Type in BDS	47
4.15.1	: Pattern of Dependents	48
4.15.2	: Number of Dependents	48
4.15.3	: Number of Group and Family	48
4.16	: Trips made to BDS	48
4.16.1	: Average trip made to BDS	49
4.17	: Importance of visiting BDS	49
4.18	: Staying Days of Visitors in Bhaktapur	51
4.19	: Residence of Visitors in Bhaktapur	54
4.20	: Name of the Hotels	55
4.21	: Purpose of Visitors in BDS	56

Table No.	Title	Page Number
4.21.1	: Specified other purpose of Visitors	57
4.22	: Expenditure pattern of Visitors in Bhaktapur	58
4.22.1	: Average expenditure pattern of Visitors in Bhaktapur as per visitor's origin	60
4.22.2	: Average expenditure pattern of Visitors in Bhaktapur	61
4.23	: Total expenditure made and total budget separated by Visitors in BDS	62
4.23.1	: Average expenditure made and total average Budget separated by Visitors in BDS	64
4.24	: Case Processing Summary	65
4.24.1	: Chi-Square Tests	66
4.25	: WTP attitude of the visitors in BDS for the improvement of BDS	66
4.26	: Amount of WTP for the improvement of BDS	67
4.26.1	: Amount specified more than Rs.2500	68
4.27	: Intention of Visitors to visit BDS in future	69
4.28	: Recommend others to visit BDS	69
4.29	: Comment of Visitors on current state and quality of BDS	69
4.30	: Place wise average details	70
4.30.1	: Calculation of the Value of BDS	70
4.31	: Consumer Surplus of BDS in single visit per visitor on the basis of place	76
4.31.1	: Consumer Surplus of BDS in single visit per visitor in total	77
4.32	: Descriptive analysis of sample visitors	79
4.32.1	: Estimated Result of Regression Equation	79
4.32.2	: ANOVA Table	80
4.32.3	: Relationship between visitation rate and independent variables	81

LIST OF FIGURES

Figure No.	Title	Page Number
4.1	: Gender of Visitors	25
4.2	: Age-group of Visitors	27
4.3	: Income of Visitors	33
4.4	: Religion of Visitors	35
4.5	: Distance between BDS and Visitor's place	38
4.6	: Destination in Nepal	45
4.7	: Average trip made to BDS	50
4.8	: Importance of visiting BDS	53
4.9	: Purpose of visitors in BDS	59
4.10	: Comment on current state and quality of BDS	71
4.11	: Consumer Surplus of Visitors in BDS	77

TABLE OF CONTENTS

LETTER OF RECOMMENDATION	i
LETTER OF APPROVAL	ii
ACKNOWLEDGEMENT	iii
LIST OF ABBREVIATIONS.....	iv
LIST OF TABLES AND FIGURES.....	v
CHAPTER I: INTRODUCTION.....	1-6
1.1 Background of the Study	1
1.2 Statement of the Problem	4
1.3 Objectives of the Study.....	4
1.4 Hypothesis of the Study.....	5
1.5 Significance of the Study	5
1.6 Limitations of the Study	5
1.7 Organization of the Study	6
CHAPTER II:REVIEW OF LITERATURE	7-20
2.1 Theoretical Concept	7
2.2 Empirical Studies	11
2.3 Research Gap	19
CHAPTER III: RESEARCH METHODOLOGY	21-23
3.1 Research Design.....	21
3.2 Introduction to the Study Area.....	21
3.3 Sample Size and Sampling Procedure	22
3.5 Specification of the Model.....	23
3.6 Data Processing.....	23
CHAPTER IV: PRESENTATION AND ANALYSIS OF DATA.....	24-82
4.1 Demographic and Economic Status of Visitors in Bhaktapur Durbar Square	24
4.2 Estimation of the Economic Value of Bhaktapur Durbar Square Using Travel Cost Method.....	73
CHAPTER V: SUMMARY, CONCLUSION AND RECOMMENDATIONS ...	83-87
REFERENCES	88-91
APPENDICES	92-102

CHAPTER I

INTRODUCTION

The introductory part includes background of the study; statement of the problem; objective, limitations, significance, hypothesis and organization of the study.

1.1 Background of the Study

Cultural and natural heritage is very important part of the nation and of the whole world. It is the source of life and inspiration, our touchstones, our points of reference, our identity. To be included on the World Heritage List, sites must be of outstanding universal value and meet at least one out of ten selection criteria. Until the end of 2004, World Heritage sites were selected on the basis of six cultural and four natural criteria. With the adoption of the revised Operational Guidelines for the Implementation of the World Heritage Convention, only one set of ten criteria exists. For a property to be included on the World Heritage List, the World Heritage Committee must find that it meets one or more of the criteria: i)to represent a masterpiece of human creative genius; ii)to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design; iii)to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; iv)to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates significant stages in human history; v)to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change; vi)to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria); vii)to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; viii)to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features; ix)to be outstanding examples representing significant on-

going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; x)to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation. The protection, management, authenticity and integrity of properties are also important considerations (UNESCO, 2017).

Currently there are 1,073 world heritage sites in the entire world. Out of these 832 sites belong to cultural heritage, 206 sites are natural heritage and 35 sites fall under mixed category. Bhaktapur Durbar Square, enriched in art and architecture, was enlisted as UNESCO world heritage site in 1979 A.D. for having cultural importance (Ministry of culture,tourism and civil aviation, 2017).

The third of the medieval city states in the Kathmandu Valley, Bhaktapur has always been described as the best preserved. To this date, it is the living representation of how the entire Kathmandu valley would have looked like during the medieval period. It is considered as the neat city, compared to other two cities-Patan and Kathmandu, where tradition and modernization walk in sustainability. Cultural life is proudly on display. The city has preserved the Newari Value as a mother would keep their children safe so it would be not hard to feel the aroma of ancient Newari culture once you reach the Bhaktapur. On the narrow alleys, artisans weave clothes and chisel timber; squares are filled with drying pots and locals gather in courtyard to bathe, collect water, play cards and socialize- typically unique. It has three major squares- Durbar Square, Dattarya Square and Taumadhi Square-full of towering temples that comprises some of the finest religious architecture in the country (Bindloss, Holdon & Mayhew, 2009).

Bhaktapur Durbar Square, the traffic free zone, is the gem not only of Bhaktapur, but also of the entire nation. The most fascinating structure here is the world renowned 55-windowed palace, world famous Golden Gate and world popular Big Bell. Apart from these, durbar area is brimmed with statue of Bhupatindra Malla, Krishna Temple, Yaksheshwor Mahadev Temple, Chyasilin Mandap (Eight cornered temple), Sidhhi Laxmi Temple, Phasi-Dega (Pumpkin shaped temple), Vatsala Temple, Bhandharkhal Complex and the Char Dham symbolizing four greatest hindu pilgrimage site.

The elaborately carved windows and doors of fifty-five windowed palace are something that visitors can't help admiring. The seat of royalty before 1769 B.C., the building now houses the National Art Gallery; this museum is best known for its rich collection of paintings and breath-taking artworks in store.

The Golden Gate is the entrance to the marvelous Taleju Temple Complex. It leads to a number of designed courtyards including the Royal Bath, which is adorned with the well-admired Golden Faucet among other.

Big bell, big enough to match its name, was erected by Ranajit Malla, Bhaktapur's last Malla king. It is used in those days for praying homage to Goddess Taleju, the lineage deity of Malla rulers as well as to call assemblies of the citizens to discuss on given subjects concerning the state.

Of all the buildings on Bhaktapur Durbar Square, none reflected the Malla penchant for the arts more than the octagonal pavilion, the Chyasilin Mandap, in front of the palace. It was where the Malla kings met emissaries and other dignitaries. It was built to protect Bhaktapur's palace (Bisht, 2014).

Myriad tourists visit Bhaktapur Durbar Square to absorb the beautiful art and architecture of dated back Newar artisans and engineers which is listed in the World Heritage Site. Bhaktapur depends on tourism for about 60% of its revenue. In the year 2073/74 B.S., till Ashad, 1, 81, 350 tourist visited in Bhaktapur. Out of these, 72,497 were from SAARC and China and remaining 1, 08, 853 were from non-SAARC nations. The entry fee charge for SAARC and Chinese tourist is Rs.500 and Rs.1500 entry fee is charged for Non-SAARC tourist. Till this date Bhaktapur Municipality earned Rs.19, 95, 28, 000 as entry fee (Bhaktapur Tourist Record, 2018) .

Durbar Square is a quasi-public and non-market good. Cultural Heritage goods typically possess public goods characteristics and as such are amenable to the use of non-market valuation technique. The visitor use-value of the site isn't fully reflected in the price of admission (Poor & Smith, 2004). In order to estimate the visitor demand and the subsequent use-value of visitor benefit, the non-market valuation technique (travel cost analysis) is used.

1.2 Statement of the Problem

There have been very few studies regarding the valuation of cultural heritage sites as well as information regarding as to the effects of such studies to the present value and treatment of an existing resource or structure. Within these few studies, the study on travel cost is very less as the most predominant valuation methodology applied to cultural heritage goods has been the stated preference method known as contingent valuation.

Travel cost models involve a revealed preference method, which infer value from individual travel expenditures to access and utilize the public-type good. Revealed preference models have significant limitations and as such, have not been used to value cultural heritage sites. Travel cost models may be applicable to heritage sites where a sample of visitors' willingness-to-pay to visit the site is revealed via their travel costs.

In context of Nepal, travel cost analysis have been used to value the environmental aspects. But there has not been much research on economic valuation of the cultural heritage site till date. This research aim to conduct an economic valuation of the non-market benefits of maintaining a UNESCO world heritage site in case of Bhaktapur Durbar Square basing upon travel costs analysis. So the research questions of the study are:

- a. What is the demographic and socio-economic status of visitors in Bhaktapur Durbar Square?
- b. What is the economic value of Bhaktapur Durbar Square using Travel Cost Method?

1.3 Objectives of the Study

The objectives of the study are based upon the research questions. The general objective of this study is to determine how Bhaktapur Durbar Square is valued using non-market valuation technique especially applying the travel cost method with least focus on willingness to pay. Nowadays, non-market valuation techniques are increasingly gaining grounds in the forefront of most research work in economics. Such technique is all about seeking ways to ascribe values to such goods and services which aren't traded in the market or whose prices aren't fair reflection of their values.

The specific objectives of this study are:

- a. To study the present demographic and socio-economic status of visitors in Bhaktapur Durbar Square.
- b. To estimate the economic value of Bhaktapur Durbar Square using travel cost method.

1.4 Hypothesis of the Study

The hypothesis of this study is:

- a. Null hypothesis (H_0):
There is no any significant relationship between entry fee and number of visitors.
- b. Alternative Hypothesis (H_1):
There is significant relationship between entry fee and number of visitors.

1.5 Significance of the Study

The study was undertaken to provide information on how arrival of tourists value the Bhaktapur Durbar Square which is a UNESCO World Heritage Site through travel cost method. The results of this study could be used to analyze main purpose of tourist arrival, their use-values and estimate financial support earned from their entrance fee for preserving the site.

The result of the study will be useful particularly to the Bhaktapur Municipality, in terms of the provision and management of the durbar square and other cultural heritage sites. The study will be useful for the one who want to study on valuation of non-market goods and cultural heritage especially for economics, research, and tourism and culture background. This study also aims to inspire and focus future research efforts on economic aspects of heritage site preservation.

1.6 Limitations of the Study

No any study can be alienated from the limitations. This study limits itself to the estimation of recreational use value of Bhaktapur Durbar Square. This study won't include and analyze the historical and cultural importance of beautiful shrines, architectures, god and goddess, golden gate, big bell, 55-windowed palace, etc. studded

gracefully in the Bhaktapur Durbar Square. Similarly, the research was conducted within in three months which is very short time-period to estimate the accurate economic value of Bhaktapur Durbar Square, UNESCO heritage site. The time could not have been incorporated into the framework of this study. This study merely includes the 200 sample visitors. So the average results may not fully describe the actual status, importance and economic value of the BDS.

1.7 Organization of the Study

The study is divided into five chapters. The first chapter is the introductory part which includes background of the study, statement of the problem, objectives of the study, hypothesis of the study, significance of the study, limitations of the study and organization of the study.

The second chapter is review of the literature. In this section, theoretical concept and empirical studies of the study has been presented. Review of books, articles, journals and thesis are included in this chapter.

Third chapter is about methods used on conducting the study. In this chapter the research methodologies that are used for the analysis have been discussed in which the whole study and its findings depend. This chapter includes conceptual framework, research design, sample size and sampling procedure, data analysis and management and specification of the model to meet the objectives.

Chapter four includes the data presentation and analysis. This is the main body of the research. In this chapter the result generated from the statistical tools has been analyzed. The last chapter includes summary, conclusion and recommendation. Bibliography and appendix have been included at the end.

CHAPTER II

REVIEW OF LITERATURE

This chapter focuses on the review of the literature related to the valuation of the non-market goods and services in general and recreational sites in particular. More precisely, an overview of the different non-market valuation techniques will be presented. This chapter is also devoted to the review of the theoretical background upon which the Total Cost Method is anchored as well as some empirical works that have been conducted by other researchers.

2.1 Theoretical Concept

The travel cost method (TCM) was developed from a suggestion made by Harold Hotelling that empirically a demand schedule could be used to compute the total benefits produced to park visitors (Hotelling, 1947). On the basis of Hotelling's suggestions, some rigorous research using the developments was carried out (Clawson, 1959).

Travel cost method is a primary non-market valuation method which estimates revealed preferences by comparing the travel costs of visitors or attendees to a particular (recreational) site or event (Shaw & Rogers, 2005).

The empirical approach of travel cost method includes the use of information on travel expenses and trip frequency to estimate a trip demand function. Trip demand function is used to estimate net gains from the resource. This method is typically applied to recreation. Survey data should include Individual visitation frequency data, Travel costs & other expenditures, Environmental quality measures and Demographic information (Schuhmann, 2003).

The basic premise of the travel cost method is that the time and travel cost expenses that people incur to visit a site represent the “price” of access to the site. Thus, peoples’ willingness to pay to visit the site can be estimated based on the number of trips that people make at different travel costs. This is analogous to estimating peoples’ willingness to pay for a marketed good based on the quantity demanded at different prices (Bilgic & Florkowski, 2010). The objective of the travel-cost method is to estimate a structural demand equation for each recreation site using the visit rates

corresponding to varying travel costs or supply prices of the origin zones surrounding the site of interest. Since site charges are nominal and do not vary with the point of origin of the recreationist, the variation in supply price to each person depends largely upon the travel costs, he must incur to transport himself to the site (Smith, 1975). The travel cost method is a well-known and developed methodology for measuring the economic values of outdoor recreation benefits. Although the travel cost method may have its difficulties, the method has the advantage that it infers values from people's behavior. It is the very fact that people are willing to actually travel great distances to see international sites that reveals the high value of these sites. The travel cost serves as a proxy for price (Carr & Mendelsohn, 2003).

There are several ways to approach the problem, using variations of the travel cost method. These include: a. a simple zonal travel cost approach, using mostly secondary data, with some simple data collected from visitors; b. an individual travel cost approach, using a more detailed survey of visitors; and c. a random utility approach using survey and other data, and more complicated statistical techniques (Bhusal, 2010).

Economic Valuation refers to the assignment of money values to the non-marketed assets, goods and services where money value have a particular and precise meaning (Domingo & Roquez, 2000) and estimating what something is worth. Non-marketed goods and services refer to those which are not directly bought and sold in the market place (Schuhmann, 2003).

Economic valuing is one of the most powerful ways in which society identifies, assesses, and decides on the relative value of things. According to neoclassical economic theory, economic values are the values seen primarily through the lens of individual consumer and firm choice (utility).

Economic values stemming from the conservation of heritage are often, by definition, understood to be a public good—reflecting collective decisions rather than individual, market decisions—and are therefore not captured by market price measures (The Getty Conservation Institute, LA).

Economic Value refers not only to what people actually pay, but also includes what people are willing to pay or give up (Schuhmann, 2003). The economic value of something can be regarded as the extent to which people would be willing to sacrifice something else in order to obtain or safeguard a quantity of it. Total Economic Value comprises the sum of use and non-use values (Domingo & Roquez, 2000).

Use values are market values—the ones most easily assigned a price. A use value of material heritage refers to the goods and services that flow from it that is tradable and price able in existing markets. For instance, admission fees for a historic site, the cost of land, and the wages of workers are values. Because they are exchanged in markets, these values can be easily expressed in terms of price, and they are susceptible to economists' many analytical tools based on neoclassical theory (The Getty Conservation Institute, LA).

Use value is sub-divided into following two parts: a. Direct Use Value (If one gets the benefit directly, it is direct use value. For instance: income/revenue, residential space, industrial space, circulation space, economic activity, tourism, recreation, leisure, entertainment, etc) and b. Indirect Use Value (If one gets benefit indirectly, it is indirect use value. For example: community benefit, environmental quality, aesthetic quality, valorization of existing assets, social interaction).

In general, there are two categories of non-market valuation methodologies used primarily by environmental economists; stated preference; and revealed preference techniques. Stated preference methods estimate the value that individuals place on non-market goods through direct elicitation queries (Poor & Smith, 2004). The most predominant valuation methodology applied to cultural heritage goods has been the stated preference method known as contingent valuation. Travel cost models involve a revealed preference method, which infer value from individual travel expenditures to access and utilize the public-type good. Revealed preference models have significant limitations and as such, have not been used to value cultural heritage sites (Navrud & Ready, 2002).

2.1.1 Consumer's Surplus

The idea of Consumer's Surplus (CS) is the central tenet of the travel cost method. The importance of CS in the TCM lies in the fact that it actually represents how much a visitor values a trip or visit to a recreational site. So invariably, the CS represents the recreational use value attached to a site. (Sohngen, 1999) state that the consumer's surplus is the additive value above travel cost that individuals get by visiting a recreation site each season. In ordinary economic terms, the consumer's surplus is the difference between the actual price you pay for some good and the maximum price you would have willing to pay for it other than do without it . Alfred Marshall elucidates more on this by saying that, "The excess of price which he would be willing to pay rather than go without the thing, over that which he actually does pay, is the economic measure of this surplus satisfaction. It may be called consumer's surplus" (Ndichia, 2007). In nutshell, CS is the difference between the total travel costs or expenses incurred by a visitor to a recreational site and the maximum amount he or she would be willing to spend in order to visit in case of Travel Cost Analysis.

It is expressed as:

$$\text{Consumer Surplus of the site} = \text{Willingness to spend in the site} - \text{Actual amount of expenditure}$$

2.1.2 Multiple Regression Model

Multiple Regression Model is the most common form of linear regression analysis. As a predictive analysis, the multiple linear regression is used to explain the relationship between one continuous dependent variable and two or more independent variables. The independent variables can be continuous or categorical (dummy coded as appropriate). It is a powerful technique for predicting the unknown value of a variable from the known value of two or more variables- also known as predictors. By multiple regression, we mean models with just one dependent and two or more independent (exploratory) variables. The variable whose value is to be predicted is known as the dependent variable and the ones whose known values are used for prediction are known independent (exploratory) variables.

In general, the multiple regression equation of Y on $X_1, X_2, \dots, X_k$ is given by:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

Here β_0 is the intercept and $\beta_1, \beta_2, \beta_3 \dots \beta_n$ are analogous to the slope in linear regression equation and are also called regression coefficients. They can be interpreted the same way as slope. Thus if $\beta_1 = 2.5$, it would indicate that Y will increase by 2.5 units if X_1 increased by 1 unit.

Once a multiple regression equation has been constructed, one can check how good it is (in terms of predictive ability) by examining the coefficient of determination (R^2). R^2 always lies between 0 and 1.

All software provides it whenever regression procedure is run. The closer R^2 is to 1, the better is the model and its prediction.

2.2 Empirical Studies

Empirical studies survey scholarly written articles, books, dissertations, conference proceedings and other resources which are relevant to a particular issue, area of research or theories and provides context for a dissertation by identifying past research. Research tells a story and the existing literature helps us identify where we are in the story currently. It includes the review of travel cost analysis made in both international and national context.

2.2.1 International Context

Smith (1975) seek to examine the issue for one case study- the Desolation Wilderness Area in Northern California taking the visitation data of 1972 thereby applying three forms of travel cost demand equation model and they include linear, semi-log (with the logarithm of the dependent variable) and double log specifications. Also, non-nested hypothesis was used to discriminate between them. It was found that there had been constant growth in level of use of public recreational facilities in the United States over the past three decades.

Antle et al (1985) conducted a study with the objective of estimating recreation benefits of the McClellan-Kerr Arkansas river navigation system by the travel cost method using data from a 1974-1975 survey and to develop generalized relationships for estimating recreation benefits and to apply those relationships for estimating recreation benefits

and to apply those relationships to sample of other corps projects. Weighted least squares regression techniques were used to estimate recreation demand functions categorized by regional lakes and local lakes. Local lakes account for 80 percent or more of their visitor days coming from households located within a radius of 100 miles of the lake whereas regional lakes had a radius in excess of 100 miles for 80 percent of their visitor days. It was found out that visitor day attendance was about 35,000,000 at the six major lakes and 17 locks and dams in the Arkansas River Basin of Oklahoma and Arkansas. Earlier studies based on the 1974-1975 survey estimate annual recreation expenditures of \$224,000,000 and associated direct and indirect annual income of \$390,000,000. Price, income and population elasticity of demand were estimated individually for the regional and local lakes. Price elasticity varied from a low of -0.86 to a high of -1.12. Population elasticity based on aggregate county data serving as observations for concentric zones around a lake, varied from a low of 0.31 to a high of 0.68. Income elasticity of demand in general, lacked statistical significance. Estimated visitor day benefits ranged from \$1.20 to \$3.68. A conservative estimate of annual recreation benefits in 1975 dollars is given as \$50,000,000 for the Navigation System as a whole. Results show estimated visitor day benefits two to three times larger for the sample lakes, on the average, than estimated for the lakes in the study area. Further analysis is needed to correlate characteristics of sample lakes with study area lakes, reduce potential bias of data obtained for sample lakes, and in adaptation of models to fit sample lakes.

Smith (1993) carried out a research in Water Quantity Benefits for 21 water based sites in USA. Travel cost and income was used as explanatory variables. A regression analysis was carried out using the OLS method. It was found out that twelve of the sites had a negative coefficient for income and nine had a positive coefficient. Of all the twenty one sites, they produced a negative relationship between travel cost and visitation rate. Using the Marshallian Consumer surplus, the study found out that \$5.87 to \$54.20 per trip were for corps sites. The estimate for Monogahela sites had a consumer surplus of between \$0.98 and \$ 42.03 per trip.

Navrud and Mungatana (1994) carried out a study in Kenya. They wanted to find the recreational value of wildlife viewing in Lake Nakuru National Park (LNNP). They used both TCM and CVM. They distinguished between resident and non-residents to

account for the fact that resident visitors were on a single visitors were on a single destination trip to LLNP. For non-residents they used variables such as travel costs, income, age, sex, and education. They found a negative relationship between visits and travel costs. For all other variables they found positive relationships with visit to LLNP. For Kenyan resident, they found a negative relationship on travel costs, age and sex with visits and a positive relationship on other variables with visits. The authors found out that the annual recreational value of wildlife reviewing in LLNP was between 7.5 and 15 million US \$.

Kaliampakos and Damigos (1999) carried out a study aiming to put a monetary value on an abandoned quarry site located in Athens, Greece. Variables adopted were travel cost, income, substitute sites, occupation and age. It was found out that travel cost, income, substitute sites and occupation are negatively related to the number of visitation rates. The consumer surplus was between GRD 60,000,000 to 440,000,000 using the Monte Carlo Percentiles.

Centeno and Prieto (2000) studied four different cultural goods or services in the Castile-León region of Spain viz Iberian Organ Festival, Walled ensemble of Uruena, Ethnographic Museum of Burgos and Cathedral of Palencia. The four features studied included a cultural artistic event, a village comprising historic ensemble, a museum located in a provincial capital and a cathedral. Survey was made in all four sites by passing questionnaire to the interested respondents and collecting them in the end. 300 respondents were in The Iberian Organ festival; 130 people were surveyed in Uruena; 294 visitors were surveyed in Burgos and 191 sample visitors were collected from Cathedral of Palencia. This study focused primarily on travel costs of the visitors. It was found out that in the case of Iberian Organ Festival, the percentage of visits from 40-km zone around Abarca de Campos was much higher than the rest of the zone. The demand curve for Uruena didn't show such marked differences whereas the curves for both Palencia and Burgos showed certain similarities. In both cases, the visit rate for the zone was nearest the site. In the same manner, the consumer surplus in Iberian Organ Festival, Walled ensemble of Uruena, Museum of Burgos and Cathedral of Palencia was 41,400; 45,300; 195,000 and 118,500 respectively.

Bedate, Herrero and Sanz (2003) offered a parametric, non-parametric and semi-parametric economic valuation of the National Museum of Sculpture located in

Valladolid, Spain. The value was estimated using the concept of willingness to pay and valuation included both the value assigned by the direct to potential users. The analysis of the willingness to pay of the visitors to the museum was made by inspecting 1, 108 valid surveys. However, final count tallied 811, of which 54% assigned a positive WTP and 46 percent a zero WTP. Though many of these had a latent willingness to pay through other means of payment such as compulsory tax contributions or other voluntary contributions set up for the same purpose.

Carr and Mendelsohn (2003) found that the best estimate of the annual recreational benefits of the Great Barrier Reef range between US \$ 700million to 1.6 billion; people from warmer countries are more likely to visit the coral reefs and the domestic value of the site to Australia is about US \$400 million which demonstrated that there are very high benefits associated with protecting high quality coral reefs. Tobit Model Analysis (regression model and demand equation function) was applied to estimate the benefits the reef provided to the two million visitor each year. For this, the study examined domestic and international travel to the Great Barrier Reef of Australia exploring the problems of functional form and of measuring travel cost for international visits like comparing actual cost, distance and lowest price fares.

Siddiqui and Yatullah (2003/04) constituted the first estimate of economic values of National Parks and other environmental resources in Pakistan focusing on the study of valuation of the Ayubia National Park (ANP) and seek how this information can be used to improve the planning of the National Parks Management in Pakistan. For this, utility maximization model subject to budget constraints of consumer, semi-log econometric model and double-log econometric models were used. The logarithm of visitation rates was regressed against travel cost. It was found that 300 sample respondents had mean monthly income, Rs.12, 500. They visited nature-based recreation about 7 times per year with their mean yearly on recreation of Rs.53, 000. Similarly, the annual recreational value of the ANP is about Rs.200 million and an annual consumer surplus in case of an improved scenario was projected as Rs.350 million. Likewise, half of the respondents wanted improvement in the quality of the park as good, 62 percent respondents wanted improvement in the quality of service of the park and 38 percent of the respondents preferred an increase in entrance fee.

Lamtakul and Fischer (2004) used the TCM to estimate the economic value of three different parks in Saga city, Japan. They wanted to access how visitors value Saga Castle Park, Kono Park and Shrin Park. The study used travel cost, time cost, income and age as their important variables. The results showed that on all the three sites, travel cost, income, travel time and age were positively related to the number of visits made to the park. The estimated consumer surplus for Castle Park was \$1,135; Kono Park was \$230,972 and \$242,107 for Shrin Park.

Poor and Smith (2004) employed revealed preference methodology, the zonal travel cost model for the first time to estimate consumer welfare measure (use-value benefits) of a cultural heritage site- a case of Historic St. Mary's City of capital. St. Mary's city is located in rural Southern Maryland marks the 17th century British Colonial capital of the state of Maryland. Three years of visitor sample was analyzed to compare three functional forms of visitor demand applying primary valuation methodology. It was found that average of the annual individual consumer surplus measures ranged from approximately \$8.00 to \$19.26 depending on the functional forms used. When aggregated to the total number of individual paid visitors, the average annual benefit estimates range from approximately \$75,492 to \$176,550.

Alberini and Longo (2006) combined the travel cost method (TCM) with contingent behavior questions to estimate domestic visitor's use values for cultural heritage sites in Armenia, a transition economy in which conservation of cultural monuments is hampered by limited resources. The study was conducted at four cultural heritage sites taking 500 respondents. Also, the actual trips were combined with stated trips under hypothetical programs that would enhance the conservation of monuments and improve one of the cultural experiences at the site, the quality of the infrastructure or the quality of the services. Consumer Surplus, Utility function and Poisson Models were used to analyze the collected data. The research showed that significant use values are associated with the four study monuments and conservation programs and initiatives that improve the cultural experience or simply made it easier for the respondent to reach and spend time at the monuments are valued by domestic visitors.

Bennett and Mwebaze (2010) estimated three major botanic gardens- The Australian National Botanical Garden, The Royal Botanic Garden Melbourne and The Royal Botanic Garden Sydney in Australia applying both travel cost and contingent valuation.

Onsite study was made taking 1500 sample size in total in those three botanical gardens for four months starting from July to November 2010. The questionnaire divided into two parts- travel cost and willingness to pay were given to respondents. Most of the visitors were female and having relatively high average income of Australian \$77000. Truncated count data models were used to control the non-negative integer and truncation properties of the number of visits to botanic gardens. Consumer surplus was estimated to be approximately \$3 to \$4 per trip per person resulting in the total social welfare estimate of approximately \$96.9 million in 2010 Australian dollars. The results indicated a positive mean Willingness to Pay of approximately \$3 to \$4 per trip per person. The combination of Travel cost method and willingness to Contingent valuation method estimation results indicate that respondents with relatively higher travel cost have a low willingness to pay for a policy change.

Nde (2011) applied truncated Poisson, Negative binomial models and Zero-inflated negative binomial models to value beach recreation in developing country, Cameroon, where little or no previous works of this kind had been conducted before focusing on travel cost method. Questionnaire was used for the onsite survey. It was divided into three parts- socio-economic variables, travel cost components and willingness to pay. 242 visitors were surveyed in Ngoe beach. The consumer surplus was estimated to be €256 to €41.51 per trip per visitor per day. Possible access fee to the beach of €2.0 was suggested based on the stated willingness to pay of visitors. The result showed that the highest spending propensity than any other category of visitors whereas the stated willingness to pay of visitors was found to largely correlate with their consumer surplus estimates.

Dehlavi and Adil (2011) studied the Keenjhar Lake, Pakistan's largest freshwater lake and a Ramsar site located in lower Indus basin of the Indus Eco region. This study applied a single-site truncated count data travel cost model in order to estimate the value of visitors place on recreation in Keenjhar. It was estimated that the recreational use value of Keenjhar Lake was USD 42.2 million. The estimate is based on an annualized mean. Similarly, consumer surplus per visit of USD 116 and assumed average daily visit of 1000 was figured out.

Vicente and Frutos (2011) discussed the application of travel cost method to estimate the economic value of a specific type of cultural good: special exhibitions. This

empirical work focused on the touring exhibition the ‘Ages of Mankind’, one of the first and most representative examples of a blockbuster art exhibition in Spain. Three functional forms were used to estimate the econometric model of visitor demand viz linear, semilog and exponential specification models. It was found out that consumer surplus range varied between 27.85€ to 93.23€.

Emiriya, Robson and Gombarage (2013) aimed at finding the monetary value that people attach on Nyanga National Park (NNP) using the individual travel cost method thereby finding factors that influence individuals to visit NNP. Ordinary least square method was used as an econometrics tool. From the findings, it was discovered that the site was highly valued as indicated by a consumer surplus of US \$9426.0776 per year or US \$ 134.678 per average visitor. The result show that substitute sites and travel costs had a negative influence on an individual’s visit to the site.

Ghesmati, Liamei, Rashidi and Yamini (2014) evaluated recreational and socioeconomic values of Masouleh forest park, north of Iran. Travel Cost Method (TCM) or Clawson method was used for evaluation. Therefore, 96 questionnaires were distributed among the visitors. The results indicated that the variables such as travel time to the park, travel costs, age and education were effective variables in using the park. The results show that there is a significant relation between travel time and the number of visitors whereas by increasing travel time the number of visitors decreased. Furthermore, there is a significant relation between the number of visitors as a dependent variable and travel costs whereas when the travel cost increases, the number of visitors decreases. Results indicated that the willingness to pay decreased by increasing the entrance fee. The models estimated an average willingness to pay 12,500 Iranian Rials per visit. The results also indicated that the average round trip travel cost was 85.5 (10,000 Iranian Rials).

2.2.2 National Context

Thapa (2013) analyzed the recreational demand of Fewa Lake applying individual travel cost method. Fifty Nepalese visitors were interviewed using close ended questionnaire schedule for about a week selecting seven visitors each day. The collected data was analyzed with utility maximization model, Consumer’s surplus and regression analysis (Autocorrelation). The result showed that most of the respondents were urban

unmarried males (82%) with secondary and above qualifications earning a monthly income of around ten thousand (54%). This study depicted that there is negative relationship between age and visitation rate and positive relationship between income and visitation rate. The consumer surplus was estimated to be Rs. 18.5 per Nepalese visitors per trip.

Atreya.et.al (2016) investigated the need and applicability of Wetland tourism for resource conservation, using the case of Ghodaghodi Lake Complex, a Ramsar site in western Nepal applying both methods- travel cost and willingness to pay. The travel cost method was used to determine the recreation potential of Lake Complex, while the contingent valuation method was used to calculate willingness of visitors to pay an entry fee as a payment vehicle for conservation. The survey was conducted over a period of one month from 15 April to 14 May 2007 at the Ghodaghodi Lake Complex. 128 visitors were surveyed. From Focus Group Discussion, it was found that average of 20 visitors visit the Ghodaghodi Lake Complex each day estimating 7000 visitors per year. OLS regression model was used to identify factors affecting the visitor's visitation rate. The per capita travel cost was found to be NRs. 540 while the mean willingness to pay on an entry fee was NRs.34 per visitor per entry. Also, respondents suggested various policies for upgrading GLC including the establishment of an entry fee system to offset conservation budgetary constraints, government investment in social benefits equating to at least per capita travel cost identified and public-private partnerships with community participation in tourism promotion and wetland conservation.

Bohara.et.al (2017) surveyed 242 households to know the willingness to pay for mitigating Human-Elephant Conflict (HEC) by residents of Nepal. This study evaluates the economic viability of elephant conservation in Nepal within the context of current and proposed HEC mitigation scenarios. Face-to-face interviews were carried out using a structured questionnaire to elicit the residents' willingness to pay for elephant conservation and HEC mitigation programs using Seeming Unrelated Regression (SUR). More than 10 percent of the households' survey has had human casualties (injury or death) during the past five years. Residents' WTP was found to be positively related to income and education, and negatively related to damage-related programs. Local stakeholders were willing to pay about 42 percent more to programs that were

economically transparent and improved upon existing management. Residents' WTP were also greater if they have previous HEC-related injuries or deaths.

Nepali, Paudel and Tiwari (2017) seek to address the gap between services provided inside and outside of forest by adopting individual travel cost method as well as appraise the factors affecting visitation of the site through survey of 43 visitors during the field period of November to December of 2015. The total visitors surveyed consist of 48.8 percent of international tourists and 51.2 percent of national tourists. The study was conducted in Kumroj Municipality at buffer zone in Chitwan National Park (CNP). CNP provided four major ecotourism services like Elephant Safari, Jungle Walk, Tower Night and boating inside the forest whereas outside the forest services like homestay, cultural show, museum, etc. were provided. The study revealed the annual value of the site per person as 105,127 US\$ and from which an annual aggregate value was derived to be 1,656,801.62 US\$. The average consumers' surplus was 190 US\$. Age, gender, distance, time, education and travel cost were the factors affecting the number of trip of visitors to the site.

2.3 Research Gap

Regarding the past studies and research on travel cost analysis, all environmental, cultural and historical aspects have been covered in international context whereas in national context travel cost analysis have been adopted in environmental aspects merely. Most of the applications have been made in environmental aspects compared to cultural and historical aspects. In international context, the researchers like Smith (1975), Antle et al (1985), Smith (1993), Navrud and Mungatana (1994), Kaliampakos and Damigos (1999), Carr and Mendalsohn (2003), Siddiqui and Yatullah (2003/04), Lamtakul and Fischer (2004), Bennett and Mwabaze (2010), Dehlavei and Adil (2011), Emiriya et al (2013) and Ghesmati et al (2014) had applied travel cost analysis in environmental aspects whereas researcher like Centeno and Prieto (2000), Bedate et al (2003), Poor and Smith (2004), Alberini and Longo (2006) and Vicente and Frutos (2011) had applied travel cost analysis in historical and cultural aspects. Likewise, in national context, economists like Thapa (2013), Atreya et al (2016), Bohara et al (2017) and Nepali et al (2017) had adopted travel cost analysis merely in environmental aspects. Similarly, the models used to value the environmental, cultural and historical aspects were linear, semi-log, double-log and exponential specifications; non-tested

hypothesis; weighted least square regression technique; OLS; price and income elasticity; Autocorrelation; Consumer Surplus; parametric, non-parametric and semi-parametric techniques; Tobit Model Analysis; Utility Maximization model; Poisson Model; truncated data models; Negative binomial models, Zero-inflated negative binomial models and Seeming Unrelated Regression techniques.

Till date no any applications of travel cost analysis in historical aspects have been made in Nepal. This study have applied travel cost analysis in Bhaktapur Durbar Square, one of the remarking historical places in Nepal by using multiple linear regression model and consumer surplus. Likewise, in past research the consumer surplus was estimated either out of demand function or out of willingness to pay of the visitors as entry fee on the site. But I have used very simple formulae to estimate consumer surplus of visitors in this study. I have calculated consumer surplus simply by deducting total expenditure made by visitors during their stay in Bhaktapur (Total travel cost) from total budget separated by visitors to spend in BDS (Total willingness to spend).

CHAPTER III

RESEARCH METHODOLOGY

This chapter covers the construction of onsite surveys, questionnaire, and sampling and method to calculate the total travel cost. The research study is mainly based on primary data collected from visitors of Bhaktapur Durbar Square. It also presents descriptive statistics about the data set. The travel cost method is used to estimate economic use values associated with ecosystems or sites that are used for recreation.

3.1 Research Design

The study is based on the economic valuation of Bhaktapur Durbar Square using Travel Cost Method (TCM). The study is exploratory, analytical and descriptive in nature. Both qualitative and quantitative data was collected to fulfill research objectives. Econometrics tool has been used for valuation. Regression model is used.

3.2 Introduction to the Study Area

The study was conducted in and around the premise Bhaktapur Durbar Square where tourists keep roaming around and are easily accessible and available. Bhaktapur is one of the parts of the Province 3. There are four municipalities in Bhaktapur District – Bhaktapur Municipality, Changunarayan Municipality, Suryavinayak Municipality and Madhyapur Thimi Municipality. There are 304,651 residents in Bhaktapur which 1.14 percent of the national population. Of which 154,884 are Male and 149,767 are Female. The Bhaktapur Municipality has the total population of 81,748 which is 26.83 percent of the total population of Bhaktapur district. Among which 42,081 are Male and 40,667 are Female. The Changunarayan Municipality comprises 55,430 residents which is 18.19 percent of the total residents of Bhaktapur district. Among which 26,992 are Male and 28,432 are Female. 83,036 people reside in the Madhyapur Thimi Municipality which is 27.26 percent of total Bhaktapur residents with 42,723 male and 40,350 female. Likewise, there are 78,490 residents in the Suryavinayak Municipality which is 25.76 percent of total population of the Bhaktapur District. Out of these 38,899 are male and 39,591 are female. The number of Households in Bhaktapur district is 68,557. The number of Households in Bhaktapur Municipality is 17,639, which is 25.73 percent of the total Households in Bhaktapur. The number of Households in Changunarayan

Municipality is 12,710, which is 18.54 percent of the total Households in Bhaktapur. Similarly, the number of Households in the Madhyapur Thimi Municipality is 20,302 which is 29.61 percent of the total Households of Bhaktapur. In the same manner, there are 18,446 Households in the Suryavinayak Municipality which is 26.91 percent of the total Households. Out of 10 wards, Bhaktapur Dubar Square is the ward no.3 of the Bhaktapur Municipality. There are 5,909 residents in ward no. 3 which is 7.23 percent of total residents in Bhaktapur Municipality. Among these 2,918 are male and 2,991 are female. There are 1,210 households in the ward no.3 of the Bhaktapur Municipality which is 6.86 percent of the total Households in Bhaktapur Municipality (CBS, 2011).

3.3 Sample Size and Sampling Procedure

Around 238, 795 (average) international tourists visit every year in Bhaktapur Durbar square but there is no any record of internal tourist visiting the site. So, in a day around 663 tourists visit Bhaktapur Durbar Square. I had surveyed 6 tourists a day from 10:00 a.m. to 5:00 p.m. three times a week. Both domestic and international tourists were surveyed on the spot for three months from December 2017 to February 2018. Fifty local residents, fifty residents from Kathmandu, Patan and Banepa, fifty out of valley residents and fifty international tourists were surveyed. 200 total respondents were surveyed.

The sample size is taken proportionately on the basis of simple random sampling with specialization in stratification. The study was conducted using structured questionnaire (both close ended and open ended) method.

3.4 Nature and Sources of Data

The study is based especially on primary data and secondary data has also been taken as per requirement. The collected data is both quantitative and qualitative in nature. Primary data was generated using from onsite survey using structured questionnaire. The questionnaire has been sub-divided into three parts viz personal information, travel cost information and willingness to pay information. Secondary data was collected from Bhaktapur Municipality, Tourism Board and related websites.

3.5 Specification of the Model

Multiple linear regression analysis is an extension of simple linear regression analysis, used to assess the association between two or more independent variables and a single continuous dependent variable. The multiple linear regression equation is as follows:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

Where $\hat{Y}$ is the predicted or expected value of the dependent variable, X_1 through X_n are distinct independent or predictor variables, β_0 is the value of Y when all of the independent variables (X_1 through X_n) are equal to zero, and β_1 through β_n are the estimated regression coefficients. Each regression coefficient represents the change in Y relative to a one unit change in the respective independent variable. In the multiple regression situation, b_1 , for example, is the change in Y relative to a one unit change in X_1 , holding all other independent variables constant (i.e., when the remaining independent variables are held at the same value or are fixed).

In this dissertation, Dependent variable is the number of trips made to BDS and Independent variables are total travel cost of the visitors that includes entry fee, transportation cost, accommodation fee, food and drinks expenses, onsite expenses, expenditure made on buying things for own and gifts for friends and family; income of visitors; gender of visitors; level of education, time taken to reach BDS from origin of visitors and Distance covered from origin of Visitors to BDS.

3.6 Data Processing

The collected data has been classified according to its nature and characters. Field survey was carefully checked for possible errors. The data collected were carefully edited and coded which has been processed by SPSS. The data has been analyzed using mathematical tools, consumer's surplus and demand function.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In order to achieve the objective set in the chapter one, introduction with accordance to the given methodology, results are presented and analyzed in this chapter. This is the main part of the study which helps to conclude the study through major findings, vital issues and recommendations.

This chapter is divided into several topics. First descriptive of the research is presented then each independent variables are explained with corresponding hypothesis. Then the results of the model are presented. As per the objectives of the study the data will be interpreted in this section.

4.1 Demographic and Economic Status of Visitors in Bhaktapur Durbar Square

Demographic and economic status of visitors includes the age, gender, religion, place, occupation, income, level of education and expenditure made on the site.

4.1.1 Gender of visitors

Gender affects the expenditure pattern and visitation rate in the site. The gender of visitors is taken to fulfill the second objective of the study that is to estimate the recreational demand function of the visitors. The visitation rate as per gender is shown in Table 4.1:

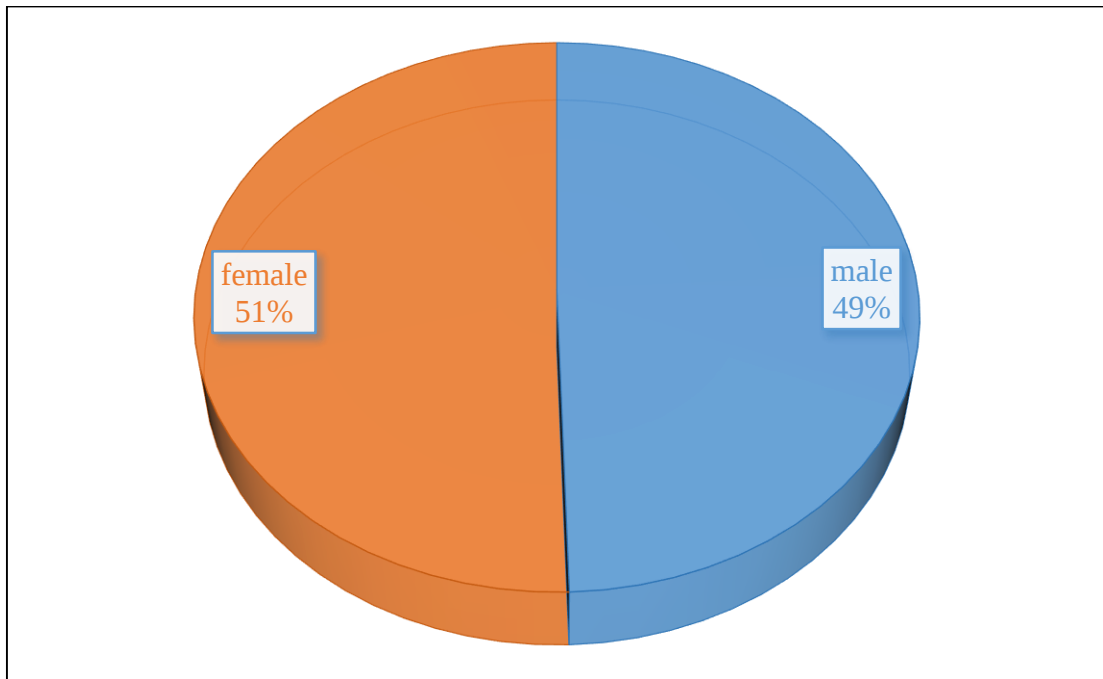
Table 4.1: Gender of visitors

Gender	Frequency	Percent
Male	99	49.5
Female	101	50.5
Total	200	100.0

Source: Author's own calculation

The Table 4.1 shows that out of 200 sample population, 101 were female which is 50.5% of total population sample and 99 were male covering 49.5% of total sample visitors. It is represented in Figure 4.1 as:

Figure 4.1: Gender of visitors



Source: From Table 4.1

The Figure 4.1 depicts the distribution of visitors' gender in BDS. The left part of the figure shows female which is 50.5% of total visitors and right part of the pie-chart shows male which is 49.5% of total visitors.

4.1.2 Age Group of visitors

Age of the visitors is another variable reflects the expenditure pattern and visitation rate in the site. The age group of the visitors is included in the study to know which age group is most interested to visit BDS and also in order to estimate the recreational demand function of the visitors. The number of tourists as per age is expressed in Table 4.2:

Table 4.2: Age Group of Visitors

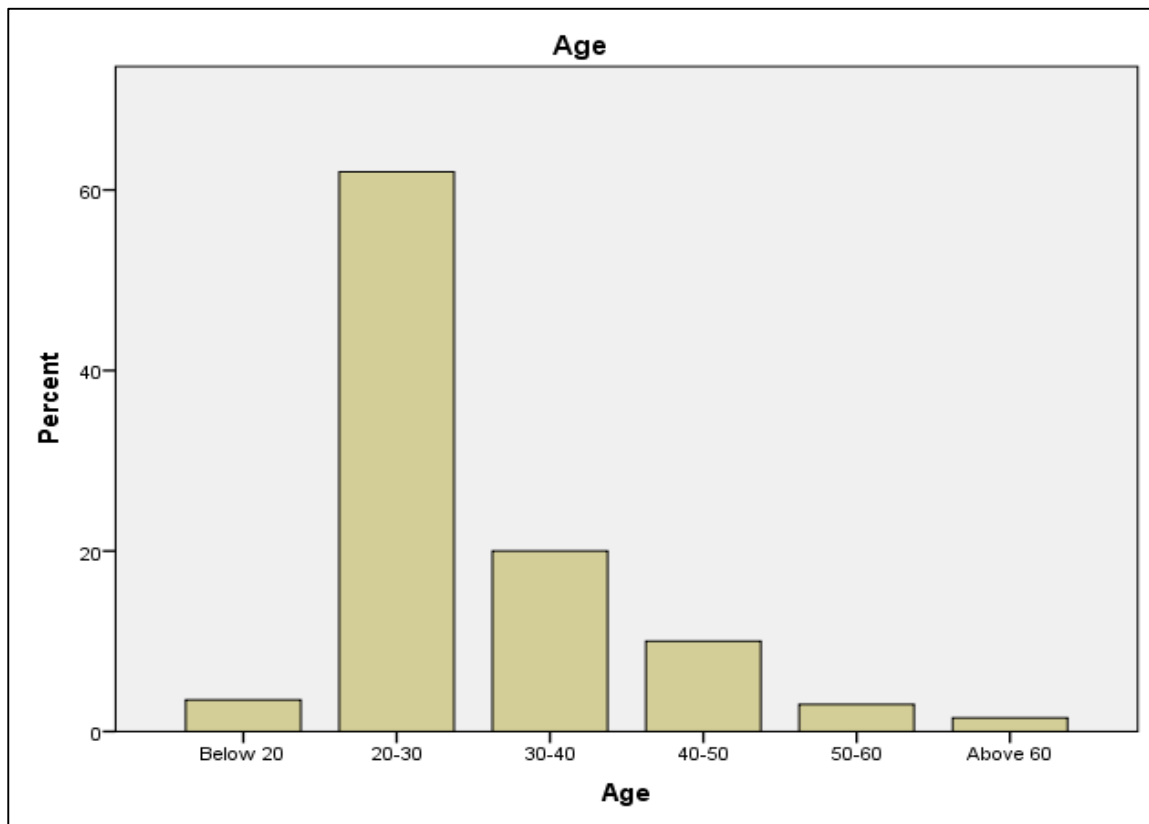
Age-Group	Frequency	Percent
Below 20	7	3.5
20-30	124	62.0
30-40	40	20.0
40-50	20	10.0
50-60	6	3.0
Above 60	3	1.5
Total	200	100.0

Source: Author's own calculation

As per Table 4.2, out of 200 visitors, the maximum visitors are from the age group of 20 year to 30 years covering 124 visitors which is 62% of the total visitors. Whereas the least visitors came from the age group of above 60 years comprising 3 visitors which is 1.5% of the total visitors. Apart from these, there are 7 visitors from the age below 20 years which is 3.5% of total sample visitors; 40 visitors from the age group of 30 to 40 years which is 20% of total sample visitors; 20 visitors from age group 40-50 years which is 10% out of total sample visitors and 6 visitors from the age group 50 to 60 years comprising 3% of total sample visitors.

It is represented in Figure 4.2 as:

Figure 4.2: Age Group of visitors



Source: From Table 4.2

In the Figure 4.2, X-axis denotes age and Y-axis denotes percentage. It is clearly seen in the figure that the highest visitors are from the age group 20-30 which is 62% and least visitors are from the age group above 60 years which is 1.5%.

4.1.3 Level of Education of Visitors

The qualification level of visitors somehow defines the status and value of the site. The qualification level is taken in order to estimate the recreation demand function of the visitors and also to know the most educated tourist belong to which place. The level of education of visitors is shown in Table 4.3:

Table 4.3: Level of Education of Visitors

Qualification		Bhaktapur	Banepa, Patan and Kathmandu	Kathmandu out of valley	International area	Total
SLC or equivalent	Count	4	0	3	0	7
	% within Place	8.0%	0.0%	6.0%	0.0%	3.5%
Intermediate, +2 and equivalent	Count	4	5	3	2	14
	% within Place	8.0%	10.0%	6.0%	4.0%	7.0%
Diploma and equivalent	Count	26	29	24	29	108
	% within Place	52.0%	58.0%	48.0%	58.0%	54.0%
Masters and above	Count	16	16	20	19	71
	% within Place	32.0%	32.0%	40.0%	38.0%	35.5%
Total		Count	50	50	50	200

Source: Author's Own Calculation

According to the Table 4.3, most of the visitors have education degree of diploma and equivalent level. There are 108 visitors completing their diplomas which is 54% of the total 200 sample visitors. Likewise, the visitors studying upto SLC or equivalent are least in number. There are total of 7 visitors studying upto SLC level which is 3.5% of the total visitors. Similarly, 14 visitors have completed +2 or intermediate level which is 7% of the total sample and 71 visitors have achieved masters' degree and above which is 35.5% of the total sample.

Within 7 SLC graduates, 4 visitors are from Bhaktapur, and 3 visitors are from out of valley. Similarly, out of 14 +2 or intermediate graduates, 4 visitors are from Bhaktapur, 5 visitors are from Kathmandu, Patan and Banepa, 3 visitors are from out of valley and 2 are international visitors. Likewise, within 108 Bachelor degree graduates, 26 visitors are from Bhaktapur, 29 visitors are from Kathmandu, Banepa and Patan, 24 visitors are from out of valley and 29 are international visitors. In the same manner, out of 71 masters' and above degree holders, 16 visitors are from Bhaktapur, 16 visitors are from Kathmandu, Patan and Banepa, 20 visitors are from out of valley and 19 are international visitors.

In case of Bhaktapur, 8% out of 50 respondents had studied up to SLC; 8% of respondents had completed +2 level; 52% of respondents held Bachelor's Degree and 32% had cleared Masters and above. Similarly, in case of Kathmandu, Patan and Banepa, there were no respondents who had studied upto SLC level. The respondents achieving SLC certificate, Bachelor's Degree and Masters' Degree were 10%, 58% and 32% respectively. In the same manner, in case of the out of Kathmandu valley respondents, 6% had studied up to SLC; 6% had cleared +2 level; 48% had achieved bachelor's degree and 40% held Masters' Degree. Likewise, in case of international tourists, there were no any sample visitors studying up to SLC and equivalent level. The visitors completing +2, Bachelors and Masters were 4%, 58% and 38% respectively.

4.1.4 Occupation of Visitors

The job status of the visitors also has the vested interest of particular job holder in visiting particular site and the occupation of the visitors is also associated with the income level of the visitors. The visitation as per the occupation is shown in Table 4.4:

Table 4.4: Occupation of Visitor

Occupation	Frequency	Occupation	Frequency	Occupation	Frequency
Administrator	1	Hotel Manager	1	Managing Director	2
Assistant in European Union	1	Hotelier	3	Marketing	1
Auditor	1	HR administrator	2	Mason	1
Baker	1	Interior Designer	1	Medical Staff Nurse	1
Balloon Artist	1	Internship	1	Modelling	2
Banker	11	Lawyer	3	Neuron surgeon	1
Beautician	2	Lecturer	1	Officer and writer	1
Bio-Chemist	1	Makeup Artist	2	Part time modelling	1

Booking Manager	1	Management Consultant	2	teaching	29
Buddhist monk and speech giver	1	Hair Dresser	1	Part-time Modelling	1
Business Owner	12	Handicraft Business, Hotel Owner & Investor	1	Photographer	1
Butcher	2	Historian and Professor	2	Physiotherapist	2
Chef	3	Homemaker	3	Doctor	4
Cinematographer and graphic designer	1	Fashion Designer	2	Doctoral course student	1
Constructor	1	Geologist	1	Engineer	12
Counselor	1	Government Officer	1	Engineer and Guitarist	1
Dentist	4	Guitarist	1	Entrepreneur	1
Pottery making and business	1	Thangka Business	1	Writer	1
Professor	1	Volunteer	2	Senior Divisional Engineer	2
Psychologist	2	Volunteer in Teaching	1	Service	1
Researcher	1	Woolworths Team Member	1	Social Worker	5
Salesman	1	Student	45	Song writer	1

Source: Author's Own Calculation

The Table 4.4 shows the visitors from different occupation background. Around 65 types of professions have been found from 200 visitor samples. Majority of the visitors are students and teachers. 45 students and 28 teachers have been surveyed out of 200 visitors. Apart from these two professions, remaining professions of sample visitors are Accountant, Administrator, Assistant in European Union, Auditor, Banker, Balloon Artist, Baker, Beautician, Bio-chemist, Booking manager, Buddhist monk and speech giver, Business Owner from different fields (Thangka, Handicraft, swimming pool,

jewelry, etc.), Butcher, Chef, Cinematographer and graphic designer, Constructor, Counselor, Dentist, Doctor, Guitarist, Entrepreneur, Engineer, Fashion designer, Geologist, Government officer, Hair dresser, Historian, Homemaker, Hotel Manager, Hotelier, HR, Interior designer, Lawyer, Lecturer, Professor, Makeup artist, Management, Management consultant, Mason, Medical staff nurse, Modelling, Managing director, Marketing, Neuro Surgeon, Officer, Writer, Song writer, Service, Photographer, Physiotherapist, Potter, Psychologist, Researcher, Salesman, Senior Divisional Engineer, Semi government officer, Social worker, Volunteer and Woolworths Team Member.

4.1.5 Income of Visitors

Income of the visitors indicates the expenditure pattern of the visitors in the site. The income of the visitors is included in this dissertation in order to estimate the recreational demand function of the visitors. The income status of visitors is shown in table 4.5:

Table 4.5: Income of Visitors

Monthly Income in NRs.			Place				Total
			Bhaktapur	Patan and kathmandu	out of kathmandu	International area	
0-25000	Count		23	32	26	11	92
	% within Place		46.0%	64.0%	52.0%	22.0%	46.0%
25000-50000	Count		13	11	20	1	45
	% within Place		26.0%	22.0%	40.0%	2.0%	22.5%
50000-75000	Count		10	5	3	0	18
	% within Place		20.0%	10.0%	6.0%	0.0%	9.0%
75000-100000	Count		3	1	1	0	5
	% within Place		6.0%	2.0%	2.0%	0.0%	2.5%
100000-125000	Count		0	1	0	10	11
	% within Place		0.0%	2.0%	0.0%	20.0%	5.5%
Above 125000	Count		1	0	0	28	29
	% within Place		2.0%	0.0%	0.0%	56.0%	14.5%
Total	Count		50	50	50	50	200

Source: Author's Own Calculation

The Table 4.5 shows the relationship between the income and place. The income earned on monthly basis has been categorized into six ranges. Maximum of the visitors fall

under the category of earning the income between Rs.0 to Rs.25000. There are 92 visitors earning income ranging from Rs.0 to Rs.25000 which is 46% of the total sample visitors. And the least of visitors earn Rs.75000 to Rs.100000. There are 5 visitors earning Rs.75000 to Rs.100000 which is 2.5% of the total sample visitors. The visitors earning Rs.25000 to Rs.50000 are 45 in number which is 22.5% of the total sample visitors. Similarly, 18 visitors fall under the category of earning Rs.50000 to Rs.75000 which is 9% of the total visitors. Likewise, there are 11 visitors earning Rs.100000 to Rs.125000 which is 5.5% of the total sample visitors. 29 visitors earn above Rs.125000 which is 14.5% of the total sample visitors.

Out of 92 visitors earning Rs.0 to Rs.25000, 23 visitors are from Bhaktapur, 32 visitors are from Kathmandu, Patan and Banepa, 26 visitors are from out of valley and 11 are international tourists. Similarly, within 45 visitors earning Rs.25000 to Rs.50000, 13 visitors are from Bhaktapur, 11 visitors are from Kathmandu, Patan and Banepa, 20 visitors are from out of valley and 1 is international visitor. Likewise, out of 18 visitors earning Rs.50000 to Rs.75000, 10 visitors are from Bhaktapur, 5 visitors are from Kathmandu, Patan and Banepa, 3 visitors are from out of valley and none from international area. In the same manner, out of 5 visitors earning Rs.75000 to Rs.100000, 3 visitors are from Bhaktapur, 1 visitor from Kathmandu, Patan and Banepa, 1 visitor from out of valley and none from international area. Similarly, within 11 visitors earning Rs.100000 to Rs.125000, none are from Bhaktapur, 1 visitor is from Kathmandu, Patan and Banepa, none are from out of valley and 10 visitors are international tourists. And out of 29 visitors earning above Rs.125000, 1 visitor is from Bhaktapur, none from Kathmandu, Patan, Banepa and out of valley and 28 visitors are international tourists.

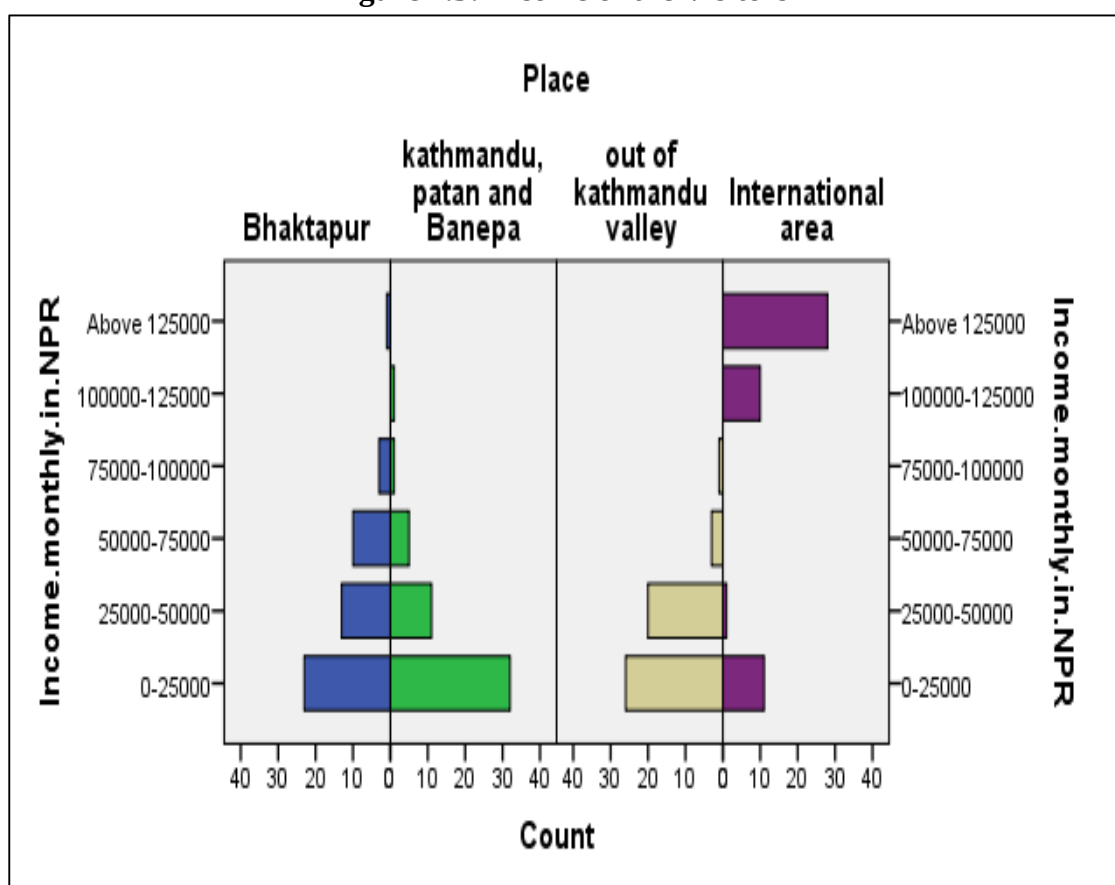
In case of Bhaktapur, there are 46% of visitors earning Rs.0 to Rs.25000; 26% of visitors earning Rs.25000 to Rs.50000; 20% of visitors earning Rs.50000 to Rs.75000; 6% of visitors earning Rs.75000 to Rs.100000; none of earning Rs.100000 to Rs.125000 and 2% earning above Rs.125000. Similarly, in case of Kathmandu, Patan and Banepa, there are 64% of visitors earning Rs.0 to Rs.25000; 22% of visitors earning Rs.25000 to Rs.50000; 10% of visitors earning Rs.50000 to Rs.75000; 2% of visitors earning Rs.75000 to Rs.100000; and none of the visitors earning beyond Rs.75000. Likewise, in case of out of valley, there are 52% of visitors earning Rs.0 to Rs.25000;

40% of visitors earning Rs.25000 to Rs.50000; 6% of visitors earning Rs.50000 to Rs.75000; 2% of visitors earning Rs.75000 to Rs.100000 and none of the visitors earning beyond Rs.75000. In the same manner, in case of international tourists, there are 22% of visitors earning Rs.0 to Rs.25000; 2% earning Rs.25000 to Rs.50000; none of visitors earning Rs.50000 to Rs.75000 and Rs.75000 to Rs.100000; 20% of visitors earning Rs.100000 to Rs.125000; 56% of visitors earning above Rs.125000.

Majority of the visitors in Bhaktapur Durbar Square from Bhaktapur, Kathmandu, Patan, Banepa and Out of valley earn Rs.0 to Rs.25000 whereas majority of the international tourists earn above Rs.125000. Similarly, the median income is Rs.29444.4.

The relationship between Place and Income is shown in the Figure 4.3:

Figure 4.3: Income of the Visitors



Source: From Table 4.5

The Figure 4.3 clearly shows that the majority of the visitors from Bhaktapur, Kathmandu, Patan, Banepa and out of valley earn the monthly income from Rs.0 to

Rs.25000 whereas majority of the international visitors earn the monthly income above Rs.125000.

4.1.6 Religion of Visitors

BDS is the symbol of past Hindu rulers and it is full of Hindu shrines, temples and history of Malla ancestors. The religion was asked in order to know the visitors belonging to other group than Hindu visits BDS or not and to note the visitation rate of Non-Hindu visitors. The visitation rate as per religion is shown in Table 4.6:

Table 4.6: Religion of Visitors

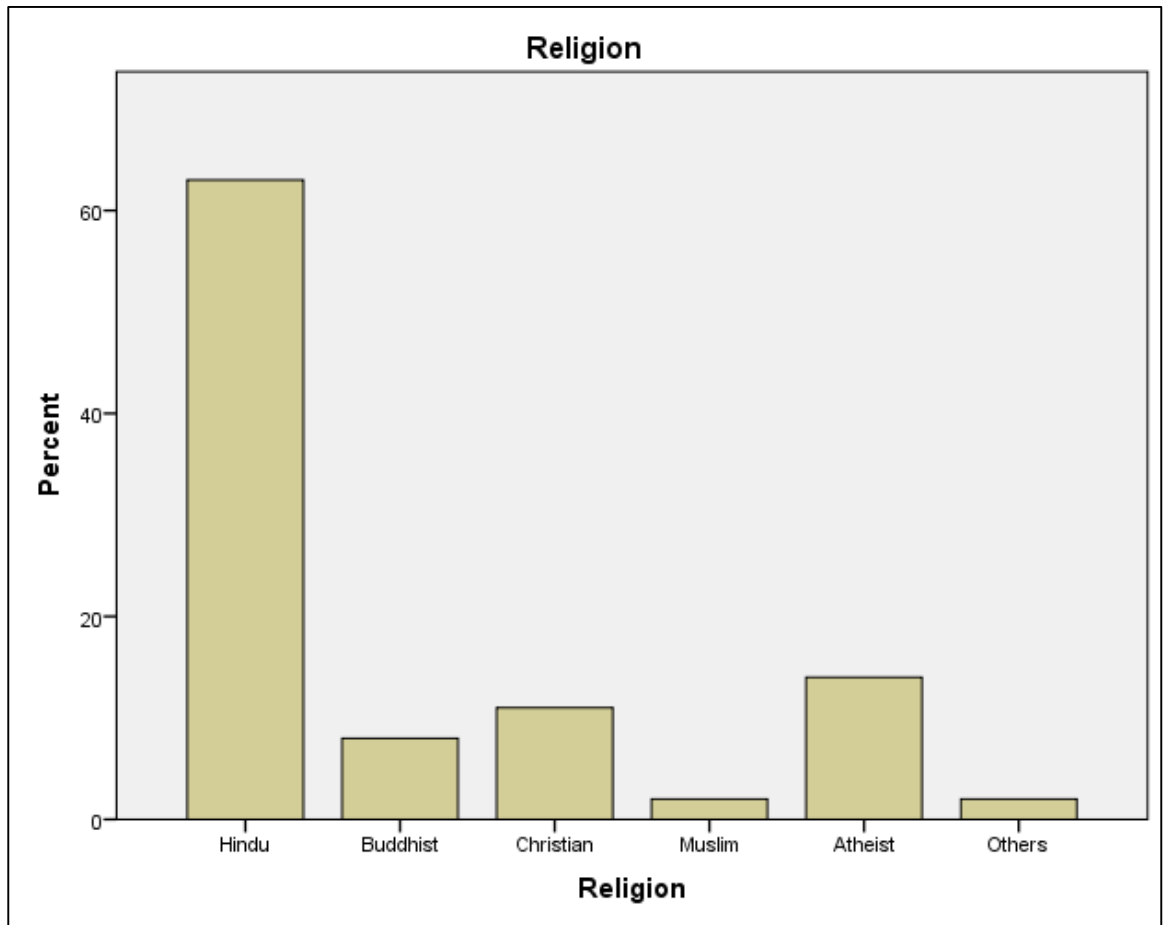
Religion	Frequency	Percent
Hindu	126	63.0
Buddhist	16	8.0
Christian	22	11.0
Muslim	4	2.0
Atheist	28	14.0
Others	4	2.0
Total	200	100.0

Source: Author's Own Calculation

The Table 4.6 shows the religion of visitors visiting Bhaktapur Durbar Square. The religion is divided into six categories viz Hindu, Buddhist, Christian, Muslim, Atheist and others. It is clearly seen in the table that maximum of visitors are Hindu and the least visitors belong to Muslim and other religion. There are 126 Hindu visitors which is 63% of the total sample respondents; 16 Buddhist visitors which is 8% of the total sample respondents; 22 Christian visitors which is 11% of total sample visitors; 4 Muslim visitors which is 2% of total sample visitors; 28 atheists visitors which is 14% of the total sample visitors and 4 visitors belong to other religion which is 2% of the total sample visitors.

It can be shown in Figure 4.4 as:

Figure 4.4: Religion of Visitors



Source: From Table 4.6

The Figure 4.4 shows the distribution of visitors in Bhaktapur Durbar Square on the basis of their religion. It is clearly seen in the figure that maximum visitors belong to Hindu religion and least visitors belong to Muslim and other religion.

4.1.7 Permanent address of Visitors

Permanent address has been taken simply to know the exact places of visitors' location. The permanent address of the visitors is shown in Table 4.7 as:

Table 4.7: Permanent address of Visitors

S.N.	Place	Permanent Address
1	Bhaktapur	Bholanchhen, Durbar Square, Icchu gali, Sukuldhoka, Chochhen, Inacho, Itachhen, Libali, Yachhen, Jhaukhel, Chyamasingh, Kamalvinayak, Byasi, Chhaling, Banshagopal, Thimi, Suryavinayak, Lokanthali, Dattatraya, Kaushaltar, Gatthaghar, Dekocha, Libali, Khauma, Golmadhi, Srijananagar, Gundu, Changu Narayan, Nagarkot and Dudhpati.
2	Kathmandu, Patan and Banepa	Sanepa, Pharping, Baneshwor, Dallu, Gurjudhara, Thamel, Mangalbazar, Kadaghari, Sanga, Newroad, Lhola, Koteswor, Kumaripati, Satungal, Balkhu, Kalimati, Kuleshwor, Minbhawan, Pepsicola, Gairigaun, Sinamangal, Purano Bazar, Dillibazar, Kalanki, Ghattekulo, Mahalaxmasthan, Satdobato, Kupondole, Airport, Ason, Tokha, Imadol and Maru Galli.
3	Out of Kathmandu Valley	Ramechhap, Gulmi, Sindhupalchok, Terathum, Pokhara, Morang, Udaypur, Kapilvastu, Bharatpur, Dhanusa, Janakpur, Kanchanpur, Butwal, Gorkha, Biratnagar, Sarlahi, Surkhet, Illam, Dailekh, Dolkha, Bhojpur, Nepalgunj, Taulihawa, Dhankuta, Dang, Palpa, Dharan, Dhangadhi, Dolpa, Khotang, Syanja and Jhapa.
4	International Area	Algeria, United Kingdom, United States, New Zealand, Indonesia, Australia, Mexico, China, Spain, India, Belgium, France, Germany, Italy, Japan, Norway, Sweden, Austria, South Korea, Canada, Egypt, Russia, Turkey, Portugal, Switzerland, South Africa, Finland, Poland, Holland, Thailand and Singapore.

Source: Author's Own Calculation

The Table 4.7 shows the permanent address of the sample visitors in Bhaktapur Durbar Square. The visitors from Bhaktapur or say the local residents from 30 different wards

have been interviewed. Similarly, the internal tourists- the visitors from Kathmandu, Patan and Banepa; and out of valley are from 33 different wards and 32 different districts of Nepal respectively. Likewise, this dissertation covers the international tourists from 30 different nations.

4.1.8 Distance between Bhaktapur Durbar Square and Visitor's Place

The distance between visitors origin to the site highly affects their visitation rate, expenditure pattern and future visit in the site. The distance has been taken in order to estimate the value of the BDS and to estimate the recreational demand function of the visitors. The distance covered between BDS and Visitors' place is shown in Table 4.8:

Table 4.8: Distance between Bhaktapur Durbar Square and Visitor's Place

Visitor's Place	Distance Covered (In Km)	Average Distance Covered
Bhaktapur	0-5.5	1.91
Kathmandu, Patan and Banepa	8-28	16.05
Out of Kathmandu Valley	80-840	325.58
International Area	1356-14237	6911.9
Average Distance Covered in Total		1813.86

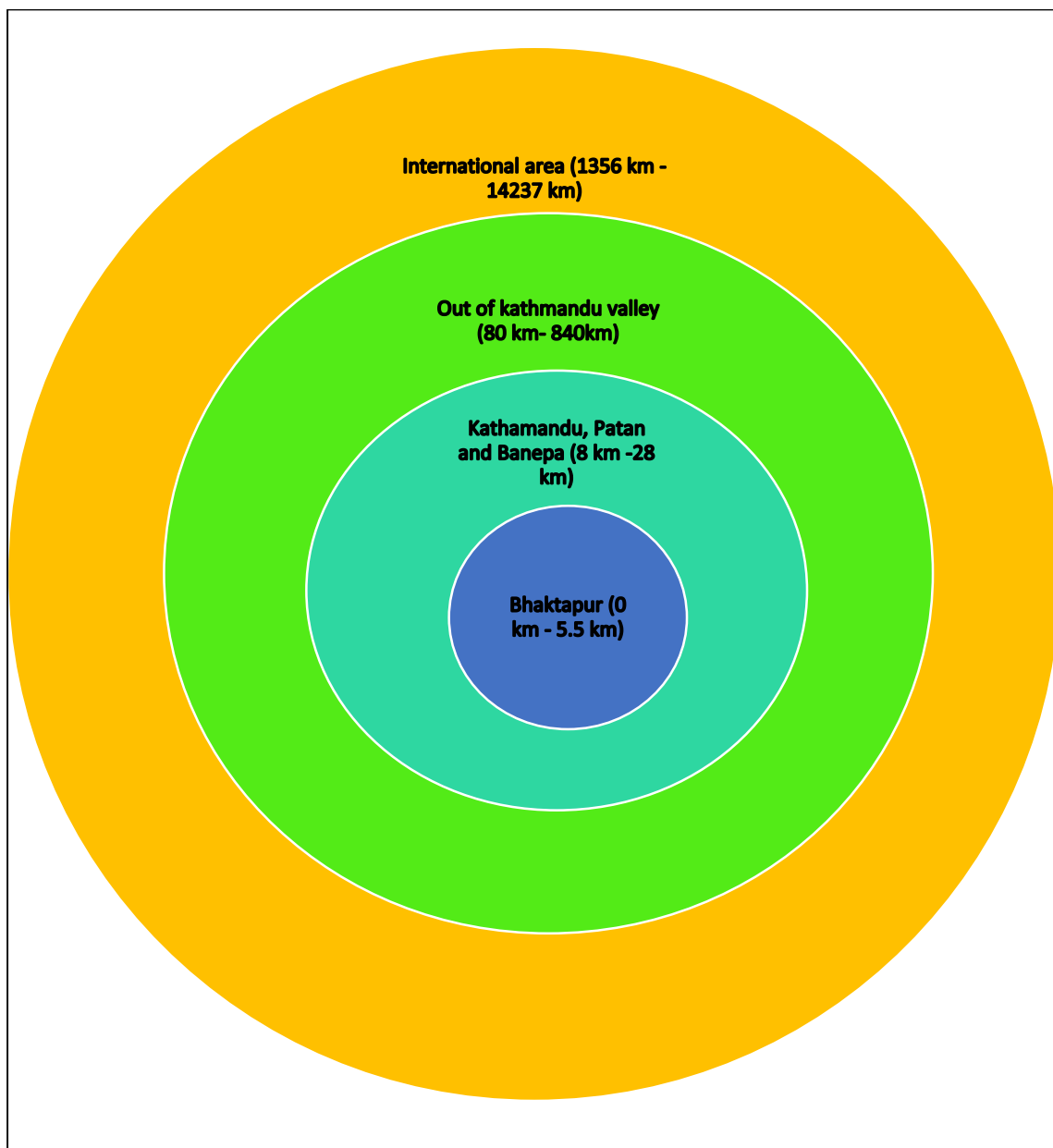
Source: Author's Own Calculation

The Table 4.8 shows visitors in Bhaktapur Durbar Square (BDS) from four different places covers the distance from 0 km to 14237 km to reach in the site from their permanent residence. Visitors from Bhaktapur covers the distance from 0 km to 5.5km in order to reach BDS; visitors from Kathmandu, Patan and Banepa covers the distance from 8 km to 28 km in order to reach BDS; visitors from out of Kathmandu Valley covers the distance from 80 km to 840 km in order to reach BDS and the international tourists travel 1356 km to 14237 km in order to reach BDS.

The total average distance covered to reach BDS is 1813.86 km. In average, visitors from Bhaktapur cover 1.91 km; visitors from Kathmandu, Patan and Banepa cover 16.05 km; visitors from out of Kathmandu valley cover 325.8 km and international tourists cover 6911.9 km to reach BDS.

The distance covered between BDS and visitors' place is shown in figure 4.5:

Figure 4.5: Distance between Bhaktapur Durbar Square and Visitors' Place



Source: From Table 4.8

The Figure 4.5 shows the distance between visitors' place and Bhaktapur Durbar Square. Visitors of Bhaktapur have to cover least distance to reach BDS whereas international visitors have to travel maximum distance to reach BDS.

4.1.9 Time Taken to reach Bhaktapur Durbar Square

Visitors' time devoted to reach BDS affects their visitation rate highly and it has been included in the study in order to calculate the price or value of BDS and to estimate the recreational demand function of the visitors. The time taken to reach BDS is shown in Table 4.9 and Table 4.9.1:

Table 4.9: Time Taken to reach Bhaktapur Durbar Square

Place	Distance Covered (In Km)	Time Taken (In Hr.)	Average Time Taken (In Hr.)
Bhaktapur	0-5.5	0.02-1.5	0.31
Kathmandu, Patan and Banepa	8-28	0.50-2.5	1.02
Out of Kathmanudu Valley	80-840	4-28	11.72
International Area	1356-14237	10-35	20.38

Source: Author's Own Calculation

The Table 4.9 shows the time take as per the distance covered. It is clearly seen in the table that with the increase in distance the time taken to reach BDS is also increasing. When the distance covered ranges from 0 km- 5.5 km, 8 km- 28 km, 80 km to 840 km and 1356 km to 14237 km, the time taken to reach BDS ranges from 0.02 hr. to 1.5 hr., 0.50 hr. to 2.5 hr., 4 hrs. to 28 hrs. and 10 hrs. to 35 hrs. respectively.

Table 4.9.1: Average Time Taken to reach BDS

N	Valid	200
	Missing	0
Mean		8.3574

Source: Author's Own Calculation

The Table 4.9.1 shows that the total average time taken to reach BDS is 8.36 hrs. For the visitors of Bhaktapur, it takes average of 0.31 hrs. to reach BDS. Similarly, the visitors from Kathmandu, Patan and Banepa requires 1.02 hrs. to reach BDS in average. Likewise, it takes 11.72 hrs in averge for visitors outside of Kathmandu valley to reach

BDS. In the same manner, International visitors spend 20.38 hrs. in average to reach BDS from their permanent residence.

4.1.10 Means of transportation used to travel Bhaktapur Durbar Square

The means of transportation used to travel BDS is shown in Table 4.10 and Table 4.10.1:

Table 4.10: Means of transportation used to travel Bhaktapur

Vehicle		Place				Total
		Bhaktapur	and Kathmandu, Patan	out of Kathmandu valley	International area	
Public transportation	Count	8	28	28	0	64
	% of Total	4.0%	14.0%	14.0%	0.0%	32.0%
Private transportation	Count	8	22	13	0	43
	% of Total	4.0%	11.0%	6.5%	0.0%	21.5%
Other	Count	34	0	9	50	93
	% of Total	17.0%	0.0%	4.5%	25.0%	46.5%
Total		Count	50	50	50	200

Source: Author's Own Calculation

The Table 4.10 shows the means of transportation used by visitors from Bhaktapur, Kathmandu, Patan, Banepa, Out of Kathmandu Valley and foreign nations to reach Bhaktapur Durbar Square. The means of transportation is divided into three parts viz public transportation, Private transportation and others. Out of 200 sample visitors, 64 visitors used public transportation to reach BDS which is 32% of the total respondents; 43 visitors used private transportation to reach BDS which is 21.5% of the total respondents and 93 visitors used other means of transportation to reach BDS which is 46.5% of the total respondents. Majority of the visitors have used other means of transportation to reach BDS and least visitors have use private Transportation to reach BDS.

Out of 64 public transportation users, 8 visitors were from Bhaktapur which is 4% of total sample visitors; 28 visitors were from Kathmandu which is 14% of total respondents, 28 visitors from out of Kathmandu valley which is 14% of total respondents and none from international area used public transportation to reach BDS.

Within 43 private transportation users, 8 visitors were from Bhaktapur which is 4% of the total respondents; 22 visitors were from Kathmandu, Patan and Banepa which is 11% of the total respondents; 13 visitors were from out of Kathmandu valley which is 6.5% of the total respondents and none from foreign land used private transportation to visit BDS.

Out of 93 visitors using other means of transportation, 34 visitors were from Bhaktapur which is 17% of the total sample visitors; none of the visitors from Kathmandu, Patan and Banepa used other means of transportation; 9 visitors were from out of Kathmandu valley which is 4.5% of the total sample visitors and 50 out of 50 international tourists used other means of transportation to reach BDS which is 25% of the total sample visitors.

Table 4.10.1: Other Specified Vehicle

Other Specified Vehicle	Frequency	Percent
Airplane	3	1.5
Airplane and Taxi	50	25
On Walk	34	17
Reserved bus	1	0.5
Taxi	5	2.5
Public and private	107	53.5
TOTAL	200	100

Source: Author's Own Calculation

Table 4.10.1 shows the other means of transportation used by visitors to reach BDS. Other means of transportation include Airplane, both Airplane and Taxi, On Walk, Reserved bus and Taxi. 107 visitors used public and private transportation and remaining 93 visitors used other means of transportation. 3 visitors used airplane to travel BDS which is 1.5% of total respondents; 50 visitors used both taxi and airplane to reach BDS which is 25% of the total sample visitors; 34 visitors reached BDS by walking which is 17% of the total respondents; 1 visitor used reserved bus to reach BDS

which is 0.5% of the total respondents and 5 visitors used Taxi to travel BDS which is 2.5% of the total sample visitors.

4.1.11 Transportation Cost to reach Bhaktapur Durbar Square

Transportation cost differ with the distance covered from visitors' origin and it has been included in the study to check the cost difference with the increase in distance covered. The transportation cost to reach BDS from visitors' origin is shown in Table 4.11 and Table 4.11.1:

Table 4.11 Transportation Cost to reach Bhaktapur Durbar Square

Place	Transportation Cost (In Rs.)	Average Transportation Cost (In Rs.)
Bhaktapur	0-50	5.2
Kathamandu, Patan and Banepa	15-400	26.4
Out of Kathmandu Valley	600-20000	3361.4
International Area	12000-425000	91720

Source: Author's Own Calculation

Table 4.11 shows the transportation cost as per the place during the visit of BDS. With increase in distance, the transportation cost is increasing. In case of visitors from Bhaktapur, transportation cost ranges from Rs.0 to Rs.50; visitors of Kathmandu, Patan and Banepa spent Rs.15 to Rs.400 on transportation during their visit in BDS; visitors from out of valley spent Rs.600 to Rs.20000 on transportation during their arrival in BDS and international tourist spent Rs.12000 to Rs.425000 during their arrival in BDS.

The total average transportation cost of total sample visitors is Rs.38785.69. Place wise, visitors from Bhaktapur; Patan, Kathmandu and Banepa; Out of kahtmandu Valley and International region is Rs.5.2, Rs.26.4, Rs.3361 and Rs.91720 respectively. The average cost is also increasing with the increase in distance between BDS and visitor's place.

Table 4.11.1: Average Transportation Cost

N	Valid	123
	Missing	77
Mean		Rs.38785.6910600000

Source: Author's Own Calculation

The average transportation cost required to visit BDS from all over places is Rs.38785.69.

4.1.12 Airlines used to travel Nepal

This part is related merely with the international visitors. 50 foreign visitors reached Nepal from 23 different airlines. The airlines used to visit Nepal is shown in Table 4.12:

Table 4.12: Airlines Used to Travel Nepal

S.N.	Airlines	S.N.	Airlines
1	Air China	13	Paris Airlines
2	Air Macau	14	Qatar Airways
3	Air India	15	Royal Jordanian
4	Alitalia	16	Nepal Airlines
5	British Airways	17	Scandinavian Airlines
6	Cathay Pacific	18	Sichuan Airlines
7	China Eastern	19	The Lion Air
8	IndiGO	20	Turkish Airlines
9	KLM Royal Dutch	21	Emirate
10	Malaysian Airlines	22	Etihad Airways
11	Malindo Air	23	Ethiopian Airlines
12	Oman Air		

Source: Author's Own Information

Majority of the international tourist which is 11 in number used Qatar Airways to reach Nepal, second preferred airlines to reach Nepal is Etihad Airlines, Turkish Airlines and

Oman Air. In each second preferred airlines, 5 visitors chose to travel Nepal. Similarly, third popular airlines to reach Nepal is Emirates which was used by 4 visitors. Fourth popular airlines to travel Nepal is Thai Lion Air and Malindo Airlines and each of the airline was used by 2 foreign visitors. And the remaining 16 visitors used the remaining 16 airlines to travel Nepal.

4.1.13 Destination in Nepal

The destination in Nepal is also related with the 50 international tourists only and it is shown in Table 4.13:

Table 4.13: Destination in Nepal

Destination	Number Of Visitors	Percentage
ABC Camp	3	6
Bandipur	2	4
Bhaktapur	8	16
Chitwan	1	2
Kathmandu	16	32
Mt. Everest	2	4
Muktinath	1	2
Patan	2	4
Pokhara	14	28
Rara	1	2
TOTAL	50	100

Source: Author's Own Calculation

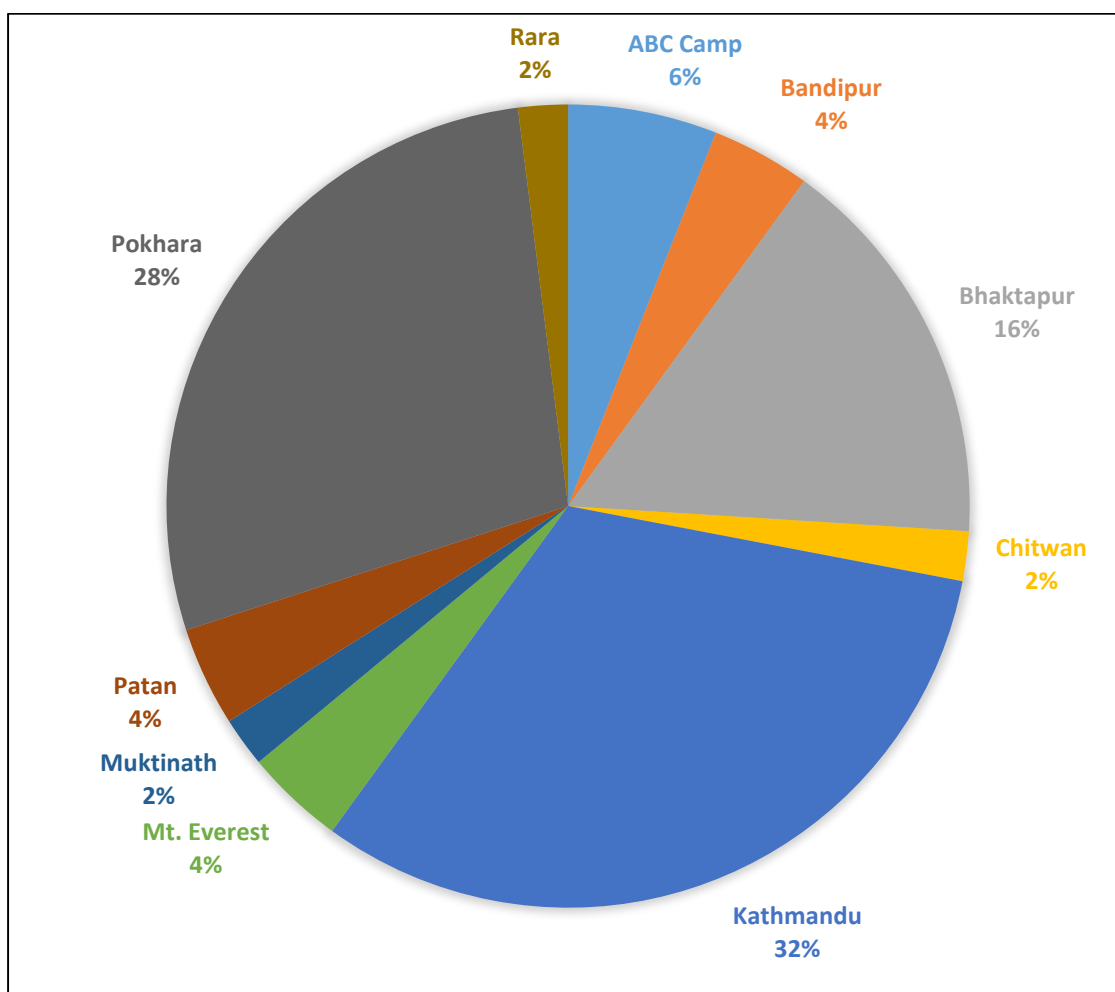
The Table 4.13 shows the destination of international tourists in Nepal. Out of 50 sample international visitors, 10 destination in Nepal was sorted out and they are ABC Camp, Bandipur, Bhaktapur, Chitwan, Kathmandu, Mt. Everest, Muktinath, Patan, Pokhara and Rara.

Majority of international tourists numbering 16 destine Kathmandu which is 32% of the sample foreign visitors; 14 international tourists destine Pokhara which is 28% of total sample foreign visitors; 8 international tourists destine Bhaktapur which is 16% of

total international respondents. Similarly, ABC camp is the destination of 3 international visitors which is 6% of total respondents; 2/2/2 foreign visitors destine Patan, Bandipur and Mt.Everest which is 12% (4%+4%+4%) of total sample international respondents; 1/1/1 foreign visitor aim to visit Muktinath, Chitwan and Rara in Nepal which is 6% (2%+2%+2%%) of total sample foreign respondents.

The destination of international tourists in Nepal is shown in Figure 4.6:

Figure 4.6: Destination in Nepal



Source: From Table 4.13

The Figure 4.6 shows the destination of sample international respondents in Nepal and there are ten destination sites in which Kathmandu, Bhaktapur and Pokhara is destination of majority of foreign tourists.

4.1.14 Substitute Sites

Apart from Bhaktapur Durbar Square, the sample visitors have travelled 72 different places. The substitute sites of Bhaktapur Durbar Square is shown in Table 4.14:

Table 4.14: Substitute Sites of BDS

S.N.	Substitute Site	S.N.	Substitute Site	S.N.	Substitute Site	S.N.	Substitute Site
1	Siddha Pokhari	19	Annapurna	37	Tilicho	55	Kailali
2	Kamal Pokhari	20	Baithali	38	Mugu	56	Dhangadhi
3	Pashupatinath	21	Lumbini	39	Pasthali	57	Melamchi
4	Nagarkot	22	Shivapuri	40	Chitwan	58	Ghandruk
5	Swayambhu	23	Swargadwari	41	Boudha	59	Jumla
6	Kathmandu	24	Gorkha	42	Chitwan National Park	60	Humla
7	Patan	25	Palpa	43	Sindhupalchwok	61	Chitlang
8	Banepa	26	Kalinchwok	44	Okhaldhunga	62	Syanja
9	Dhulikhel	27	Rani-Mahal	45	Khotang	63	Butwal
10	ABC Camp	28	Patan Durbar Square	46	Surkhet	64	Hetauda
11	Mustang	29	Basantapur	47	Dailekh	65	Birgunj
12	Jomsom	30	Namo Buddha	48	CG Shaswat Dham	66	Biratnagar
13	Rara	31	Dolakha	49	Ruru Chhetra	67	Nepalgunj
14	Gosainkunda	32	Chandragiri	50	Khaptad	68	Chisapani
15	Bandipur	33	Dharan	51	Sundarijal	69	Baglung
16	Janakpur	34	Dhankuta	52	Kirtipur	70	Janakpur
17	Ghale Gaun	35	Jhapa	53	Mt.Everest	71	Chisapani
18	Muktinath	36	Illam	54	Poonhill	72	Solukhumbu
73	Bhojpur						

Source: Author's Own Information

4.1.15 Visitation Type in Bhaktapur Durbar Square

The visitors in BDS come either in group or family or single. This aspect has been enlisted in this study to know the visitation type in BDS which is enlisted in Table 4.15, Table 4.15.1, Table 4.15.2 and Table 4.15.3:

Table 4.15: Visitation Type in BDS

Journey Type			Place				Total
			Bhaktapur	Kathmandu, Patan and Banepa	Out of Kathmandu valley	International area	
single	Count		17	5	7	15	44
	% of Total		8.5%	2.5%	3.5%	7.5%	22.0%
Group	Count		17	34	29	26	106
	% of Total		8.5%	17.0%	14.5%	13.0%	53.0%
Family	Count		16	11	14	9	50
	% of Total		8.0%	5.5%	7.0%	4.5%	25.0%
Total		Count	50	50	50	50	200

Source: Author's Own Calculation

The Table 4.15 shows the visitation type of visitors in Bhaktapur Durbar Square. Out of 200 respondents, 44 visitors had come alone (single) which is 22% of total sample visitors; 106 visitors had come in group which is 53% of total respondents and 50 visitors had come with family which is 25% of total sample visitors. The rate of visitors coming in group is higher and the rate of visitors visiting single least in BDS.

Within 44 single visitors in BDS, 17 visitors are from Bhaktapur; 5 visitors are from Kathmandu, Patan and Banepa; 7 visitors are from Out of Kathmandu valley and 15 are international visitors. Similarly, out of 106 visitors visiting in group, 17 visitors are from Bhaktapur; 34 visitors are from Kathmandu, Patan and Banepa; 28 visitors are from Out of Kathmandu Valley and 26 visitors are from international area. In the same manner, out of 50 visitors coming in family, 16 visitors are from Bhaktapur; 11 visitors are from Kathmandu, Patan and Banepa; 14 visitors are from Out of Kathmandu valley and 9 are international tourists.

Table 4.15.1: Pattern of Dependents

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Dependents * Number of Dependents	38	19.0%	162	81.0%	200	100.0%

Source: Author's Own Calculation

The Table 4.15.1 shows the pattern of dependents of visitors in BDS. Out of 200 respondents, 38 visitors had dependents which is 19% of the total sample visitors and 162 visitors had no dependents which is 81% of the total sample visitors.

Table 4.15.2: Number of Dependents

			Number of Dependents					Total
			1.00	2.00	3.00	4.00	5.00	
Dependents	Yes	Count	5	16	9	6	2	38
		% within Dependents	13.2%	42.1%	23.7%	15.8%	5.3%	100.0%

Source: Author's Own Calculation

The Table 4.15.2 shows the number of dependents. The number of dependents range from 1 to 5. 5 visitors had 1 dependent; 16 visitors had 2 dependents; 9 visitors had 3 dependents; 6 visitors had 4 dependents and 2 visitors had 5 dependents.

Table 4.15.3: Number of Group and Family

	N	Minimum	Maximum	Mean	Std. Deviation
Total Group or family	154	2.00	100.00	5.6818	11.07473
Valid N (listwise)	154				

Source: Author's Own Calculation

The Table 4.15.3 shows the number of visitors who are in group or family. 154 visitors had come BDS in group or family. The number of group or family ranges from 2 to 100. And the average people in group or family is 5.682.

4.1.16 Trips Made to Bhaktapur Durbar Square

The number of trips made to BDS is very important factor for estimating price of BDS, to estimate recreational demand function of visitors and to calculate the consumer's surplus. The visitation rate is shown in Table 4.16 and Table 4.16.1:

Table 4.16: Trips made to BDS

Place	Average Distance Covered (in Km)	Number of Trips	Average Trips
Bhaktapur	1.91	10-20,800	8240.3
Kathmandu, Patan and Banepa	16.05	2-700	47.7
Out of Kathmandu Valley	325.58	1-15	3.5
International Area	6911.9	1-15	1.62

Source: Author's Own Calculation

The Table 4.16 shows the trips made to Bhaktapur Durbar Square by 200 sample visitors on the basis of place and distance covered. The number of trips made to BDS has decreased with the increase in distance of the place. The visitors from Bhaktapur had made trips in BDS from 10 to 20,800 times; the visitors from Kathmandu, Patan and Banepa had made trips in BDS from 2 to 700 times; the visitors from Out of Kathmandu Valley had made trips in BDS from 1 to 15 times and the foreign visitors had also made 1 to 15 trips in BDS.

The average visit made by visitors from Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International Area are 8,240.3, 47.4, 3.5 and 1.62 respectively.

Table 4.16.1: Average Trip Made to BDS

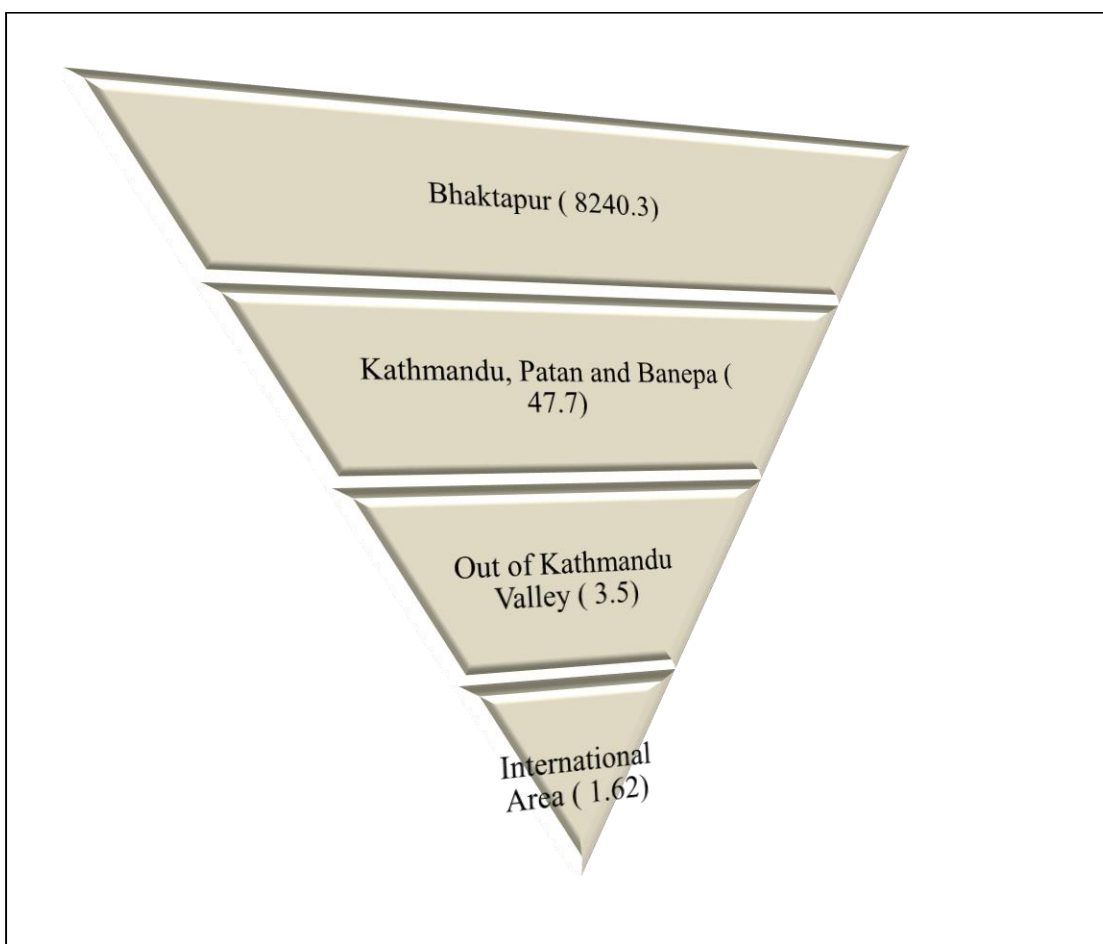
Number of arrival to BDS		
N	Valid	200
	Missing	0
Mean		2073.28

Source: Author's Own Calculation

The Table 4.16.1 shows the total average visitation made to BDS by 200 sample visitors and the average trip made in BDS is 2,073.28 times.

The trips made in BDS is shown in Figure 4.7:

Figure 4.7: Average Trips Made to BDS



Source: From Table 4.16

The Figure 4.7 shows the average trips made in Bhaktapur Durbar Square as per the visitors from different places. The visitors from Bhaktapur made the largest trip to BDS which is 8240.3 times and the international visitors made the least trip to BDS which is 1.62 times in average. The visitors from Kathmandu, Patan and Banepa have made 47.7 trips in average in BDS and the visitors from out of Kathmandu valley have made 3.5 average trips in BDS.

4.1.17 Importance of Visiting Bhaktapur Durbar Square

The importance of visiting BDS is important aspect to know the visitors' expenditure pattern and willingness aptitude. Importance of visiting BDS as per the visitors' origin is shown in Table 4.17:

Table 4.17: Importance of Visiting BDS

Importance of visiting BDS		Place				Total
		Bhaktapur	dhulikhel, patan	kathmandu out of	International area	
Not that Important	Count	13	8	10	1	32
	% of Total	6.5%	4.0%	5.0%	0.5%	16.0%
somewhat important	Count	15	14	16	14	59
	% of Total	7.5%	7.0%	8.0%	7.0%	29.5%
important	Count	12	18	14	23	67
	% of Total	6.0%	9.0%	7.0%	11.5%	33.5%
very important	Count	5	7	7	10	29
	% of Total	2.5%	3.5%	3.5%	5.0%	14.5%
Most important	Count	5	3	3	2	13
	% of Total	2.5%	1.5%	1.5%	1.0%	6.5%
Total		Count	50	50	50	200

Source: Author's Own Calculation

The Table 4.17 shows the importance of visiting Bhaktapur Durbar Square in the opinion of tourists. The importance of visiting BDS has been sub divided into 5 parts viz Not that important; somewhat important; Important; Very important and Most important. For 32 visitors visiting BDS is not that important which is 16% of the total respondents; 59 visitors find visiting Bhaktapur Durbar Square somewhat important which is 29.5% of total sample visitors; 67 visitors find their visitation to BDS important which is 33.5% of the total respondents; 29 visitors found their visit in BDS very important which is 14.5% of the total sample visitors and 13 visitors found their visit in BDS most important which is 6.5% of total sample visitors.

Majority of the visitors found their visit in BDS important and few visitors found their visit in BDS as most important compared to other things they had to do in Bhaktapur.

In case of Bhaktapur, for most of the local residents which is 15 in number, their visit in BDS was somewhat important. 13 local residents found their visit in BDS not that important; 12 local residents found their visit in BDS important; 5 local residents found their visit in BDS very important and for 5 local residents found their visitation in BDS is most important.

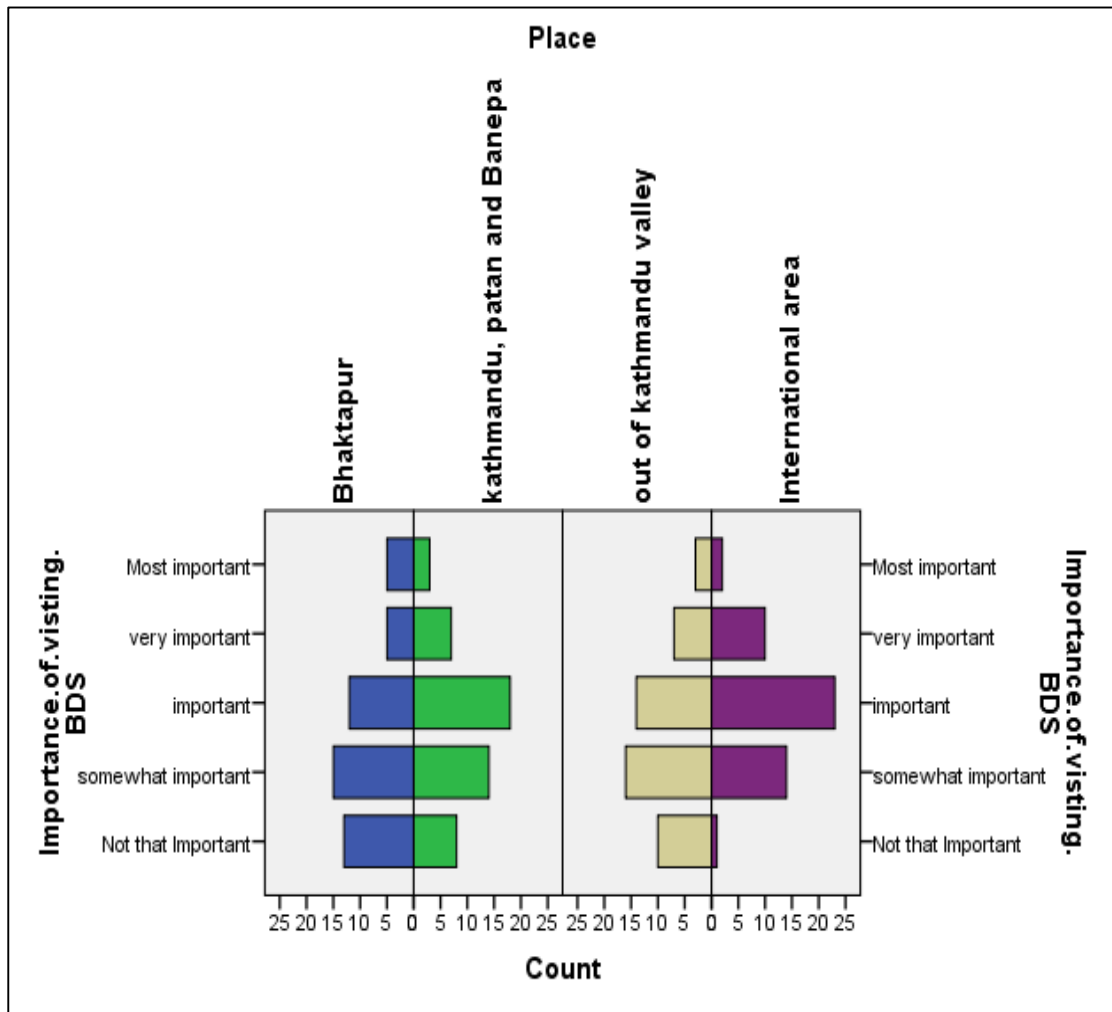
In case of visitors from Kathmandu, Patan and Banepa, majority find their visit in BDS important which is 18 in number. And 8 visitors, 14 visitors, 7 visitors and 3 visitors found their visit in BDS not that important, somewhat important, very important and most important respectively.

In case of Out of Kathmandu Valley, majority of the visitors find their visitation in BDS somewhat important which is 16 in number. For 10 visitors, their visitation in BDS was not that important; for 14 visitors, their visitation in BDS was important; for 7 visitors their visitation in BDS was very important and for 3 visitors their visitation in BDS was most important.

In case of foreign visitors, majority find their visit in BDS important which is 23 in number. For 1 visitor, his/her visit in BDS was not that important; 14 tourists found their visitation in BDS somewhat important; 10 visitors found their visit in BDS very important and 2 visitors found their visit in BDS most important.

The importance of visiting BDS is shown in Figure 4.9:

Figure 4.8: Importance of Visiting BDS



Source: From Table 4.17

The Figure 4.8 shows the importance of visiting BDS as per the visitors from four places viz Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International Area. Majority of the visitors from Bhaktapur and Out of Kathmandu Valley found their visitation in BDS somewhat important and majority of the visitors from foreign area and Kathmandu, Patan and Baenpa found their visit in BDS important.

4.1.18 Staying Days of Visitors in Bhaktapur

The number of staying days in BDS is very important to calculate the expenditure pattern of the visitors. It is shown in Table 4.18:

Table 4.18: Staying Days of Visitors in Bhaktapur

Place	Staying Days	Average Staying Days
Bhaktapur	Always	Always
Kathmandu, Patan and Banepa	0.17-7	0.92
Out of Kathamandu Valley	0.3-7	1.9
Internatoinal Area	0.5-30	5.55

Source: Author's Own Calculation

The Table 4.16 shows the staying days of visitors in BDS in Bhaktapur. Since the visitors from Bhaktapur are the local resident, they will always stay in Bhaktapur. The visitors from Kathmandu, Patan and Banepa reside in Bhaktapur from 0.17 days to 7 days; the visitors from out of Kathmandu valley reside in Bhaktapur from 0.3 days to 7 days and the international tourists reside in Bhaktapur from 0.5 days to 30 days.

The average staying days of visitors from Kathmandu, Patan and Banepa was 0.92 days; the visitors from out of Kathmandu Valley reside in Bhaktapur for 1.9 days in average; and the foreign visitors stayed in Bhaktapur for 5.55 days in average.

4.1.19 Residence of Visitors in Bhaktapur

The residence in Bhaktapur during the visit hour was asked to know the expenditure pattern of the visitors. The residual place of visitors in Bhaktapur is shown in Table 4.19:

Table 4.19: Residence Place of Visitors of Bhaktapur

Title		Frequency	Percent
Valid	Hotel	65	32.5
	Rented room or apartment	4	2.0
	Friend or relatives	19	9.5
	Total	88	44.0
Missing	System	112	56.0
Total		200	100.0

Source: Author's Own Calculation

The Table 4.17 shows the frequency of residual in Bhaktapur and the residual place of visitors in Bhaktapur. Out of 200 respondents, 88 visitors stayed in Bhaktapur which is 44% of total sample visitors and 112 visitors only visited Bhaktapur and returned. Within 112 non staying visitors, 50 visitors are local resident who always stay in Bhaktapur and remaining 62 are internal and international tourists.

Out of 88 staying tourists, 65 visitors stayed in Hotel which is 32.5% of the total sample visitors; 4 visitors stayed in rented room or apartment which is 2% of the total respondents and 19 visitors stayed in their friend's or relative's place which is 9.5% of the total respondents.

4.1.20 Name of the Hotels resided by Visitors in BDS

65 visitors stayed in 29 different hotels in Bhaktapur. The 29 different hotels are:

Table 4.20: Name of the Hotels

S.N.	Hotel	S.N.	Hotel
1	Bhaktapur Paradise Hotel	16	Inn Sangrahalaya
2	Bhangeri Durbar Resort	17	Kumari Guest House
3	City Gaon Resort	18	Milla Guest House
4	Friend's Guest House	19	Nepal Yoga Retreat
5	Golden Gate Guest House	20	Planet Bhaktapur Hotel
6	Greenland Hotel	21	Shiva Guest House
7	Hotel Baha Restaurant and Café	22	Stupa Resort Nagarkot
8	Hotel Bhaktapur Inn	23	The Fort Resort
9	Hotel Country Villa	24	Spot on 433 Welcome Heritage Inn
10	Hotel De Courtyard	25	Sunshine Resort
11	Hotel Heritage	26	Thagu Chhen, a boutique Hotel
12	Hotel Heritage Malla	27	Tulaja Botique Hotel
13	Hotel Mystic Mountain	28	Unique Guest House
14	Hotel Himalaya Villa	29	Green Hill Rest Camp
15	Hotel Sweet Home		

Source: Author's Own Information

4.1.21 Purpose of Visitors in BDS

The purpose of visitors in BDS is very important to know the activities preferred by most of the tourists in BDS and it is associated with their expenditure pattern. The purpose of visitors in BDS is enlisted in Table 4.21 and Table 4.21.1:

Table 4.21: Purpose of Visitors in BDS

		Frequency	Percent
	Museum	5	2.5
	Visit inside Golden Gate	16	8.0
	photography	30	15.0
	Research	8	4.0
	Sight-seeing	118	59.0
	other	23	11.5
	Total	200	100.0

Source: Author's Own Calculation

The Table 4.21 shows the purpose of visitors in BDS. The purpose of visiting BDS is divided into six parts viz Museum, Visit inside Golden Gate, Photography, Research, Sight-seeing and others. Most of the visitors numbering 118 visited BDS for sight-seeing which is 59% of the total respondents; 30 visitors visited BDS for the purpose of photography which is 15% of total sample visitors; 16 visitors visited BDS for going inside Golden Gate which is 8% of total respondents; 8 visitor came BDS with the intention of conducting research which is 4% of the total sample visitors; 5 visitors visited BDS to visit museum and remaining 23 visitors visited BDS for other purposes.

It is seen that the majority of the tourists visit for sight-seeing purpose and least tourist visit for research and visiting the museum.

Table 4.21.1: Other Specified Purpose of Visitors

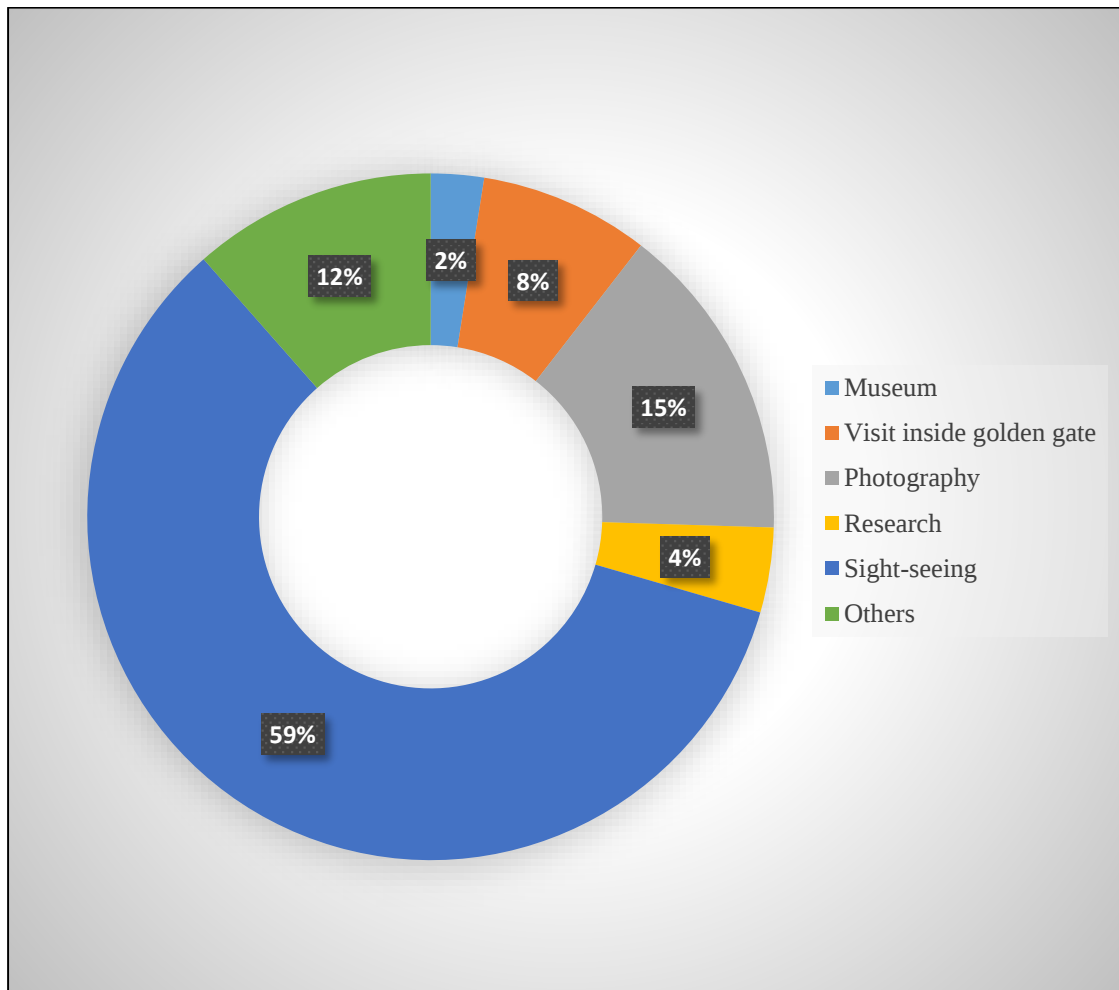
Other Specified Purpose		Frequency	Percent
		175	87.5
	A part of educational tour	2	1
	Business	3	1.5
	Dating	1	0.5
	Get together with friends	5	2.5
	To run a Hotel	1	0.5
	Inspection with UNEESCO team	1	0.5
	Internship	1	0.5
	Makeup work for models	1	0.5
	Morning Walk	1	0.5
	Photo and Video Shoot	1	0.5
	Photo Shoot	2	1.0
	Refreshment	4	2.0
	To run a shop	1	0.5
	Work	1	0.5
	Total	200	100.0

Source: Author's Own Calculation

The Table 4.21.1 shows the other specified purpose of visitors in BDS. 23 visitors came in BDS for 14 other purposes viz A part of educational tour, Business, Dating, Get together with friends, To run a hotel, Internship, Makeup work for models, Morning Walk, Refreshment, To run a shop, Work, Photo Shoot and Video Shoot.

The purpose of visitors in BDS is shown in Figure 4.10

Figure 4.9: Purpose of Visitors in BDS



Source: From Table 4.12.1

The Figure 4.9 shows the purpose of visitors in BDS. Visitors in BDS visited with six different purposes viz Sight-seeing, Museum, Visit inside Golden Gate, Photography, Research and Others. Majority of the visitors visited for sight-seeing which is 59% of the total respondents and least visitors visited to view Museum which is 2% of the total sample visitors. And 15%, 12% 8% and 4% of visitors visited for photography, others, visiting inside Golden Gate and research respectively.

4.1.22 Expenditure Pattern of Visitors in Bhaktapur

The expenditure pattern of the visitors in Bhaktapur helps to constitute the consumers' surplus, to formulate value of the BDS and to calculate the recreational demand function of the visitors. The expenditure pattern of the visitors in BDS is shown in Table 4.22, Table 4.22.1 and Table 4.22.2:

Table 4.22: Expenditure Pattern of Visitors in Bhaktapur

Place	Accommodation Expenditure (in Rs.)	Food and Drinks Expenditure (In Rs.)	Entry Fee (In Rs.)	Onsite Expenses (In Rs.)	Expenditure on buying gifts and things for yourself (In Rs.)
Bhaktapur	0	0-4000	0	0-500	0-3000
Kathmandu, Patan and Banepa	0-30000	50-20000	0	0-2000	0-5000
Out of Kathmandu Valley	0-20000	200-10000	0	50-2000	0-30000
International Area	0-66500	500-20000	500-7500	500-2000	500-5000

Source: Author's Own Calculation

The Table 4.22 shows the expenditure made by visitors for themselves and their dependents if they had any during their stay in Bhaktapur under five headings- Accommodation Expenditure, Food and Drinks Expenses, Entry Fee, Onsite Expenses and Expenditure made on buying things for yourself and gifts for your friends and family.

In case of accommodation, visitors from Bhaktapur didn't spend any money; visitors from Kathmandu, Patan and Banepa spent from Rs.0 to Rs.30000; visitors from out of Kathmandu Valley spent from Rs.0 to Rs.20000 and international tourists spent from Rs.0 to Rs.66500.

In case of Food and Drinks, the local residents spent from Rs.0 to Rs.4000; visitors from Kathmandu, Patan and Banepa spent from Rs.50 to Rs.20000; visitors from out of Kathmandu Valley spent from Rs.200 to Rs.10000 and foreign visitors spent Rs.500 to Rs.20000.

In case of Entry Fee, the local and internal visitors didn't pay any amount as there is no provision of charging entry fee for local and internal tourists. The international tourists from China and India are charged Rs.500 per person and the foreign visitors from

remaining of the nations are charged Rs.1500 per person. The payment of entry fee ranged from Rs.500 to Rs.6000.

In case of onsite expenses, the visitors from Bhaktapur spent from Rs.0 to Rs.500; the visitors from Kathmandu, Patan and Banepa spent from Rs.0 to Rs.2000; the visitors from out of Kathmandu Valley spent Rs.50 to Rs.2000 and international tourists spent from Rs.500 to Rs.2000.

In case of expenditure on buying things for yourself and gifts for your friends and family, the local residents spent from Rs.0 to Rs.3000; the visitors from Kathmandu, Patan and Banepa spent from Rs.0 to Rs.5000; the visitors from out of Kathmandu valley spent from Rs.0 to Rs.30000 and foreign visitors spent from Rs.500 to Rs.5000.

Table 4.22.1: Average Expenditure Pattern of Visitors in Bhaktapur on the basis of Place

Place	Accommodation Expenditure (in Rs.)	Food and Drinks Expenditure (In Rs.)	Entry Fee (In Rs.)	Onsite Expenses (In Rs.)	Expenditure on buying gifts and things for yourself (In Rs.)
Bhaktapur	0	746.4	0	35	160
Kathmandu, Patan and Banepa	820	2142.7	0	35.7	690
Out of Kathmandu Valley	4690	3418	0	271	1811
International Area	10430	5322	1840	666	2320

Source: Author's Own Calculation

The Table 4.22.1 shows the average expenditure made by visitors in BDS from four different places in five headings viz Accommodation Expenditure, Food and Drinks Expenditure, Entry Fee, Onsite Expenses and Expenditure on buying things for yourself and gifts for your friends and family.

In case of Accommodation, the visitors from Bhaktapur spent Rs.0 in average; the visitors from Kathmandu, Patan and Banepa spent Rs.820 in average; the visitors from out of Kathmandu Valley spent Rs.4690 in average and the international tourists spent Rs.10430 in average.

The visitors from Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International Area spent Rs.746.4, Rs.2142.7, Rs.3418 and Rs.5322 respectively in average on Food and Drinks.

In case of entry fee, the local residents and internal tourists spent Rs.0 in average and the foreign visitors spent Rs.1840 in average.

In case of onsite expenses, the visitors from Bhaktapur spent Rs.35 in average; the visitors from Kathmandu, Patan and Banepa spent Rs.35.7 in average; the visitors from out of Kathmandu Valley spent Rs.271 in average and the international tourists spent Rs.666 in average.

In case of Expenditure made on buying things for yourself and gifts for your friends and family, the local residents spent Rs.160 in average; the visitors from Kathmandu, Patan and Banepa spent Rs.690 in average; the visitors from out of Kathmandu Valley spent Rs.1811 in average and the foreign visitors spent Rs.2320 in average.

The expenditure pattern in all five headings have increased with the increase in distance of the place denoting that the expenditure increases with the increase in distance.

Table 4.22.2: Average Expenditure Pattern of Visitors in Bhaktapur in total

	N	Minimum	Maximum	Mean
Accommodation expense in NPR	69	Rs.1000.00	Rs.66500.00	Rs.11550.7246
Food expenses in NPR	189	Rs.50.00	Rs.20000.00	Rs.3076.4815
Entry fee in NPR	50	Rs.500.00	Rs.7500.00	Rs.1840.0000
Expenses on gifts and for yourself	111	Rs.100.00	Rs.30000.00	Rs.2243.6937
Onsite Expenditure in NPR	102	Rs.30.00	Rs.2000.00	Rs.542.4510

Source: Author's Own Calculation

The Table 4.22.2 shows the total average expenditure of total respondents made on Bhaktapur on five different purposes- Accommodation, Food and Drinks, Entry Fee, Onsite expenses and Expenditure made on buying things for yourself and gifts for your friends and family. 69 visitors of total respondents spent on accommodation; 189 visitors of total sample visitors spent on food and drinks; 50 visitor of total 200 respondents spent on Entry Fee; 102 visitors of total sample visitors spent on onsite; and 111 of total respondents spent on buying things for own and gifts for friends and family.

In case of accommodation, the minimum expenditure made was Rs.1000 and maximum expenditure made was Rs.66500 with the average expenditure of Rs.11550.72.

In case of food and drinks, the minimum expenditure made was Rs.50 and maximum expenditure made was Rs.20000 with the average expenditure of Rs.3076.48.

In case of entry fee, the minimum expenditure made was Rs.500 and maximum expenditure made was Rs.7500 with the average expenditure of Rs.1840.

In case of onsite expenses, the minimum expenditure made was Rs.30 and the maximum expenditure made was Rs.2000 with the average expenditure of Rs.542.5.

In case of expenditure made on buying things for yourself and gifts for friends and family, the minimum expenditure made was Rs.1000 and the maximum expenditure made was Rs.30000 with the average expenditure of Rs.2243.69.

4.1.23 Total Expenditure Made and Total Budget Separated by Visitors in BDS

The total expenditure made and total budget separated by visitors in BDS is very important factor to calculate the consumer's surplus of visitors in BDS. It is shown in Table 4.23 and Table 4.23.1:

Table 4.23: Total Expenditure Made and Total Budget Separated by Visitors in BDS

Place	Total Expenditure (in Rs)	Average Total Expenditure (in Rs.)	Total Budget (in Rs.)	Average Total Budget (in Rs.)
Bhaktapur	0-5520	913.6	0-8000	1167.4
Kathmandu, Patan and Banepa	150-60300	3963.7	300-70000	4909
Out of Kathmandu Valley	500-43050	14127	1000-50000	16540
International Area	17500-458000	106888	17500-500000	110444

Source: Author's Own Calculation

The Table 4.23 shows the total expenditure of visitors that includes-transportation cost, accommodation cost, food and drinks cost, entry fee, onsite expenses and expenses on buying things for own and gifts for friends and family; and total budget separated by visitors to spend during their visit in BDS and stay in Bhaktapur.

In case of visitors from Bhaktapur, the total expenditure range from Rs.0 to Rs.5520 with the average total expenditure of Rs.913.6. Similarly, local residents separate Rs.0 to Rs.8000 for visiting BDS with the average total budget of Rs.1167.4.

In case of Kathmandu, Patan and Banepa, the visitors spent from Rs.150 to Rs.60300 with the average total expenditure of Rs.3963.7. Likewise, the total budget separated for visit in Bhaktapur range from Rs.300 to Rs.70000 with the average total budget of Rs.4909.

In case of visitors from out of Kathmandu Valley, the total expenditure ranges from Rs.500 to Rs.43050 with the average total expenditure of Rs.14127. In the same manner, the total budget separated for visit in Bhaktapur range from Rs.1000 to Rs.50000 with the average total budget of Rs.16540.

In case of foreign visitors, the total expenditure range from Rs.17500 to Rs.458000 with the average total expenditure of Rs.106888. Similarly, the total budget separated for their visit in Bhaktapur range from Rs.17500 to Rs.500000 with the average total budget of Rs.110444.

The average total expenditure of visitors from all four places is lesser than the average total budget from all four places.

Table 4.23.1: Average Expenditure Made and Budget separated by Visitors in BDS

	N	Minimum	Maximum	Mean
Total expenditure in NPR	189	60.00	458000.00	33304.8413
Budget for travelling BDS	189	70.00	500000.00	35201.1640

Source: Author's Own Calculation

The Table 4.23.1 shows the average total expenditure and average total budget of total respondents. Out of 200 sample visitors, 189 visitors had spent during their visit in BDS whereas 11 visitors hadn't spent any amount and those 11 visitors in BDS are local respondents.

The minimum total expenditure is Rs.60 and maximum total expenditure is Rs.458000 with the total average expenditure of Rs.33304.84. Similarly, the minimum total budget is Rs.70 and the maximum total Budget is Rs.500000 with the average total budget of Rs.35201.16. The average total budget exceeds the average total expenditure by Rs.1896.32.

4.1.24 Hypothesis Testing between Entry Fee and Visitors in BDS

The hypothesis testing is implied in this study simply to know the relationship between entry fee and number of visitors' origin. The hypothesis of this study is:

- a. Null hypothesis (H_0):
There is no any significant relationship between entry fee and origin of visitors.
- b. Alternative Hypothesis (H_1):
There is significant relationship between entry fee and origin of visitors.

The results of hypothesis testing is shown in Table 4.24 and Table 4.24.1:

Table 4.24.: Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Number of Visitors * Entry fee in NPR	50	25.0%	150	75.0%	200	100.0%

Source: Author's Own Calculation

The Table 4.24 shows that out of 200 respondents, 50 visitors paid entry fee which is 25% of the total sample visitors and 150 visitors didn't pay entry fee which is 75% of the total sample visitors. Here, the 50 respondents who paid entry fee were foreign tourists and the 150 respondents who didn't pay were local residents and internal tourists.

Table 4.24.1: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	69.22^a	45	.012
Likelihood Ratio	31.35	45	.939
Linear-by-Linear Association	0.001	1	.977
N of Valid Cases	50		
a. 57 cells (95.0%) have expected count less than 5. The minimum expected count is .02.			

Source: Author's Own Calculation

The Table 4.24.1 shows the results of hypothesis testing using Chi-Square Statistics. The value of Chi-square is 69.223, degree of freedom is 45 and the p-value is 0.012. Here, since, the p-value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. That is there is significant relationship between entry fee and the number of visitors. Also, the note in Table 4.24.3 indicating the minimum expected count as 0.02 reveals that assumptions have been violated.

4.1.25 Willingness to Pay attitude of the Visitors in BDS for the improvement of BDS

The willingness to pay attitude of the visitors in BDS for the improvement of BDS is shown in Table 4.25:

Table 4.25: Willingness to Pay attitude of the Visitors in BDS for the improvement of BDS

			Place				Total
			Bhaktapur	Kathmandu, Patan and	out of Kathmandu valley	International area	
WTP for improvement of BDS	Yes	Count	46	35	23	22	126
		% of Total	23.0%	17.5%	11.5%	11.0%	63.0%
	No	Count	4	15	27	28	74
		% of Total	2.0%	7.5%	13.5%	14.0%	37.0%
Total		Count	50	50	50	50	200

Source: Author's Own Calculation

The Table 4.25 shows the willingness to pay (WTP) attitude of visitors in BDS for the improvement of the BDS. Out of total 200 respondents, 126 visitors were willing to contribute which is 63% of the total sample visitors and 74 visitors were not willing to contribute for the improvement of the BDS which is 37% of total sample visitors.

Within 126 visitors who were ready to contribute for the improvement of BDS, 46 visitors were from Bhaktapur; 35 visitors were from Kathmandu, Patan and Banepa; 23 visitors were from Out of Kathmandu Valley and 22 visitors were foreign visitors.

Out of 74 respondents who were not willing to pay for the improvement of the BDS, 4 visitors were from Bhaktapur; 15 visitors were from Kathmandu, Patan and Banepa; 27 visitors were from Out of Kathmandu Valley and 28 were international tourists.

This data shows that the local residents are highly interested to contribute for the improvement of BDS whereas the willingness to contribute for the improvement of BDS has gradually declined with the increase in distance between BDS and the visitor's place.

4.1.26 Amount of Willingness to Pay for the improvement of BDS

The amount of willingness to pay for the improvement of BDS is shown in Table 4.26 and Table 4.26.1:

Table 4.26: Amount of Willingness to Pay for the improvement of BDS

		Frequency	Percent	Valid Percent
Valid	500	64	32.0	50.80
	1000	23	11.5	18.30
	1500	8	4.0	6.30
	2000	12	6.0	9.50
	2500	13	6.5	10.30
	More than 2500	6	3.0	4.80
	Total	126	63.0	100.00
Missing	System	74	37.0	
Total		200	100.0	

Source: Author's Own Calculation

The Table 4.26 shows the amount of willingness to pay for the improvement of BDS under six headings- Rs.500, Rs.1000, Rs.1500, Rs.2000, and Rs.2500 and amount more than Rs.2500.

Out of 126 interested visitors to contribute for the development of BDS, 64 visitors were ready to pay Rs.500 which is 32% of the total respondents; 23 visitors were ready to pay Rs.1000 which is 11.5% of the total sample visitors; 8 visitors were willing to pay Rs.1500 which is 4% of the total respondents; 12 visitors were willing to pay Rs.2000 which is 6% of the total sample visitors; 13 visitors were willing to pay Rs.2500 which is 6.5% of the total sample visitors and 6 visitors were willing to contribute more than Rs.2500 which is 3% of the total respondents.

Table 4.26.1: Amount Specified More Than 2500

		Frequency	Percent	Valid Percent
Valid	5000.00	4	2.0	66.7
	10000.00	1	0.5	16.7
	20000.00	1	0.5	16.7
	Total	6	3.0	100.0
Missing	System	194	97.0	
Total		200	100.0	

Source: Author's Own Calculation

The Table 4.26.1 shows specified amount more than Rs.2500 that six visitors are willing to contribute for the improvement of the site. The amount ranges from Rs.5000 to Rs.20000. 4 visitors are willing to contribute Rs.5000 which is 2% of the total respondents; 1 visitor is willing to pay Rs.10000 which is 0.5% of the total sample visitors and 1 visitor is willing is to pay Rs.20000 which is 0.5% of the total respondents.

4.1.27 Intention of Visitors to Visit BDS in Future

The intention of visitors' future visit in BDS is shown in Table 4.27:

Table 4.27: Intention of Visitors to Visit BDS in Future

		Frequency	Percent
Valid	Yes	187	93.5
	No	13	6.5
	Total	200	100.0

Source: Author's Own Calculation

The Table 4.27 shows the intention of visitors to visit BDS in future. Out of 200 total respondents, 187 visitors wanted to visit BDS again which is 93.5% of the total sample Visitors and 13 visitors didn't want to visit the BDS in coming days which is 6.5% of the total sample visitors.

4.1.28 Recommend Others to Visit BDS

The recommendation of visitors to other people to visit BDS is shown in Table 4.28:

Table 4.28: Recommend Others to Visit BDS

		Frequency	Percent
Valid	Yes	200	100.0

Source: Author's Own Calculation

The Table 4.28 shows the recommendation of visitors in BDS to other to visit BDS or not. The Table 4.28 depicts that all of the 200 respondents or say 100% of the sample visitors would recommend others to visit BDS.

4.1.29 Comment of Visitors on Current State and Quality of BDS

The comment of visitors on current state and quality of BDS is shown in Table 4.29:

Table 4.29: Comment of Visitors on Current State and Quality of BDS

Comment		Frequency	Percent
	Excellent	3	1.5
	Good	99	49.5
	Poor	19	9.5
	Satisfactory	63	31.5
	Very Good	7	3.5
	Very Poor	9	4.5
	Total	200	100.0

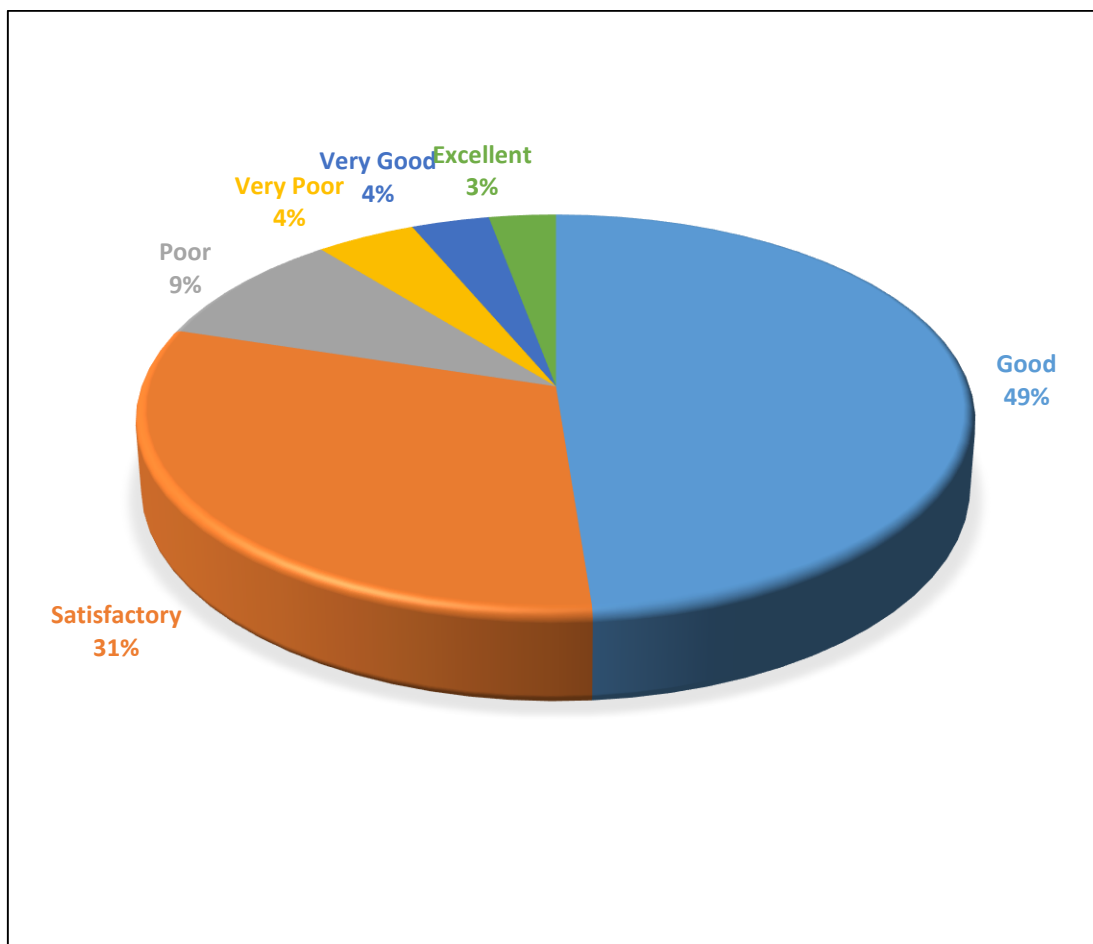
Source: Author's Own Calculation

The Table 4.29 shows the comment of visitors on current state and quality of Bhaktapur Durbar Square under six categories viz excellent, good, poor, satisfactory, very good and very poor. Majority of the visitors numbering 99 which is 49.5% of the total respondents commented current state and quality of BDS as Good whereas least of the tourists in BDS numbering 3 which is 1.5% of the total sample visitors commented on the current status of BDS as Excellent. Similarly, 63 visitors commented current status of BDS as Satisfactory which is 31.5% of the total respondents; 19 visitors commented current status of BDS as Poor which is 9.5% of total sample visitors; 9 visitors commented current status of BDS as Very Poor which is 4.5% of total respondents and

7 visitors commented current status of BDS as Very Good which is 3.5% of total sample visitors.

The comment on current status of BDS is shown in Figure 4.11:

Figure 4.10: Comment on Current State and Quality of BDS



Source: From Table 4.29

The Figure 4.10 shows the comment of visitors on current state and quality of BDS. Majority of the visitors commented on current status of BDS as Good and least of the visitors commented on current status of BDS as Excellent.

4.1.30 Visitors' View on Improvements to be done to make the BDS More Attractive

49 respondents out of total 200 respondents viewed that no any improvements are to be made in Bhaktapur Durbar Square for making it more attractive- its authentic traditional style make it attractive. However, 151 sample visitors expressed their opinion on

improving the status of BDS and making it more attractive. Some of very useful opinions on improvements are:

- i. Post-Earthquake reconstruction should be carried out very fast.
- ii. Accessibility of public latrines is must necessity.
- iii. The appropriate parking spot for vehicles should be made.
- iv. Concern should be given to ethnological values. Concerts, plays, music which reflect tradition and values of the ethnic Newar community can be one of the ways to make this particular UNESCO site more attractive.
- v. Visitors should be fined if they are found littering.
- vi. Beggars and pressurizing guides must be controlled.
- vii. Cleanliness should also be focused on roof of the temples as it is covered with grasses giving drastic look.
- viii. There should be provision of directional board, help desks and board maps for the convenient of tourists.
- ix. Internal tourists should also be charged minimal entry fee.
- x. BDS is lacking street lights- this place should be good lighting at night along with technology (ICT) friendly facilities.
- xi. Advertisement should be made for attracting tourists.
- xii. Locker facility should be managed.
- xiii. The more promotion of the site is much needed-none from our group including me had idea that BDS is one of the UNESCO World Heritage Sites.
- xiv. Clean drinking water must be made available
- xv. Highly qualified guides shall be facilitated on site in order to give correct detailed information about the BDS to tourists.
- xvi. Street dogs should be properly managed.
- xvii. Spitting haphazardly on the site must be strictly prohibited.

4.2 Estimation of the Economic Value of Bhaktapur Durbar Square Using Travel Cost Method

The second objective of this dissertation is to estimate the economic value of BDS using travel cost method. This part focuses on the Individual and Zonal Travel Cost Method, Consumer Surplus of visitors in the site and estimation of the visitors' demand function.

4.2.1 Valuation (Pricing) of BDS Using Zonal Travel Cost Analysis

In order to value the Bhaktapur Durbar Square, four zones or say places have been designated in this study. The four places are- Bhaktapur; Kathmandu, Patan and Banepa, Out of Kathmandu Valley and International Area. The visitors from Bhaktapur should cover the average travel time of 0.31 hrs to reach BDS and the average distance coverage of 1.91 km. Similarly, the visitors Kathmandu, Patan and Banepa should cover the average travel time of 1.02 hrs to reach BDS and the average distance coverage of 16.05 Km. Likewise, the visitors from Out of Kathmandu Valley should cover the average travel time of 11.72 hrs to reach BDS and the average distance coverage of 325.58 km. In the same manner, the foreign visitors should cover the average travel time of 20.38 hrs to reach BDS and the average distance of 6911.9 km.

The entry fee is charged only for the international tourists in BDS and internal tourists and local residents should not pay any charge to enter BDS. The entry fee for Chinese and Indian tourists is Rs.500 whereas the entry fee for rest of foreign citizen is Rs.1500. Thus, average entry fee is Rs.1460.

The number of total average arrival has been observed for each zone. Visitors from Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International Area has arrived BDS 8240.3 times; 47.7 times; 3.5 times and 1.62 times respectively in average.

These data are presented in Table 4.30 and Table 4.30.1:

Table 4.30: Place-Wise Average Details

Place	Travel Time (in hrs.)	Distance Covered (in km)	Entry Fee (in Rs.)	No. of Trips
Bhaktapur	0.31	1.91	0.00	8240.30
Kathmandu, Patan and Banepa	1.02	16.05	0.00	47.70
Out of Kathmandu Valley	11.72	325.58	0.00	3.50
International Area	20.38	6911.90	1460.00	1.62

Source: Author's Own Calculation

To calculate the value of the BDS (V) for a single visit, the simple formulae is used:

$$V = [(T \times y) + (D \times c) + Ea] \times Ta$$

Where,

V= Value of the BDS

T= Time taken in hrs. to reach BDS

y= Average income of total respondents per hour

D= Distance covered in Km

c= Marginal Transportation Cost

Ea= Average entry fee

Ta= Average total arrival in BDS (Delware, 2013)

In order the value the BDS, it is important to provide the accurate measure for the average monthly income of the visitors and the marginal transportation cost. The average hourly income of the visitors in BDS is Rs.40.90 and the marginal transportation cost for travelling BDS is Rs.11. Now, the value of the BDS for each zone to get the overall value of the BDS can be computed.

Table 4.30.1: Calculation of the Value of the BDS

Place	Travel Time (in hrs.)	Distance Covered (in km)	Entry Fee (in Rs.)	No. of Trips	Value of BDS (in Rs.)
Bhaktapur	0.31	1.91	0.00	8240.30	277607.47
Kathmandu, Patan and Banepa	1.02	16.05	0.00	47.70	10411.38
Out of Kathmandu Valley	11.72	325.58	0.00	3.50	14212.55
International Area	20.38	6911.90	1460.00	1.62	126885.60
Total Value of BDS					429117.00

Source: Author's Own Calculation

The Table 4.30.1 shows the value of BDS as per the place and in total. In Bhaktapur, the value of BDS is Rs.277607.47; the value of BDS in Kathmandu, Patan and Banepa is Rs.10411; the value of BDS in Out of Kathmandu Valley is Rs.14212.55 and the value of BDS in foreign nation is Rs.126885.60. And the total value of BDS in all four places is worth to Rs.429117.

4.2.2 Consumer Surplus of Bhaktapur Durbar Square in Single Visit per Visitor

Consumer Surplus (CS) is the difference between the total travel costs or expenses incurred by a visitor to a recreational site and the maximum amount he or she would be willing to spend in order to visit the site in case of Travel Cost Analysis. In this dissertation, the total budget separated for spending in BDS can be taken as the willingness to spend in this site and the total expenditure can be taken as the total travel cost. The value of CS is very important in travel cost analysis to value the recreational aspects of the site. The more the CS, the better the recreational status of the site and vice-versa. Symbolically,

$$CS = \text{Total Budget} - \text{Total Expenditure}$$

Table 4.31: Consumer Surplus of BDS in Single Trip Per Visitor on the basis of Place

Place	Average Expenditure (in Rs.)	Average Budget (in Rs.)	Consumer Surplus (In Rs.)
Bhaktapur	913.60	1167.40	253.80
Kathmandu, Patan and Banepa	3963.70	4909.00	945.30
Out of Kathmandu Valley	14127.00	16540.00	2413.00
International Area	106888.00	110444.00	3556.00

Source: Author's Own Calculation

The Table 4.31 shows the Consumer Surplus of BDS per trip per visitor according to their origin viz Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International Area.

In case of Bhaktapur, the total expenditure made in average was Rs.913.6 and the average total budget separated to spend in BDS was Rs.1167.4 which gives the Consumer Surplus of Rs.253.8. Similarly, in case of Kathmandu, Patan and Banepa, the total expenditure made in average was Rs.3963.7 and the average total budget separated to spend in BDS was Rs.4909 which gives the Consumer Surplus amounted to Rs.945.3. In the same manner, in case of Out of Kathmandu Valley, the total expenditure made was Rs.14127 and the average total budget separated to spend in BDS was Rs.16540 which gives the Consumer Surplus amounted to Rs.2413. Likewise, in case of International area, the total expenditure made in average was Rs.106888 and the average total budget separated to spend in BDS was Rs.110444 which gives the Consumer Surplus amounted to Rs.3556.

The visitors from all four places seemed satisfied with the recreational aspect of the BDS as all of the CS results in positive. In general, the attitude of visitors towards BDS is positive and fine and they can save some amount of expected budget. But positive

CS also denotes that there are far more paths to improve and increase the spending activities in BDS. The increase in expenditure activities will increase the number of high-spending tourists in BDS.

Table 4.31.1: Consumer Surplus of BDS in Single Trip Per Visitor in Total

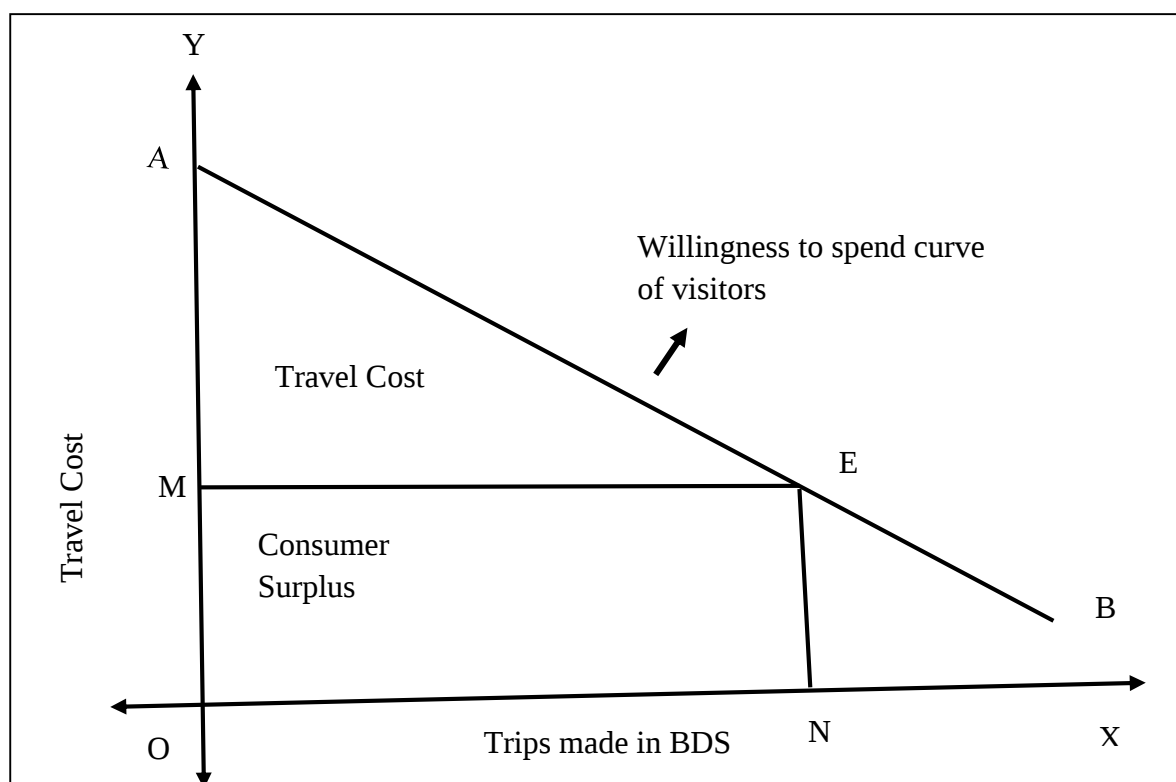
	Mean
Total expenditure in NPR	Rs. 33304.84
Budget for travelling BDS	Rs. 35201.16
Consumer surplus in total per trip per visitor	Rs. 1896.32

Source: Author's Own Calculation

The Table 4.31.1 shows the Consumer Surplus of total 200 respondents from all four places during their one time visit in Bhaktapur Durbar Square. The total average expenditure made by all 200 sample visitors was Rs.33304.84 and the total average budget separated by all 200 respondents was Rs.35201.16 which results in Consumer Surplus amounted to Rs.1896.32.

The consumer surplus is presented in Figure 4.12:

Figure 4.11: Consumer Surplus of Visitors in BDS



Source: From Table 4.16, Table 4.16.1, Table 4.31 and Table 4.31.1

The Figure 4.11 shows the consumer surplus of visitors in BDS. OM is the average travel cost amounted to Rs.33304 which is represented by area MONE and ON is the average visitation rate of the visitors which is 2073.28 times. AB is the willingness to spend curve of visitors which is degrading with the increasing visitation rate or trips. Similarly, the willingness to spend amounts to Rs.35201 which is represented by area AONE. Consumer Surplus is derived by deducting total willingness to spend or say budget from total travel cost which is amounted to Rs.1896.32 (Rs.35210-Rs.33304) represented by area AME (AONE-MONE).

4.2.3 Estimation of Recreational Demand Function of Visitors in BDS

Multiple regression analysis should be applied to estimate the recreational demand function of visitors in Bhaktapur Durbar Square. The recreational demand function of visitors in BDS is expressed as:

$$V_{ij} = \beta_0 + \beta_1 C_{ij} + \beta_2 A_i + \beta_3 G_i + \beta_4 T_{ij} + \beta_5 E_i + \beta_6 D_j + \beta_7 Y_i + e_i$$

Where,

V_{ij} = Total trips made by individual i to BDS (Explained or dependent or outcome variable)

C_{ij} = Total travel cost made by individual i in BDS (in Rs.)

A_i = Age group of the respondents

G_i =Gender of the respondents

T_{ij} = Time taken by respondent to reach BDS from their origin (in Hrs.)

E_i = Level of Education of respondent

D_j = Distance covered from origin of respondent to BDS (in Km)

Y_i = Income of the visitors

β_0 to β_7 = Parameter Vectors to be estimated

e_i = Error term

In the multiple linear regression equation, number of trips made to BDS is the explained variables and there are seven independent or say exploratory variables viz total travel cost including transportation cost, entry fee, accommodation cost, food and drinks expenses, onsite expenses and expenditure on buying things for own and gifts for friends and family; age of the visitors; income of the visitor; gender of the respondents, distance covered from origin of visitors to BDS; time taken to reach BDS from the origin of respondents; and qualification of visitors.

Table 4.32: Descriptive analysis of Sample Visitors

	Mean	Std. Deviation	N
Number of arrival to BDS	1578.60	3933.29	189
Sex	1.53	0.50	189
Age	2.50	0.94	189
Qualification	3.24	0.69	189
Income monthly in NPR	2.43	1.85	189
Distance covered in km	1919.41	3362.06	189
Time in hour	8.83	9.71	189
Total expenditure in NPR	33304.84	61160.46	189

Source: Author's Own Calculation

The Table 4.32 shows the descriptive analysis of the sample respondents. Out of 200 sample visitors, the calculation shows 189 sample visitors. Remaining 11 respondents might have certain errors to be excluded.

Table 4.32.1: Estimated Results of Regression Equation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.402 ^a	0.161	0.129	3670.88	0.161	4.98	7.00	181.00	0.000
a. Predictors: (Constant), Total expenditure in NPR, Sex, Age, Qualification, Income monthly in NPR, Time in hour, Distance covered in km									

Source: Author's Own Calculation

The Table 4.32.1 shows the estimated results of regression equation. Similarly, the value of regression is 0.402. The important portion of Table 4.29.1 is R^2 and adjusted R^2 . The value of R^2 is 0.161 which denotes that 16.1% of the total variation in visitation rate is explained by the regression line and rest is due to error. Thus, the goodness of fit of regression line is not that better. The adjusted R^2 is 0.129 which shows that 12.9% of the total variation in visitation rate is explained by regression line. Likewise, the S.E. of the regression line is 3670.875 which is very greater in number depicting the greater level of dispersion in the regression line.

Table 4.32.2: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	469474344.200	7	67067763.460	4.977	0.000 ^b
	Residual	2439033117.000	181	13475321.090		
	Total	2908507461.000	188			
a. Dependent Variable: Number of arrival to BDS						
b. Predictors: (Constant), Total expenditure in NPR, Sex, Age, Qualification, Income monthly in NPR, Time in hour, Distance covered in km						

Source: Author's Own Calculation

The Table 4.32.2 is the computation of ANOVA table. The result of the ANOVA table is:

$$F(3,26) = 8.51 \text{ and } p\text{-value} < 0.001$$

Since p-value is less than 0.05, the regression line (demand function) is statistically significant.

Table 4.32.3: Relationship between Visitation rate and other independent Variables (Standardized Coefficients and p-Value)

Model		B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
							Lower Bound	Upper Bound
	(Constant)	1222.40	1751.31		0.70	0.49	-2233.22	4678.02
	Sex	61.81	559.67	0.008	0.11	0.91	-1042.51	1166.13
	Age	789.44	318.56	0.189	2.48	0.01	160.87	1418.01
	Qualification	-118.08	416.69	-0.02	-0.28	0.78	-940.27	704.11
	Income monthly in NPR	28.58	211.64	0.01	0.14	0.89	-389.02	446.18
	Distance covered in km	0.09	0.17	0.08	0.54	0.59	-0.24	0.418
	Time in hour	-176.24	41.13	-0.44	-4.29	0.00	-257.41	-95.08
	Total expenditure in NPR	0.00	0.01	-0.01	-0.06	0.95	-0.02	0.01
a. Dependent Variable: Number of arrival to BDS								

Source: Author's Own Calculation

The Table 4.32.3 shows the standardized and unstandardized coefficients, p-value of each variables and significant level. The significant value of each variable is set up under 0.5%. Similarly, the p-value of age and time is less than 0.05 so there is significant relationship between Visitation rate and age and time. However, the p-value of the variables-gender, qualification, income, distance covered and total travel cost is greater than 0.05 implying that there is no significant relationship between visitation rate and gender, qualification, income, distance covered and total travel cost.

The coefficient of the gender and level of education doesn't have the expected sign. The standardized coefficient of gender and level of education is 0.01 and -0.02 respectively. The visitation rate is positively related with gender and negatively related with level of education. An increase in the level of education by one step would decrease the rate of visitation to the BDS by 0.02 times.

The standardized coefficient of age group is 0.19. Age group is positively related to the visitation of BDS. If the age of the visitor increases by 1 year, then the rate of visit of the BDS would raise by 0.19 times.

The standardized coefficient of income is 0.13. This implies that there is positive relationship between visitation rate and income of the visitors. When the income of the visitor increases by Rs.1 the visitation rate would go up by 0.13 times.

The standardized coefficient of distance covered is 0.76 showing the positive relationship between visitation rate and distance covered. An increase in the distance between visitor's origin and BDS by 1 km would increase the visitation by 0.76 times.

The standardized coefficient of total travel cost is -0.01. The negative sign of the coefficient of the travel cost implies that the higher the price paid by visitors to reach the BDS, the lesser would be their frequency of visit. A unit increase in travel cost to the BDS would decrease the visitation rate by 0.01times.

The standardized coefficient of the time taken to reach BDS is -0.44 which depicts the negative relationship between visitation rate and time taken. When the time taken to reach BDS increases by 1 hour, the visitation rate would be reduced by 0.44 times.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This is the final chapter of the dissertation that deals with the overall results and findings of the survey and analysis of the results with appropriate solution to the existing hurdles.

5.1 Summary of the Major Findings

Bhaktapur Durbar Square (BDS), one of the world heritage sites is located in Bhaktapur district. Heritage and culture possess public good-type characteristics and are two important components of the leisure sector. This leads to the question of how such non-market goods may be valued. This dissertation focused on using the travel cost (as non-market valuation technique) to value BDS where little works of this kind had been conducted before.

Given the nature of the work, onsite survey was inevitable. The questionnaire used for the onsite survey was designed to capture socio-economic variables about visitors (age, gender, monthly income, level of education, employment status, gender, and nationality); travel cost component variables (total travel cost, travel time, entry fee, onsite expenses, number of trips, onsite expenses, substitute sites) and the willingness to pay aptitude of visitors for improvement of BDS.

The collected 200 samples was modelled with multiple linear regression model to estimate the recreational demand function of the visitors; Zonal travel cost method to value the BDS; Individual travel cost method to analyze demographic and socio-economic characteristics of visitors in BDS and consumer surplus to value the importance of the site.

The major findings of the study are pricing or valuation of the BDS and Consumer Surplus per trip per visitor. The local residents (Visitors from Bhaktapur) valued the BDS amounted to Rs.277607.47; the visitors from Kathmandu, Patan and Banepa valued the BDS amounted to Rs.10411.38; the visitors from Out of Kathmandu Valley valued the BDS amounted to Rs.14212.55 and the international tourists valued the BDS amounted to Rs.126885. The aggregate pricing of the BDS by all 200 sample visitors

is Rs.429117. Similarly, the Consumer surplus per trip per visitor in Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International area is Rs.253.80, Rs.945.30, 2413 and 3556 respectively. The total average Consumer Surplus per trip per visitor is Rs.1896.32. Likewise, the recreational demand function or say multiple linear regression line shows that there is positive relationship of visitation rate with age, gender, income and distance whereas visitation rate is negatively linked with total travel cost, qualification and time-taken.

5.2 Conclusion

This study focuses on socio-economic and demographic characteristics of the visitors in BDS along with estimating the recreational demand function of visitors in BDS using travel cost method. Both individual and zonal travel cost method have been used in this study with more emphasis on individual travel cost method.

Total 200 sample respondents were categorized on the basis of their origin viz local residents (visitors from Bhaktapur); internal tourists (Visitors from Kathmandu, Banepa and Patan; and Visitors from Out of Kathmandu Valley) and foreign visitors. 50 visitors were from Bhaktapur; 50 visitors were from Kathmandu, Patan and Banepa; 50 visitors were from Out of Kathmandu Valley and 50 visitors were from foreign nations. Stratification of respondents was done due to the heterogeneity in the main data set. SPSS was used as the main statistical software to estimate and compute the required information and data. The collected 200 samples were modelled with multiple linear regression model to estimate the recreational demand function of the visitors; Zonal travel cost method to value the BDS; Individual travel cost method to analyze demographic and socio-economic characteristics of visitors in BDS and consumer surplus to value the importance of the site.

As per the survey of 200 respondents, 50.5% of visitors were female and 49.5% of visitors were male. The visitation rate of the people aged from 20 years to 30 years was maximum which is 62% of the total sample respondents and the visitation rate of people above 60 years was the least covering merely 1.5% of the total population. And most of the visitor in BDS were Hindu covering 63% of total respondents and remaining 37% were Buddhist, Muslim, Christian, Atheist and Others. Majority of the visitors in BDS had completed their Bachelor's Degree which is 54% of the total sample respondents.

The visitors completing their Master's Degree, intermediate level and SLC or equivalent level was 35.5%, 7% and 3.5% respectively. This shows that the visitors who are more qualified travel BDS usually compared to least qualified visitors. In the same manner, the visitors earning the monthly income of Rs.0 to Rs.25000 visited more in BDS comprising 46% of the total sample visitors comparing to the other income groups. The visitor earning Rs.25000 to Rs.50000; Rs.50000 to Rs.75000; Rs.75000 to Rs.125000 and above 125000 were 22.5%, 9%, 2.5%, 5% and 14.5% respectively. The visitors in BDS are mostly from the middle earning section of the society.

The distance covered from origin of visitors to reach BDS ranged from 0 km to 14237 Km with the average distance coverage of 1813.86 in total. In average, the visitors from Bhaktapur traveled 1.91 Km to reach BDS; the visitors from Kathmandu, Patan and Banepa traveled 16.05 Km to reach BDS; the visitors from out of Kathmandu Valley traveled 325.58 Km to reach BDS and the international tourists traveled 6911.9 Km to reach BDS. Similarly, average time taken to reach BDS for the visitors from Bhaktapur was 0.31 hrs.; Kathmanudu, Patan and Banepa was 1.02 hrs.; Out of Kathmandu Valley was 11.72 hrs.; and International Area was 20.38 hrs. And in total the average time taken for all 200 sample visitors to reach BDS was 8.38 hrs. Likewise, the average trips made till date in BDS by visitors from Bhaktapur; Kathmanudu, Patan and Banepa; Out of Kathmandu Valley and International area was 8240.3 times, 47.7 times, 3.5 times and 1.62 times respectively with the average visitation rate of 2073.28 times. In the same manner, average transportation cost incurred during visit in BDS was Rs.38185.69 in average and the visitors from Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International area incurred the average transportation cost amounted to Rs.5.2; Rs.26.4; Rs.3361.4 and Rs.91720 respectively. Similarly, the total travel cost made by local residents were Rs.913.6 in average; the visitors from Kathmandu, Banepa and Patan spent Rs.3963.7 in average; the visitors form Out of Kathmandu Valley spent Rs.14127 in average; and the international tourists spent Rs.106888 in average during their visitation in Bhaktapur. The total average travel cost made by all of 200 respondents was Rs.33304.84. Prior to these data, it can be said that with the increase in distance coverage from the visitors to reach BDS, the time taken to visit BDS also increases with the rise in transportation cost and total travel cost but the number of trips or say visitation rate of visitors keep on falling gradually.

The local residents and internal tourists should not pay entry fee to visit Bhaktapur. Whereas, international tourists paid certain amount as entry fee to visit BDS. The Indian and Chinese were charged Rs.500 and the visitors from rest of the world paid Rs.1500 as entry fee to visit BDS. When 200 respondents were asked on if they were willing to pay for the improvement of status of BDS, 63% of total respondents reacted positively and 37% of total sample visitors reacted negatively.

The local residents (Visitors from Bhaktapur) valued the BDS amounted to Rs.277607.47; the visitors from Kathmandu, Patan and Banepa valued the BDS amounted to Rs.10411.38; the visitors from Out of Kathmandu Valley valued the BDS amounted to Rs.14212.55 and the international tourists valued the BDS amounted to Rs.126885. The aggregate pricing of the BDS by all 200 sample visitors is Rs.429117. This data shows that the local residents of Bhaktapur valued the BDS more than visitors from any other places and International tourists seemed to value BDS more compared to internal tourists.

The Consumer surplus (CS) per trip per visitor in Bhaktapur; Kathmandu, Patan and Banepa; Out of Kathmandu Valley and International area is Rs.253.80, Rs.945.30, 2413 and 3556 respectively. The total average Consumer Surplus per trip per visitor is Rs.1896.32. The CS of visitors from all four places are positive and CS is increasing with the rise in distance of visitor's origin to reach BDS. This shows the positive attitude of every visitors towards BDS.

The recreational demand function or say multiple linear regression line shows that there is positive relationship of visitation rate with age, gender, income and distance whereas visitation rate is negatively linked with total travel cost, qualification and time-taken.

5.3 Recommendations

On the basis of the findings and information collected out of the onsite survey of 200 respondents, the following recommendation can be made:

- i. Majority of the international tourists had no any idea that BDS is enlisted as one the world heritage sites. So the promotion of BDS as world heritage site in much broader frame must be done by municipal authorities with the support of local residents in order to attract much more international tourists. It will not only

promote the value of BDS but will also increase the income of Bhaktapur Municipality in terms of entry fee.

- ii. Municipal authorities must improve the quality and facilities provided in BDS in varied ways to minimize the consumer surplus of the visitors. Prior to the some informative recommendations made by visitors in BDS, there should be provision of clean public toilets, pure drinking water, directional board and board maps of all three historical parts of BDS, proper parking facility, well-educated guides with omission of irritating guides for international visitors and cleanliness of the roof of each temples along with control of beggars and street dogs in and around the site. Similarly, there should be strict prohibition in spitting in and around the site and all those visitors who are found littering must be fined. These improvements would surely attract more tourists in coming days.
- iii. The findings of this study could be recommended to the Ministry of Tourism in Bhaktapur. They could use the collected data and estimated data of this work to strengthen the information they provide in Travel Guide and making analysis in their upcoming articles.

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APPENDICES

Table 1: Tourist Record

Month	013/14	014/15	015/16	016/17
Jul/Aug	21953	23201	2970	11777
Aug/Sep	17268	17648	3586	11032
Sep/Oct	32798	31389	7531	16905
Oct/Nov	37171	39055	9268	21466
Nov/Dec	24158	24293	6502	15307
Dec/Jan	19058	19396	5995	11405
Jan/Feb	18925	16540	6195	12516
Feb/Mar	22678	28495	8496	15401
Mar/Apr	25939	30052	12765	20489
Apr/May	28567	12546	13420	19824
May/Jun	24251	20	10369	14477
Jun/Jul	18125	18125	68139	10751
TOTAL	290891	244144	95036	181350

Source: Tourist Service Center, Bhaktapur.

**Table 2: Distribution of household and population by sex in
Bhaktapur District**

District/type of local level	Household	Population		
		Total	Male	Female
Bhaktapur				
Total	68,386	304,651	154,884	149,767
Municipality	68,557	298,704	149,695	149,009
Institutional	79	5,947	5,186	7548

Source: Central Bureau of Statistics (CBS), 2017

**Table 3: Distribution of Household and Population by Ward-level in
Bhaktapur District**

Table 3.1: Bhaktapur Municipality

Ward No.	Household	Population		
		Total	Male	Female
1	2,342	9,901	5,051	4,850
2	2,273	10,503	5,271	5,282
3	1,210	5,909	2,918	2,991
4	1,715	8,248	4,114	4,134
5	1,249	6,425	3,161	3,264
6	1,529	7,212	3,684	3,578
7	1,564	7,563	3,790	3,773
8	1,456	6,694	3,440	3,254
9	1,669	8,232	4,077	4,155
10	2,632	11,011	5,625	5,386
TOTAL	17,639	81,748	41,081	40,667

Source: Central Bureau of Statistics (CBS), 2017

Table 3.2: Suryavinayak Municipality

Ward No.	Household	Population		
		Total	Male	Female
1	1,482	6,851	3,330	3,521
2	2,407	9,497	4,790	4,707
3	1,592	6,384	3,187	3,197
4	2,239	9,568	4,836	4,732
5	2,441	10,560	5,278	5,282
6	2,251	8,937	4,420	4,517
7	1,257	5,689	2,735	2,954
8	2,278	9,876	4,862	5,014
9	1,225	5,509	2,703	2,806
10	1,274	5,619	2,758	2,861
TOTAL	18,446	78,490	38,899	39,591

Source: Central Bureau of Statistics (CBS), 2011

Table 3.3: Madhyapur Thimi Municipality

Ward no.	Household	Population		
		Total	Male	Female
1	3,670	14,260	7,421	6,839
2	2,666	9,880	5,209	4,671
3	4,889	18,336	9,445	8,891
4	1,922	8,567	4,340	4,227
5	1,417	6,540	3,268	3,272
6	1,671	7,223	3,635	3,588
7	1,579	6,783	3,440	3,343
8	1,099	5,083	2,634	2,449
9	1,389	6,364	3,331	3,033
TOTAL	20,302	83,036	42,723	40,313

Source: Central Bureau of Statistics (CBS), 2017

Table 3.4: ChanguNarayan Municipality

Ward no.	Household	Population		
		Total	Male	Female
1	1,393	5,830	2,983	2,847
2	1,019	4,631	2,338	2,293
3	1,631	7,721	3,908	3,813
4	1,374	6,211	2,985	3,226
5	1,817	8,129	3,851	4,278
6	973	4,571	2,198	2,373
7	1,137	5,385	2,609	2,776
8	1,562	7,254	3,397	3,857
9	1,264	5,698	2,723	2,975
TOTAL	12,170	55,430	26,992	28,438

Source: Central Bureau of Statistics (CBS), 2017

Figure 1: Map of Bhaktapur District



Source: Bhaktapur Municipality

Figure 2: Bhaktapur Durbar Square



Source: Website

Questionnaire

Survey on Bhaktapur Durbar Square

Dear Sir or Madam,

I am a final semester student of the master programme in Economics at the **Central Department of Economics**, Kirtipur, undertaking research on the topic **“Economic Valuation Of the World Heritage Site: Travel Cost Analysis of Bhaktapur Durbar Square.”** Your answers are intended to guide the researcher to estimate the recreational value of the Bhaktapur Durbar Square as well as the willingness to pay (WTP), in the form of access or entrance fee of visitors towards a ‘better’ preservation world heritage site. I therefore urge you to be as sincere as possible in answering the questions. The answers are strictly for academic use and therefore, the confidentiality of your answers is highly guaranteed. Thanks for your understanding and cooperation. (Monetary figures in this questionnaire refer to the Nepalese currency figures. If you are not familiar with the Nepalese currency, then state the figure in your own currency making sure to include the name of the currency).

Part I: Personal Information

For the following questions, tick the appropriate option and where necessary, write out the response:

Name				
Sex	Male ☐	Female ☐	Age	years
Level of education	upto SLC and equivalent ☐	intermediate, +2 and equivalent ☐	Diploma and equivalent ☐	Masters and above ☐
Occupation			Income	
Contact	Address	Country		
		District/State		
		VDC ☐	Municipality ☐	
	Tel/Mobile		Email	
Religion				

Part II: Travel Cost Information

For questions with options, tick the option that best suits you and for questions without options, write out the best possible answer.

1) What is the distance covered from city of departure from which you made the trip to Bhaktapur Durbar Square?

2) a. Which means of transport did you use to come to Bhaktapur?

☐ Public transportation ☐ Private (own vehicle) transportation ☐ other (Please specify)

_____ b. How much did you pay if you use public transportation? _____

c. How long did it take you to reach Bhaktapur Durbar Square? _____

3) a. Are you visiting Bhaktapur as a group or family?

☐ Yes ☐ No

b. Are there any persons (dependents) travelling with you whom you will cover their expenses?

☐ Yes ☐ No.

c. If yes, please state the number of persons _____

Questions 4 and 5 are meant for external tourists and visitors from abroad only.

4) Which airliners or bus Company did you use to travel to Nepal? _____

5) In Nepal, which place was your destination?

6) Is Bhaktapur your only destination in Nepal?

☐ Yes ☐ No

If No, please state other destinations. For tourists, state other touristic destinations you will visit or have visited in Nepal as a whole.

7) How important is this visit to the Bhaktapur Durbar Square to you compared with other things you have to do in Nepal?

☐ Not that important ☐ somewhat important ☐ Important ☐ Very important ☐ Most important

8) a. How long will you be staying in Bhaktapur just for recreational purpose?

Please specify_____

b. If you are spending more than a day, where will you be staying?

☐ Hotel ☐ Rented room or apartment ☐ others (Please specify)

c. If you are or will be staying in a hotel, Inn or Motel, state the name of the place

9) How many trips have you made to Bhaktapur Durbar Square, UNESCO Heritage Site?_____

10) How do you intend to spend your time at the Bhaktapur Durbar Square?

☐ Museum ☐ Visit inside Golden Gate ☐ Photography ☐ Research

☐ sight-seeing ☐ others (specify) _____

11) What are your other expenses (including those of your dependents e.g. children) during your stay in Bhaktapur? State the amount corresponding to each item and leave the space blank if the item does not apply to you.

Accommodation_____

Food _____ and
drinks_____

Entry fee_____

On site expenses_____

Expenditure on buying things around the premise for yourself and gifts for your friends and family_____

Total	Expenditure	including	transportation	cost

Alternatively, state the fixed expected budget amount_____

III: Willingness to Pay Information

12) a. There are concerns about the quality and preservation of the site; will you be willing to pay towards the improvement of the site quality and maintainence?

☐ Yes ☐ No

(b) If yes, how much will you be willing to pay for the above improvement and development?

☐ 500 ☐ 1,000 ☐ 1,500 ☐ 2,000 ☐ 2,500 ☐ More than 2500 (specify please)

13) If you had to comment on the quality and state of the Bhaktapur Durbar Square, what will that comment be? (Please use just one or two words such as good, very poor, satisfactory etc)_____

14) In your opinion, what improvements need to be done to make the UNESCO site more attractive?

Be clear and concise please

15) Do you have any intentions to visit the Bhaktapur Durbar Square sometime in future?

☐ Yes ☐ No

16) Will you recommend a friend, loved one or relative to visit the Bhaktapur Durbar Square?

☐ Yes ☐ No

Thank you once more for your patience and cooperation. Have a good time at the Bhaktapur Durbar Square!