

## CHAPTER I

### INTRODUCTION

#### 1.1 Background

Few places on the earth can match the majestic and breathtaking splendor of Himalaya. The towering peaks and secluded valley of the miles long mountain range are also to an astonishing wealth of bio-diversity. Today there is critical need among the countries of the region to address the alarming trends of biodiversity lost and resources degradation which are resulting from a wide range of causes including population growth and rapid economic development (Nay, 1998:Pp-269 ).

Pokhara is facing an acute pressure of population growth, flow of tourists, establishment of tourism related industries and government land being occupied by squatters. This has been further aggravated by insufficient and deteriorating infrastructure facilities, which could not pace with the growth of the residents and visitor population. Poor and traditional sanitation methods, where they exist, have not kept up with urban growth or increasing levels of water usage. As a result, increasing volume of water is carrying raw sewage and garbage to the Fewa Lake directly or through natural streams (now converted to urban drains). Many activities are contributing nutrients to the Lake so that algal growth, water hyacinth growth, etc. give the Lake a greenish cast. The uncontrolled and unmanaged urban sprawl, particularly, at Lakeside has been further giving pressure to the Lake through encroachment, direct disposal of solid/liquid waste to the Lake and contributing towards crowding , congestion, noise and vista obstruction causing severe environmental degradation. In parallel to these, the stream, rivers and springs have been carrying tons of sediment from their eroded and fragile watershed to the Lake resulting in the continued shrinkage from about 10 square km of the Lake surface area (in 1956/57) to 5.5 square km in 1976, and 4.4 square km in 1998.The process of siltation of the Lake is still continuing, with additional erosion initiated by

construction work at the immediate vicinity of the Lake, such as construction of Baidam- Pame road, construction of hotels on hill slopes at west bank of the Lake and direct discharge of highly silted water from *Seti* irrigation system canal to the Lake (JICA/SILT, 2001: Pp-1).

It is mainly because of the panoramic view of mountains that Pokhara attract such a large number of tourists, although the Fewa Lake remains a major attraction . Indeed, Fewa Lake which has given Pokhara its identity as '*City of Lakes*' has its own history. Pokhara valley has seven lakes, but Begnas and Fewa are the largest and best known. It has a little facility of the water transport not from the river but from Fewa (Adhikari, and Seddon, 2002: Pp- 209). Before the construction of the Baidam- Pame unmetalled motorable road; boats were used to transport goods. Even at present some people use boats for this purpose. The Lake is being used for entertainment by tourists together and local people use boats for carrying goods as well (Lammichane, 2000: Pp- 110).

Human being so called the most superior of all living beings have been making their living more comfortable and easier by using various environmental aspects. They have used their most developed and advanced brain to achieve this end. But unfortunately, in their efforts to create comforts, they have parallelly created several problems which have been imposing great threats to the world's ecosystems and environment. Ruin and over exploitation of the world's natural resources is one such problematic creation of man. Environmental pollution is a live example of over use and over exploitation of various natural resources. This has caused havoc in many parts of the world whether they are developed or underdeveloped. In the past two decades understanding local communities' perception, attitudes, needs and aspirations has been the subject of increasing attention by conservation agencies and the adaptation to the environment for the survival. A series of people oriented management approaches such as community based management and integrated conservation development projects have emerged as an expression of the new

paradigm of conservation and are believed to be the best approaches for resolving the local peoples' involvement in the conservation, particularly in developing countries (Mehta, and Kellert, 1998: Pp-205).

## **1.2 Statement of the Problem.**

Various studies have suggested that the socio-economic characteristics of the population, especially level of education and affluence can determine local responses to the conservation of specific area. Further they propose that affluence is believed to be a good indicator of peoples' conservation, which the poor, who are dependent on natural resources, would lack (Infield, 1998: 217).The assumption that when people are highly educated and are more wealthy, they tend to have a more positive or cooperative attitude towards conservation.

Though various agencies and the scholars had carried out different works about the conservational activities of different places. But still they were unable to include the local people and the attitude for the conservation. So this will be an attempt by the researcher to find out all those possible unanswered questions in relation to the possible efforts of the local people in the field of conservation. For this, the researcher had designed and developed certain research questions which are listed below:-

- J What are the major sources of income of the locals?
- J How much do the people near Fewa Lake concern towards the biodegradable and non-biodegradable solid waste?
- J Which method do the people had adopted for the solid waste management?
- J What is the perception about the conservation among the stakeholders of Fewa resources?
- J What type of conservational attitude is common among the people?
- J What are the factors influencing about the nature of conservation?
- J What is the idea of conservation among the intellectuals and illiterates?

- ) Does the level of education makes any differences in the attitudes towards the pollution?
- ) What are the resources provided by the Fewa Lake?

### **1.3 Objectives of the Study**

The general objective of the study is to analyze the conservational attitude of the people living near Fewa Lake, whereas the research plans to meet the certain specific objectives which are listed below:

1. To analyze the socio-economic status of the local people in the study area.
2. To prepare the resource profile of Fewa Lake.
3. To study the peoples' perception about the pollution of Fewa Lake.
4. To find out the local participation in conservation of Fewa Lake.

### **1.4 Definition of the Terms**

The words which are used and had given the meaning for the terms needed for the research in local use:

**Perception:** View of the local people

**Local people:** Inhabitants living in the periphery of 200 meter to Fewa Lake towards east and north east (densely populated)

**Conservation:** The ideas, knowledge and the method used or proposed by the people for the protection of Fewa Lake being polluted

### **1.5 Limitation of the Study**

Basically, this study is an academic study and is carried out with in the limited time, budget and other resources. Though the study is about the perception of local people but focuses mainly to the locals who are within the periphery of 200m East to North East and have direct link towards the matter of conservation. Though the research is based on fully descriptive and explorative, it does not study about the gender related aspect, neither does see the others' view towards conservation. But it reflects the view towards conservation of

certain selected areas of Lakeside, Pokhara. Thus the findings and conclusions drawn from this study may not be widely generalized exactly in the same manner for other individuals' view. Obviously, some generalization can be made up to some extent while considering the view of conservation of Lake in Nepal. It can also be generalized in same geographical/ecological condition and same sort of perception of conservation.

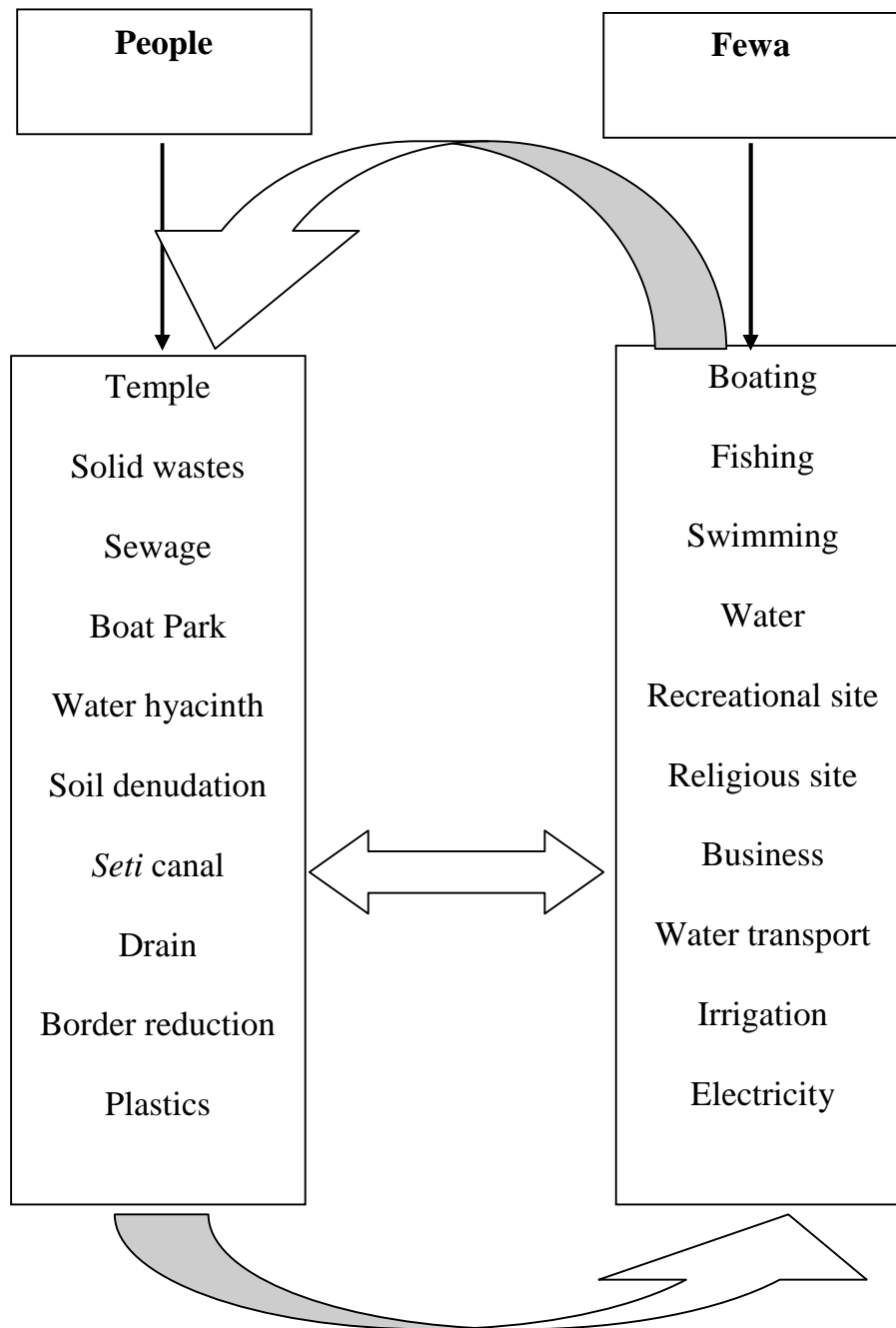
### **1.6 Basic Assumption**

- ) Local people are less incorporated in any conservation activities.
- ) Local people possess a lot of knowledge concerning indigenous knowledge for conservation.
- ) Fewa pollution is increasing day by day.
- ) Concerned authorities are less motivated in people participation towards conservation.

### **1.7 Significance of the Study**

Change is the law of nature but due to the slighter ignorance we may place our environment to a great deal of negative change. So after the completion of this study it will help to create awareness among the locals and the stake holders towards their responsibility for the conservation of their livelihood source and make the balance between nature and environment. Along with that, this study will also be expected to provide some basic information to the development practitioners and concerned authorities for the formulation of plan and policies concerning the conservation of Fewa Lake. It may further help any researchers to carry out such conservational studies and will be fruitful in providing information needed by the concerned agencies with similar problems. It will also add one more literature in the field of Sociology/Anthropology.

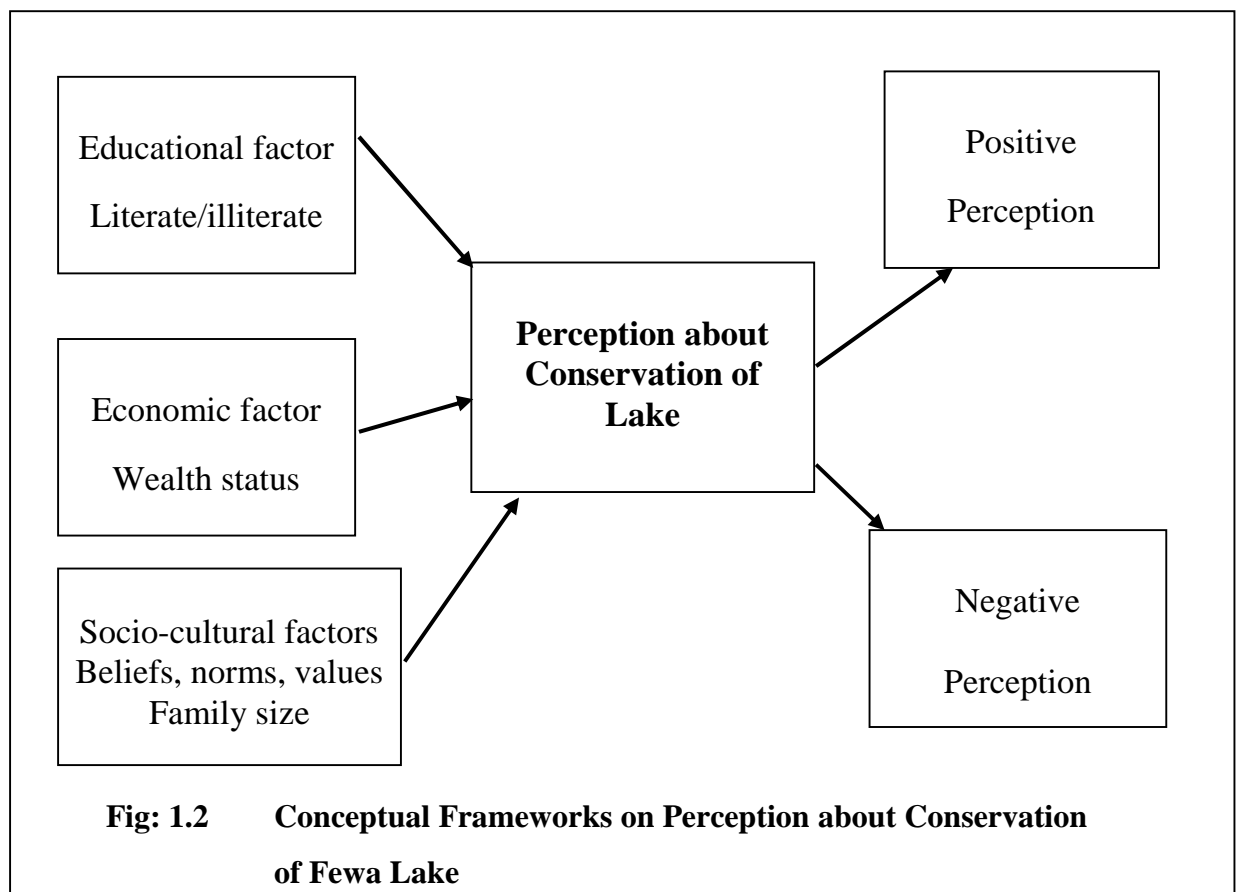
## 1.8 Conceptual Framework



**Fig: 1.1 Conceptual Frameworks on People- Fewa Interrelation**

After going through various sources, the researcher had drawn the above mentioned conceptual framework in order to study the interrelation between people and Fewa. Here, researcher had drawn two different dimensional aspects namely, 'Fewa' and 'people'. People use Fewa for various purposes

such as recreational and religious site and for business also. Even they use Fewa for irrigation, water transport and generate electricity. Boating, swimming, fishing and using Fewa water for different activities are the other facilities provided by Fewa to the people. In the contrary, temple and Boat Park are the things given by the people to the Fewa which has to do with religious and business purpose respectively. But the people are giving Fewa which they must not give such as wastage, sewage, drain, canal, plastics etc. The people are somehow responsible in the increment of the water hyacinth and reduction in the border of the Lake. Moreover, soil denudation is another factor caused due to the people. Thus, in one hand; Fewa is assisting for the people's better livelihood and in the other hand; people are contributing for degrading the beauty of the Lake.



This conceptual framework is about the perception of the people about the conservation of the Fewa Lake. Attitude towards conservation makes difference as whether people are literate or illiterate, economically strong or

weak. The socio – cultural factors, beliefs, norms and even family size also has impact towards the perception for the conservation. The matter of fact is such people may have either positive or negative attitude towards the conservation of the Lake.

### **1.9 Organization of the Study**

The current research is mainly divided into eight chapters as per the nature of the study. It starts with the chapter of introduction whereas ends with the summary, findings and conclusion. The first chapter includes the introduction part along with the statement of the problem, objectives of the study, definition of the terms, significance of the study and the conceptual frame work. Relevant literature has been reviewed in chapter two, that deals with theoretical overviews and review of related literature. The third chapter includes the research methods and the fourth chapter contains the socio-economic and demographic background of the study site.

Similarly, chapter five deals with the interrelationship between the Fewa Lake and the people whereas sixth chapter is about the local's participation towards conservation. In the same way, the eighth or the last chapter contains the summary, findings and conclusion. At last, schedule, checklists of key informants, appendix, and pictures are presented.

## CHAPTER II

### REVIEW OF LITERATURE

#### 2.1 Theoretical Overview on Sociology of Knowledge:

Sociology of knowledge, in general, is the study of the people's ideas and thoughts and their relationship in the society. It concerns with the social or existential condition of knowledge. This theory attempts to relate the ideas it studies to the socio-historical settings in which they are produced and received. All the knowledge has been distorted, directed and conditioned by the interest, conscious and unconscious, of conflicting/exploited and exploited classes. In the light, the contemporary sociological information, this view is sociology of knowledge. This leads to a better understanding of the factors influencing human interaction to everything. Sociologists have adopted sociology of knowledge to study the relationship between the society, social setting and knowledge. 'Sociology of knowledge' is one of the recently emerged branches of sociology. This branch pre-supposes the idea 'that our knowledge is in some measure a social product.' It is the field of sociological theory that studies how human knowledge – especially knowledge used in everyday life – is created and maintained in the course of social life. The field seeks to explain how a society organizes its culture into certain categories and passes them from one generation to the next (James, 1932: Pp-428-431).

Sociologists of knowledge are interested in documenting how the influence of social location or social context affects the way groups perceive reality and build their knowledge of everyday life. In adapting to a certain environment, the group develops the categories of thought and habitual patterns of behavior that delimit the way, it further relates to the empirical world (Calvacanti, 1952: Pp-1138).

### **2.1.1 Origin and Development of Sociology of Knowledge**

The sociology of knowledge may be broadly defined as the branch of sociology which studies the relationship between thought and society. It is one of the recent and emerged branches which came in light during 1940s. The thinkers had recognized long back importance of economic, religious political and other interests in shaping human belief and idea. Of late, the view that even human society and its various structure can influence, knowledge, gained sufficient recognition. The profounder of this theory, Mannheim, defines the theory as

*The sociology of knowledge as a theory of social or existential conditioning of thought, all knowledge and ideas, although to different degrees are bound to a location within the social structure and the historical process. At particular time, a particular group can have fuller access to the understanding of social phenomena than the other groups, but no groups can have total access to it.*

Men “do not confront the objects of the world from the abstract levels of a contemplating mind as such, nor do they do so exclusively as solitary beings. On the contrary, they act with and against one another in diversely organized groups, and while doing so they think with and against one another”. Mannheim was thus to define the sociology of knowledge as a theory of the social or existential conditioning of thought. To him all knowledge and all ideas, although to different degrees, are ‘bound to location’ within the social structure and the historical process. At particular times a particular groups can have fuller access to the understanding to a social phenomena than other groups, but no group can have total access to it. From its inception Mannheim’s thesis encountered a great deal of criticism, especially on the grounds that it led to universal relativism. It has been said that the notion of relativism, or relationisms – the term that Mannheim preferred- “self-contradictory, for it must presuppose its own absoluteness. The sociology of knowledge ... must assume its validity if it is to have any meaning”. Mannheim expanded this conception to include other groupings such as generations, status groups, and

occupational groups. According to Scheler, there is no constant independent variable that determines the emergence of ideas; but rather in the course of history, there occurs a sequence of 'real factors' that condition thought. In non literate groups, blood and kinship ties constitute the independent variable; later, political factors; and, finally in the modern world economic factors are to be considered as the independent variables to which thought structures have to be related. A variety of European thinkers of the seventeenth, eighteenth and nineteenth centuries may be considered among the precursors of the Sociology of knowledge. August Comte's famous 'law of three stages' asserting the intimate relationship between types of social structures and types of knowledge might well be considered as a contribution to the sociology of knowledge. It, nevertheless, remains true that systematic development of the sociology of knowledge as an autonomous enterprise rather than as a by-product of other types of inquiry received its main impetus from two trends in nineteenth century European sociological thought. The Marxian formulations attention was called to the function of ideology in the defense of class privileges and to the distortions and falsifications of ideas that flowed from this privileged class position of bourgeois thinkers. Marx's own ideas were held by Marxists to be true and unbiased by virtue of their being an expression of classes that had no privileged interests to defend.

In Durkheim's attempt to establish the social origin and functions of morals , values , and religion, and in explaining these as different forms of 'collective representations,' Durkheim was led to consider a similar social explanation of the basic forms of logical classification and of the fundamental categories of thought themselves. Major portions of the work of Max Weber can be seen as attempts on the part of this greatest of all German sociologists to come to terms with the Marxian assertion of the essentially epiphenomenal character of knowledge and ideas. Marx attempted to explain ideas systematically in terms of their function and to relate the thought of individuals to their social roles and class positions: 'The mode of production in material life determines the general

characteristics of the social, political and spiritual processes of life. It is not the consciousness of men that determines their existence, but on the contrary their social existence determines their consciousness (Coser, 1926: Pp-430).

### **2.1.2 Scope of Sociology of Knowledge**

A number of sociologists are attracted by the subject of sociology of knowledge. Many scholars have accepted that human knowledge is the result of historic process of social settings and the knowledge is used to cope with the environment. Thus, rather than calling it a sub discipline of any of these social science, we have to understand it as a distinctive discipline with multidisciplinary orientation. Thus, sociology of knowledge encompasses a vast range of scope. The field of sociology of knowledge provides an integrated framework for understanding the social setting and the use of knowledge for the adaptation in the environment they inhabit. And assertions as to how social structure uses are functionally related to categories of thought and to specific set of social phenomena (Bacon, 1958: Pp-147).

Thus we can say that sociology of knowledge enables us to investigate human knowledge and the use of knowledge with interaction to environmental conservation Coser (1926), in his article, states that Max scholar rejected what he considered the naturalism and the relativism, his proposal to widen the range of existential factor that may be seen as the source of particular factors, that may be seen as the source of particular systems of ideas is testable and potentially fruitful for research.

### **2.1.3 Ethno Ecological Model**

This model will be the prime guideline for the whole study. This model believes that local people know more about local environment and ways to conserve the environment. This approach is influenced by emic approach; ecological model concentrates on how the natives of an area perceive their physical environment. In relation to this, cultural ecology recognizes that

environment and cultures are not the separate sphere but are involved in “dialectical interplay ... or what he is called feedback or reciprocal causality.” The study of human ecology is nothing but the logical extension of the ecological point of view. Human ecology is that part of Sociology which studies human being adjustment to their environment which includes not only the physical conditions of their geographic environment but also other organisms such as other fellow human beings, plants and animals. Man the subject of human ecology is less restricted by his physical environment with the help of culture that man possesses, he can live almost anywhere in the planet. He can grow and produce different kinds of food, wear clothing of various types, construct houses, bridges and dams, create tools and implement which have different use (Rao, 2001: Pp-65).

#### **2.1.4 Natural Resources and Natural Resource Management**

In the Ramsar Convention on Wetlands, Wetlands are defined as areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur when the water table is at or near the surface of the land, or where the land is covered by water (Ramsar, 1971).

The National Wetland Policy explicitly mentions the provision of active involvement and participation of local people in the management, conservation and use of wetland resources. But after visiting the Ghodaghodi Lake, one of the highly prioritized wetlands of the country, one can rarely see the locals participating in the project.

There are many examples within and outside the country which prove the sustainability in natural resources conservation without the involvement of local people is almost impossible. The national Wetland policy and Ramsar Convention both advocate the wise use of wetland resources with effective participation of local communities in its conservation, (ekantipur.com, 2004).

### **2.1.5 Concept of Conservation**

Planned management of a natural resource or a particular ecosystem to prevent exploitation, pollution, destruction or neglect and to ensure the future usability of the resource. National legislation and international treaties and regulations aim to strike a balance between the need for development and the need to conserve the environment for the future (Britanica, 2006: Pp-269).

Conservationist in the recent years view local people support for protected areas management as an important elements of the bio diversity conservation. Here in the study all those methods which were adopted by the people and have proposed a new frame for the protection of Fewa Lake is defined as the conservation.

***Morality as an objective of conservation:*** In addition to the commitments to science and government, conservation programs have had a strong moral commitment or objective. One sin is then; to destroy nature's balance. A second one is to waste, and a third is to use our natural resources for private benefit rather than for common good.

***Political and social aspects of conservation:*** Whatever else it may mean, 'conservation' when used in relation to natural resources is a virtuous, a worthy word. Just men do not oppose conservation. In the US, where this good word has been used most, it has been called to the supports of many policies and programs and on their face do not seem terribly consistent. If there is any regularity among them, it is that the policies and programs have demanded reform, based on certain scientific, democratic and moral objective.

***Democracy as an objective of conservation:*** The conservation movement of the early twentieth century was in a part, a reaction against the influence of private corporations, which had been growing rapidly since the civil war. Unless the corporations were controlled, said the supporters of conservation-reform programs, the basic resources of the nation would come to concentrated in the hands of a few, and these few would use up the nation's wealth wastefully and profligately, for quick private profit, with no concern for the

long range benefit of the people. To define and enforce this common good, governmental action and public education are needed. At the same time, conservation men have sought direct popular support for their government programs through public education and public information.

*Scientific method as an objective:* Science and technology have played so dominant role in conservation policies and programs that the scientific method has been used not only as an analytical technique for solving resource problems but as an objective of public policy as well. The authority of science has been used regularly to justify conservation programs. Supporters of conservation have understood the public decision – making process to somewhat automatic one of collecting scientific data and applying scientific principles to them (Maass, 1948: Pp-271).

## **2.2 Review of Literature Related to the Conservation of Natural Resources**

In relation to the conservation of natural resources, different countries have adopted different methods and models with regard to its environment and with the people's culture. Some of the examples in relation to the need of conservation are mentioned below:

*Chipko movement in India* claims that in regard to the conservation of forest in India, Chipko Movement is the best example. The Forests of India are a critical resource for the subsistence of rural peoples throughout the country, but especially in hill and mountain areas, both because of their direct provision of food, fuel and fodder and because of their role in stabilizing soil and water resources. As these forests have been increasingly felled for commerce and industry, Indian villagers have sought to protect their livelihoods through Gandhian method of Stayagrahaa non-violent resistance. In the 1970s and 1980s this resistance to the destruction of forests spread throughout India and became organized and known as the Chipko Movement. The Chipko movement is the result of hundreds of decentralized and locally autonomous initiatives. Its

leaders and activists are primarily village women, acting to save their means of subsistence and their communities (Wikipedia, 2008).

In the same way Trakolis had stated that Local people's perception of planning and management issues in Prespes Lakes National Park, Greece about local people's perceptions of planning and management issues which were investigated in Prespes Lake National Park in north-western Greece, 24 years after designation. Ensued conflicts due to the lack of local community participation in the designation procedure and in the decision-making process thereafter necessitated this research. Knowledge of the park and its aims, source of information about aims, necessity for works and facilities, attitudes toward certain policies, and effectiveness of administration and management scheme, were studied by means of a questionnaire survey. Respondents were contacted by systematic sampling, which resulted in 201 cases for analysis. Poor knowledge of aims associated with education of people was revealed and the managing authority (the forest service) as a source of information was mentioned in only one case. The need for a new administration and management scheme with the participation of local communities in the decision making process was revealed. Finally, the results indicated that the information derived from such research could help managers of protected areas to resolve arising conflicts (Trakolis, 1964:Pp-47).

In Local attitudes toward community based conservation policy and programmes in Nepal: a case study in the Makalu Barun Conservation Area, Community based conservation (CBC) has been projected as the most practical approach to stem biodiversity loss in developing countries. Since CBC is 'people-centered' and experience with it is relatively new, it is important to know the views of local communities regarding implemented policies and programmes. The paper examined the attitudes of local communities toward policy and programmes implemented by a project under the CBC approach in the Makalu Barun National Park and Conservation Area of Nepal, based on a 1996 survey of 400 people living in it. Overall, respondents did not have a

particularly favorable perception of the community development programmes implemented. Strong support existed for eco tourism development in the Conservation Area. Respondents overwhelmingly endorsed community forestry. Wildlife protection remained a low priority amongst a significant majority of respondents. Some demographic and socio- economic study should continue addressing local development needs, encourage women's participation in community forestry, work toward dispute settlement of community forest user groups, and allow hunting of pest wild animals, if it wants to win the support of local communities for long-term biodiversity conservation goals (Mehta and Kellert, 1998: Pp-207).

The water system of Africa are extremely diverse, a reflections of the continents great range of climate and physical geography. These systems vary from region to region, and from season to season and year to year as well. Africa's freshwater wetlands come in several forms. Swamp forests occur in floodplains or lakeside environments. Wetlands areas play a vital hydrological and ecological role in Africa. Wetlands also provide habitat for numerous species of animals and plants, many of them unique to these ecosystems. Wetlands also trap and hold silt carried by rivers, creating fertile alluvial soils that may be used to grow crops such as rice, cotton and vegetables. However, agricultural development schemes, taking advantage of the presence of both fertile soil and water, pose a threat to wetlands (Encarta,2009).

### **2.3.1 Review of Previous Studies of Lake Conservation in Nepal**

Fewa originally used to cover an area of 9 sq km but now has been reduced to 4.43 sq km. Geologically, the rocks either side of Fewa Lake are phyllite, micaschist and quartzite and make anticline structure along the axis of the Lake. The physical development plan of Pokhara had envisioned as a tourist centre; the number of tourist visiting Pokhara increased steadily since 1970s. Most of the big hotels in Pokhara have been established by few powerful and politically influenced individuals. Pokhara valley has eight Lakes- Fewa, Begnas, Rupa, Dipang, Maldi, Khaste, Nyureni and Gude. Most of these

Lakes are located towards the edges and foothill of the valley. The four of these Lakes have virtually disappeared; due mainly to siltation. The area of Rupa Lake has also been diminishing greatly. Fewa and Begnas Lake are now the only remaining major Lakes. The artificial damming of these latter two has actually expanded the area. These Lakes are important from the point of view of environmental conservation and tourism. Contrasting interpretations also exist regarding the origin of Pokhara's Lakes, particularly the Fewa Lake. The geologists and geographers believe that the Lakes of Pokhara was created by the damming up of the rivers by tectonic movement or by the deposition of gravels and other materials by the *Seti* River and its tributaries. Local people, however, still hold to the myth that the Fewa Lake was created by God, and a warning of its imminent formation given to the people living in that area by a holy man. Unimaginably, when, in 1974, dam of the Fewa Lake broke, leading to a great reduction in the water level, a large number of tree trunks became visible, emerging from the water near the area between the beginning of Sedi field to the present swimming pool near the Fisheries Development Office. Swimmers in the lake reported that the bottom of the Lake is covered with the stones of the kind used for building houses. This, some say, confirms that there was a settlement previously, that was drowned after the construction of dam, which enlarged the size of the Lake (Adhikari and Seddon,2002: Pp-5).

Under the topic, 'Drinking water and sanitation', the annual internal renewable fresh water resources of Nepal is 8.88 thousand cubic meters per capita – about four times the figures for India and Pakistan. In a country with immense water resources, it is pity that only 66 percent of the urban population and 34 percent of the rural population have access to 'safe' drinking water, which, too is not really safe for drinking water without further treatments by households such as boiling and filtering, and is available only for a few hours per day. There are also acute shortages of waste water disposal facilities, sewerage systems and solid waste collection and disposal system ( Dahal and Guru-Gharana,1998:Pp-155).

Water quality test of Fewa Lake indicates that it should not be used for human activity at all. The test conducted recently indicates that e-coli count range from 700/100 ml to 9 million/100 ml, depending upon the location and human use. Location near the hotels (Barahi side) has 9 million e- coli / 100ml. This is due to the leakage of contents of septic tanks. At the place where *Seti* canal enters in the Lake, e-coli count is 6,000/100ml. At the locations where washing is done e-coli count is 700/100ml. The standard for drinking water is less than 10 e-coli /100ml. In European Lakes with more than 2,000 e- coli is kept restricted from human use (Adhikari and Seddon, 2002: Pp- 205).

The ADB commissioned SAIC to undertake a detailed study of the Fewa Lake and the surrounding areas to develop an environmental management plan that outlined the actions and funding required for the protection of the Lake. The watershed of Fewa Lake is a microcosm of the inter-related environmental issues facing developing countries, including water pollution, rapid urbanization, water borne diseases, deforestation, erosion and siltation, declining agricultural productivity, protection of fragile areas, and lack of financial and human resources. The study evaluated environmental problems and designed monitoring programs and other environmental problems management measures to protect the Lake and promote sustainable development in the future, especially environmentally benign tourism activities.

Specially, SAIC performed a detailed environmental evaluation of the Lake and its watershed performed a comprehensive institutional analysis of the capabilities of the national and local institutions and planned and conducted comprehensive workshops with government officials to discuss findings of the environmental evaluation, monitoring, legislation, and institutional review, and to collectively identify institutional reforms (SAIC/ADB,1998:Pp- 4).

Fewa is facing new challenges day by day because of continuous population growth, urbanization and human activities. There is no doubt that the problem

Fewa is facing because of the past causes, surely will be facing more problems in coming future. For that, following points should be taken into consideration:

- The present social, political and administrative leaders who are supposed to make policies and implement should be seriously committed to social welfare.
- The local and central government fail to implement the public commitments which have been made in various time. So, in regards to the Fewa conservation, a unified, powerful and strong pressure group is necessary.
- The boundary of Fewa is not clearly mapped. It is also yet to be clarified as who is the specific and primary responsible sector for its conservation. So, still there is scarcity of such responsible organization.
- The workplan made till date does not reflect the people's need. There is no involvement of locals and the stakeholder's during plan making process.

'Eliminating poverty from the country' remained in slogan only. The rate of pollution is increasing because of poverty and job opportunity. The extra pressure has been created in the surrounding environment of the lake as long as there is poverty. Poverty is the cause behind the pollution and environmental degradation. Thus, unless poverty is not eliminated, lake will be facing more problems,(Parajuli,2005:Pp-172).

The beautiful gift of nature, Fewa, is being polluted and its area is decreasing due to human activities. It is hard to believe that during 38 years (2017 to 2055 B.S.) of time, it has lost 55 percent of its area. Another major issue is the growth of water hyacinth in the lake,(Bhadgaonle,2007:Pp-14).

Oli(1996) has stated the reason why the people from upland migrates to downhill or watershed areas as, there are other reasons that farmers are forced to leave their land. The upland (dry land farm) areas are economically poor. While the lower khetland areas adjacent to the lakes (paddy growing areas) are generally prosperous, they have tremendous potential for higher productivity

and thereby absorbing migrant farmers. Some hill areas near and above the lakes are nutrient poor and heavily denuded but since most of the agricultural practices are traditional, they do not impact the soil as much as modern chemical farming methods. He further says about the migration upon the downhill as the existing patterns and intensity of land use in the watershed have many implications which are of concern not only to individual farmers but to society at large. These include the sustainable availability of food, timber, fuel, wood and fertilizers. Due to the opening up the area to tourism, infrastructural development and environmentally-degrading activities have begun to occur, creating a complex land use system. In order to improve the existing land use system, policy measures need to be developed.

In relation to the houses constructed near the lake shore, Oli writes that housing construction should not be allowed within lake shore buffer zones. Beyond these zones, construction regulation guidelines should be issued, and development controlled to protect the lake from becoming polluted. In regard to the Fewa Lake he had stated that, Fewa Lake is the biggest and most developed lake of the Pokhara Valley lakes. The shoreline of Fewa Lake is becoming overcrowded by accelerate construction of hotels, motels and restaurants. Fewa is important natural resources for the Pokhara valley. It contributes to the natural beauty of the valley and attracts tourists from all over the world. Unregulated construction of houses and hotels and polluted discharge from the Seti River has degraded the water quality of Fewa Lake, discouraging tourist from boating and swimming.

Thus, development awareness education is necessary to inform local people about the concept and scope of development. Villagers tend to understand development as being limited to public works and physical infrastructure. Little interest is shown in the development of income generation activities through conservation efforts. Thus the possibilities for economic conservation activities need to be explored and developed with the local people (Oli, 1996: Pp-74).

### **2.3.2 Review of Plans and Policies Related to Lake Conservation**

The Global Biodiversity Strategy (1992) prepared by the WRI, IUCN, UNEP in consultation with FAO and UNESCO, has prescribed a set of seven conservation strategies. They are:

- i) Establishing a National policy framework for biodiversity conservation. The policy is directed toward reducing the wasting or misusing of bio resources, promoting equitable use of biodiversity, and reducing demand for biological resources.
- ii) Creating an international policy environment that supports national biodiversity conservation. It seeks to integrate biodiversity conservation into the international economic policy, legal framework, development assistance, as well as funding.
- iii) Creating conditions and incentives for local biodiversity conservation. It emphasizes development of new resource management partnership between government and local communities.
- iv) Managing biodiversity throughout the human environment. It envisages the creation of institutional conditions for bioregional conservation and development.
- v) Strengthening protected areas. It emphasizes the sustainability of protected areas.
- vi) Conserving species, populations and genetic diversity. It prescribes promotion of in situ as well as ex situ conservation of life forms.
- vii) Expanding the human capacity to conserve biodiversity. It attaches importance to creating and enhancing awareness of biodiversity's values and importance. Besides, also it reemphasizes the need to promote basic and applied research on biodiversity conservation (Shrestha and Gupta, 1998: Pp- 9).

Social development principles set by Water Resources Strategy, Nepal are:

- People who are affected by a project should be encouraged to participate or take ownership, as appropriate.
- Water sector should directly contribute to improved health and living conditions. .
- Appropriate technology should be emphasized that is affordable, manageable and cost effective and that generates local employment opportunities.
- Water resource projects should be integrated with social development.
- People should be informed and made responsible for managing water efficiently, conserving water and preserving/protecting water resources from degradation and maintaining water quality.
- All people who are adversely affected by a water resource project should be made better off after project implementation,(GON,2002:Pp-7).

The importance of conservation for the people set by NCSN is as follows:

- i). To satisfy the basic material, spiritual and cultural needs of the people.
- ii). To ensure sustainable use of land and renewable resources,
- iii). To preserve biological diversity, and
- iv). To maintain the essential ecological and life support system.

In the constitution of Nepal 1991, in its directive principles and policies, it specifies the need for environmental protection and protection of endangered and rare species of plants and animals,(Shrestha and Gupta,1998:Pp-8).

To sum up, the whole review section is made to find the inside view about the ways adopted for the conservation of natural resources. In the process of reviewing the text, researcher had tried the best to discover the benefits of people's participation and perception for the different conservational model practices in the different parts of the world. It has been made an attempt to find out the people's perception for the conservation of our national heritage, the Fewa Lake, through an insiders approach.

## CHAPTER III

### RESEARCH METHODS

#### 3.1 Rationale for the Selection of Study Area

The study area for the present research work is 200m periphery of the eastern and northern edge of Fewa Lake starting from *Camping Chowk* to *Komagane Park* of Ward no 6, Pokhara Sub-metropolitan city. The research area was selected purposively. It is well known fact that the Lake, Fewa has been losing its beauty due to pollution and lack of proper address towards its conservation. And the day is not that much far when the existence of the Lake will vanish. In regard to this matter, it is the necessary to know the views of the locals about the conservation of the Lake. Without which one may not be able to imagine conserving the Lake as locals can play decisive role towards this issue.

The study area is mainly a tourist center, where majority of the locals depend in one way or the other in tourism related business for their livelihood. This is only possible because of the existence of the Lake. The researcher has a personal experience through the observation for more than two decades as the researcher is one among the locals. This is quite useful in understanding the social setting, ways of life and to get social connection. That is why, the researcher has selected this particular area for the study.

#### 3.2 Research Design

This study aims to describe the perception of local people towards the conservation of Fewa Lake. It also aims to explore some new local methods prevailed in the conservation of Fewa Lake. Thus the nature of this study demands both descriptive and explorative research design. The study will be more on descriptive design and will be employed to describe the peoples' participation and perception towards the field of conservation as well as explore new facts regarding the conservational ideas of the common people.

### **3.3 Nature and Sources of Data**

As per the requirement of the study, both primary and secondary data were collected. But higher emphasis was given to the collection of primary data. These primary data were both qualitative and quantitative. Priority was given more to qualitative data by employing household survey, questionnaire, and interview schedule and key-informants interview.

### **3.4 Universe and Population Size**

The universe of the study was fixed as 125 which were recorded after the household survey of the people living approx 200m periphery of East to Northeast edge of Fewa Lake. Among the total universe, the researcher took 65 percentage of the total as a sampling size, which forms the size of 81 household. Researcher adopted Stratified Proportional Sampling method. From such a sample, household male head were taken as the main respondent, in case of his absence; the female head was taken as the respondent. Validity of the instrument was ensured from the careful planning of interview schedule and questionnaires. Likewise reliability of the data was ensured by taking relatively larger sample of the respondent.

### **3.5 Sampling Procedures**

The sampling frame was prepared in order to decide sample size. The households and population of ward no 6 Lake side of Pokhara Sub-Metropolitan City were collected. And, 65 percent sample households were selected from each selected caste group based on Stratified Proportional Sampling method. The total sample size was determined as 81 households out of 125 total universe of local's residing in the study site (Appendix-II). According to the data of PSM following are the sample size and the universe of the study site.

**Table 3.1: Sampling Frame and Sample Size**

<b>Selected population</b>	<b>Households</b>	<b>Sampling size (households)</b>
Pahari	48	31
Nepali	25	16
Poudel	29	19
Pariyar	23	15
<b>Total</b>	<b>125</b>	<b>81</b>

*Source: Ward no.6 Profile of PSM,( 2003)*

### **3.6 Primary Data Collection Technique**

On the basis of research objectives, questions and types of data required, following techniques were adopted to collect primary data.

#### **3.6.1 Household Enumeration**

In the first phase of field work, the researcher had made household survey and have enumerated the household numbers on the basis of the household number provided by the Ward no 6 office of PSM city. The household survey was done earlier to develop a good rapport for the field work on 26<sup>th</sup> February 2009.

#### **3.6.2 Pre-Testing the Tools and Technique**

A pre-test (pilot survey) was carried out to test the schedule. For this, the pilot survey was carried out in the area of 'Khapaudi' near the northern part of the Lake among 10 households on 7<sup>th</sup> and 8<sup>th</sup> of March, 2009. The outcomes of the pre-test were manually tabulated and analyzed which helped refine the questions in the schedule and to discover the views forwarded by the locals towards the conservation of the Lake. Before finalizing the schedule, some of the important inferences and insights obtained from this procedure were also incorporated in the schedule. For instance, the questions which were of open nature were modified into closed ended in order to facilitate for the collection of the desirable data. Likewise, some of the questions were reconstructed which seemed to be difficult to draw answer from the respondent. Even in

some cases, the pre-test provided more options for some of the questions which were previously not noticed.

### **3.6.3 Interview Schedule**

This technique was the main tool for the collection of primary data for this study. It helped collect required data on local people perception and expectation for the conservation. This method was also used in getting special insight on certain aspects regarding the need of local people's participation and involvement in the conservation of local resource. And collecting more important qualitative data, key-informant interview was carried out with various people such as local leader, local intellectuals and representative of clubs. This interview was semi-structured. To carry out interview with key-informants a check list was prepared from essential data, which was both quantitative as well as qualitative, was gathered. After the necessary changes in the questionnaire schedule, the field work was carried out from the date of 25<sup>th</sup> of March to 3<sup>rd</sup> April, 2009.

The reliability of the questions in the questionnaire was measured after the pretest that was conducted in the non sampled area in the northern side of the study area called *Khapaudi*. And the result of the pretest was incorporated in the interview schedule for the validity of the data. .

### **3.6.4 Key Informants Interview**

Key-informants interview plays a vital role while collecting qualitative information with various key persons. Key informant interviews were conducted with key informants from the different fields such as tourism experts, senior local citizen and conservational activist to record the conservational issues and local's participation. Likewise other in-depth qualitative data was collected through this technique. A checklist has been prepared to guide the interview. Altogether 5 key informants were selected and the list of key informants was prepared with help of supervisor. Selection of the key informants was completely purposive.

### **3.6.5 Observation**

Observation technique was adopted to collect the data and information on the related matters. Various aspects of conservation were observed. Frequent observation on the Lake was made in different periods of time during field visit and field work. During this, various perceptions of the people was observed and recorded.

### **3.7 Secondary Data Sources**

The secondary data were collected from the published and unpublished sources, such as well the journals, articles, magazines, newspapers and the data collected from the different office such as population statistic data of Pokhara City. Preface book of Pokhara and all valued material which were gathered from the library of Western Regional Library Pokhara. These all were the main secondary data sources for this study.

### **3.9 Problems of the Fieldwork**

While carrying out the fieldwork of the research, various problems were faced. The researcher had to make frequent visit to meet some of the respondent as they were not available in the first or second visit. Even some of the respondent turned indifferent while giving information as lots of studies were carried out in the name of the Lake conservation and only very few were implemented in action. It was also difficult to collect the information on the income of the respondent just because they did not like to disclose it.

### **3.10 Validity and Reliability**

The validity of the instrument was maintained by consulting with the supervisor, experts and other concerned persons. They were compared with different data collected and from various sources in order to maintain the objective of the data and to avoid error as well. Similarly, reliability of the data was ensured by the systematic planning of the questions of interview schedule. The questions were pre-tested in the non-sampled area and necessary modification was made in the schedule.

### **3.11 Method of Data Analysis and Presentation**

Mainly descriptive method of data analysis was adopted for this study. However, statistical method was also adopted to show the correlation and variation in data. Data were processed in computer using Statistical Package for Social Sciences (SPSS. 11 for windows) and the same package was used to analyze the data obtained from field study. Cross tabulation, percentage distribution and frequency tables are the main tools to analyze the data. In order to make easy to understand the result of the study, charts, line graphs and figures are also presented to some variables.

The non-quantifiable qualitative data were managed manually and analyzed descriptively. In order to present some qualitative data figures, charts and diagrams were used. Effort was made to maintain the objectivity of data and avoid data error by comparing them with different data collected from different sources. The views forwarded by the key informants have been included in order to support the analysis .In the same way, some photographs taken during field visit were also inserted for better illustration and reinforcement and the evaluation aspects of the report. Likewise, most-importantly, efforts were made to interpret data as sociologically as possible.

## CHAPTER IV

### SOCIO-ECONOMIC AND DEMOGRAPHIC BACKGROUND OF THE STUDY SITE

This chapter contains the socio-economic and demographic background of the study site and that of the respondents. It includes physical and cultural settings of the study site, caste-ethnic composition, climate and brief introduction of the Fewa Lake. Moreover it includes type and size of the family, age-sex composition, educational status, religious composition and occupational/economic structure of the respondents. This chapter begins with the description on the physical setting of the study site.

#### 4.1 Physical Setting of the Study Site

Nepal is renowned in the world on account of her natural beauty, geographical and biological diversity and cultural and artistic heritage. One such important natural landmark area is Pokhara valley lying at the base of the Annapurna Himalayan Range. The valley of Pokhara is located at 125 km west from Kathmandu, and at  $28^{\circ} 10'$  N to  $28^{\circ} 16'$  latitude and  $83^{\circ} 58' 30''$  E to  $80^{\circ} 02' 30''$  E longitude. The name 'Pokhara' came from 'Pokhari' meaning pool of water, which refers to three fair size Lakes with crystalline water, namely Fewa, Begnas and Rupa and several others smaller ones found in the valley. Fewa Lake is the most important one, exquisitely situated at the western part of the Pokhara valley in which one can see the reflection of the entire Himalayan range of Machhapuchre. With snow fed peaks as a background and subtropical flowering trees and picturesque Lakes and scenes, Pokhara valley is rightly one of the most beautiful places in the world. Fewa Lake, with an island temple dedicated to goddess *Barahi* and a nicely protected forest on the adjoining southern slope, is a legendary second largest Lake of Nepal. It lies about one kilometer southwest of Pokhara at an elevation of about 793 amsi. It extends about 4 kilometers from northwest to southeast. At its widest, it is about 2 km, and its narrowest only 100m. Fewa Lake watershed covers slightly

more than 123 square km and the length and width of this east-west oriented watershed is 17km and 7km respectively. The Lake lies in a broad valley that is bordered by steep hills to the south, and gentler hills to the north, backed by the Annapurna range further to the north. The Fewa Lake watershed consists of six VDCs namely Sarangkot, Kaskikot, Dhikur Pokhari, Bhadaure Tamagi, Chapakot and parts of Pumdi Bhumdi and PSM including ward no.6. Harpan Khola (river) is the major tributary to Fewa Lake contributing over 70% of the total inflow of the Lake. Phirke Khola and the man made seti-canal are other two most important inflows after Harpan Khola (JICA/SILT, 2001: Pp-3).

The site for the current study is the periphery of approx 200m around East to North region of Fewa Lakeside which includes the areas from Camping Chowk to Komagane Park, which is one of the densely populated area and have direct influence to the Fewa Lake.

## **4.2 Cultural Setting of the Study Site**

The total population of the study site is 1486 (Ward profile, 2003). Almost all the houses are cemented and are used for tourism business purposes while very few are temporally build ones. Water, electricity and transportation facilities are well available as it is the touristic center of the city.

### **4.2.1 Caste, Ethnic Composition of the Study Site**

Caste (social) is a rigid social system in which a social hierarchy is maintained generation after generation and allows little mobility out of the position to which a person is born. Caste (social), rigid social system in which a social hierarchy is maintained generation after generation and allows little mobility out of the position to which a person is born. The term is often applied to the hierarchical hereditary divisions established among the Hindus. In this area different castes live together and most of them are *Bramhins*, *Chetris* and *Dalits*. Others are *Gurungs*, *Magars* and *Newars*. In this area, followers of different religion live in harmony though majority of the people are Hindus. So, the way of life, culture, customs and tradition are influenced by Hinduism.

Pokhara is a place of cultural diversity as well. Different feasts and festivals are organized and celebrated by various groups. Even they adopt varieties of culture and customs. Pokhara in itself is a multicultural city and so is the study site, Baidam. The beauty of this area is not only the Fewa Lake but is also by the settlement of different ethnic groups of people.

#### **4.2.2 Climate**

The Fewa watershed area falls in a humid sub-tropical monsoon region. It is characterized by moderate temperature (mean temperature peaks at 25.5<sup>0</sup>C in July- August and falls to a minimum of 13.2<sup>0</sup> C in January). The watershed area receives heavy rainfall from 3700-5400mm and distinct seasonal variations, (JICA/SILT, 2001: Pp-3).

#### **4.2.3 Natural Vegetation/Wildlife and Aquatics**

The natural vegetation of the Fewa Lake watershed area ranges from upper tropical vegetation in the lower elevation ( 800-1,000m), lower sub-tropical zone(1000-1500) , upper sub-tropical zone( 1500-2000) to warm temperature zone ( 2000-2500m). In the watershed area, an estimated 50% of the total land is under agriculture and 25% under forest. Several vegetations are found in the Fewa Lake watershed area, some of which have been significantly altered by human activities.

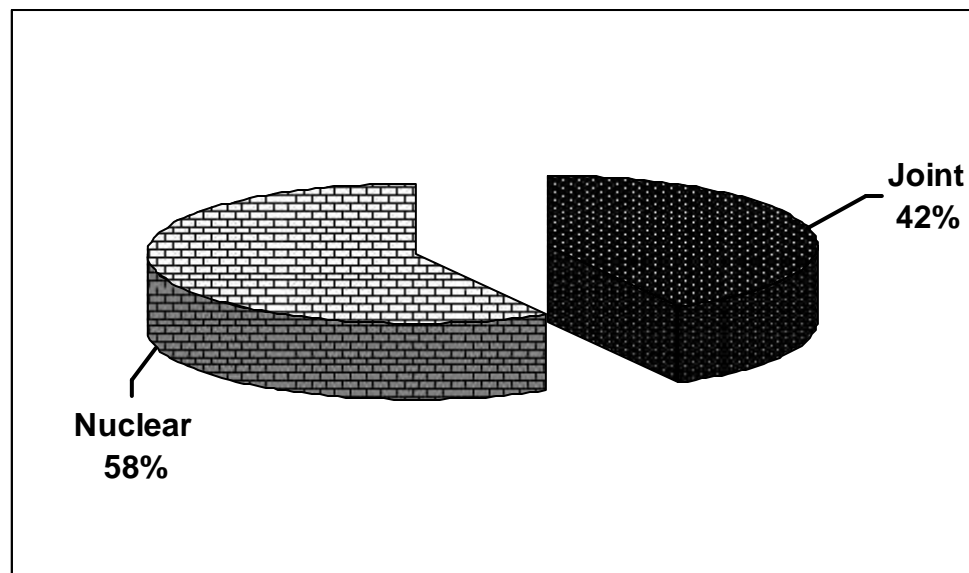
There are 17 different types of native fish and four different exotic species of fish, six species of amphibians, 14 reptile species, 104 species of birds and 34 mammals in the Fewa Lake watershed area. Out of the 104 bird species, 14 are migratory, the remaining are resident.

#### **4.3.1 Type and Size of Family**

Type of family and size of family are one of the important components that have direct link with the role of pollution, because people have to rely on environment for their survival. So, if the family size is smaller, it will make less exploitation to the prevailing environment. Here, the researcher had tried

to find out the effect between the rate of pollution and the family size. Does the family size increases the rate of pollution?

The household size of the respondents ranges from one to the maximum of eight members, the average being four members. It is generally believed that the larger the family size, higher the exploitation on the environment and vice versa. So, the collected data reported that the size of family is not huge but rather a considerable size. But if the growing population is not controlled properly, it will create a serious problem in every section of social and geophysical environment. The following family size was found from the different types of family which is given in the figure 4.1 below:



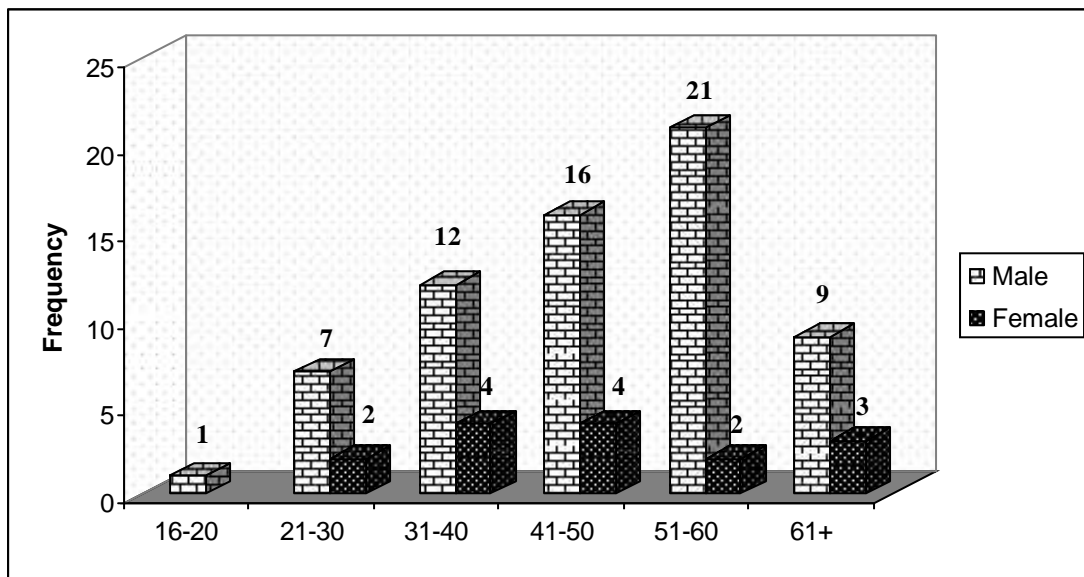
**Fig. 4.1: Types of Family of the respondent**

Source: Field Survey, 2008

The figure 4.1 gives a glimpse that 58 percent of the total respondent came from the nuclear family and the rest 42 percent belong to the joint family. So the collected data clearly gives us the idea that much of the people are living in nuclear family and lack the traditional methods and ideas to conserve or promote the available resources because they accustomed themselves with the goods produced in industries. So the locals are believed to be the most important for conservation of local resources.

### 4.3.2 Age and Sex composition of the Respondent

To know the perception of locals concerning the conservation of one of the greatest local resource to the people, “the Fewa Lake”. Keeping this in consideration, the researcher had selected the locals of Fewa Lake area as main respondents. Owing to the fact about the condition of Nepalese society, male were concerned the main respondent as they play important and decisive role in every sphere of family matter, even though some of the females were taken as respondent because of the absence of males in the house. The figure 4.2 shows the age and sex composition of the respondent.



**Fig.4.2: Distribution of the study population**

Source: Field survey, 2009

The figure 4.2 above illustrates that the highest percent (28.4%) of the respondent belong from the age group 51-60 that composed of 31.8 percent of the total respondent of male and out of total female 13.3 percent come to this range. Similarly, it has been followed by the age group 41-50 which compromises 24.7 percent of the total respondents which includes 24.2 percent of total males and 26.7 percent of total females. It is followed by 19.7 percent of the respondents belonged to the age group 31-40 which includes 18.2 percent of total males and 26.7 percent of total females. Likewise it is followed by 14.8 percent of the age group that ranged from 61 and above. In the same

way, 11.1 percent and 1.2 percent ranged from the age group 21 to 30 and 16 to 20 respectively.

So, viewing all the facts collected from the field has shown that 81.5 percent of the respondents were male and 18.5 percent of the respondents were female from different age group.

### 4.3.3 Educational Distribution of the Respondent

Education is a powerful tool that helps the people to distinguish what is right and wrong and makes the people aware to work on the right path to give proper decision keeping the above fact into consideration the researcher made the field study to find out the level of education of the respondent. In this study, the researcher assumed that the educated people are more conscious for the conservation of the resources. The table below illustrates the level of education of the respondent.

**Table 4.3 Educational Status of the Respondent**

<b>Education</b>	<b>Frequency</b>	<b>Percent</b>
Illiterate	11	13.6
Literate	19	23.5
Up to Class 5	7	8.6
SLC	12	14.8
+2/Intermediate level	16	19.8
Bachelor	11	13.6
Masters	5	6.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

Source: Field Survey, 2009

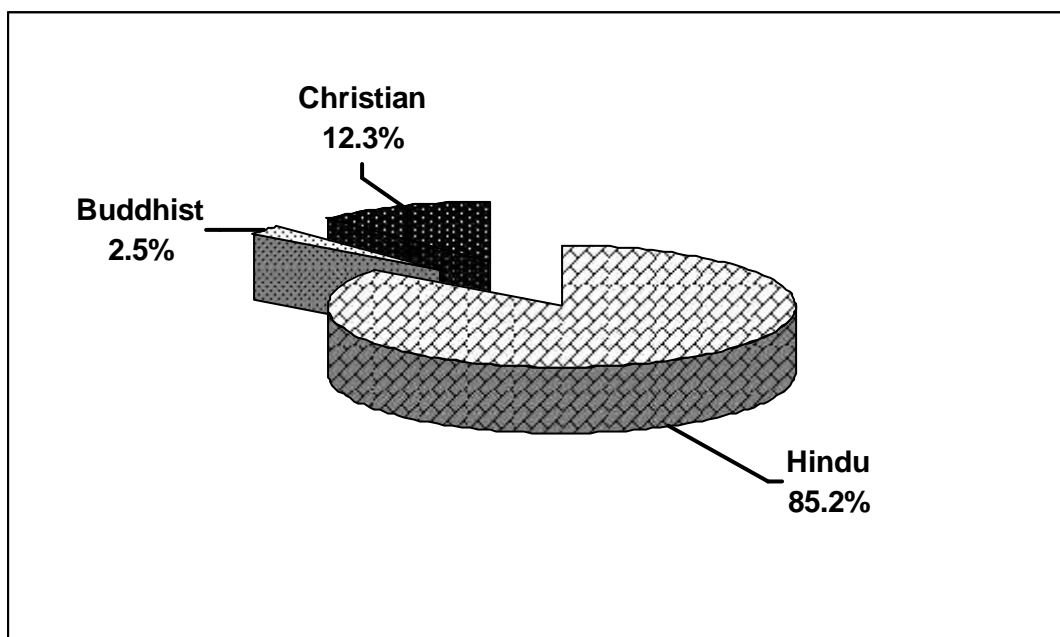
The table 4.3 above demonstrates the fact that 23.5 percent of the respondents were normal literate. It is followed by 19.8 percent of the respondent of the respondent have completed intermediate or + 2 level. Out of the total respondent 14.7 percent were found SLC passed. Likewise, Bachelor degree holders were few in percent, (6.2%) of the respondent were found of Masters

Degree and above. In the same way, the illiterate groups of people were as similar in the percent to the Bachelor degree by 13.6.

Viewing the fact, we can state that the condition of education in the area is satisfactory. Majority of the respondents were found from the literate groups.

#### 4.3.4 Religious Distribution of the Respondent

Religion is the faith that guides and controls people. Nepalese people are religious minded by nature. So religion is one of the most important variables that determine the work performed or decisions have to be carrying out. If some changes have to be brought, it must be linked with the religion and the culture in context to Nepal to make the work durable. The fact collected from the field about the religious composition of the respondent which is illustrated in the figure 4.3 below:



**Fig 4.3 : Religious Composition of the Respondents**

Source: Field Survey, 2009

The figure 4.3 above gives the crystal clear vision about the religious structure of the respondent collected from the field work. In the figure, majority (85.2%) of the respondent of the respondent were found to be Hindus whereas 12.3 percent of the respondents were the Christians and the rest 2.5 percent of the respondent were Buddhist.

The study area is a touristic place where it experiences the people mostly from the western countries that has influence in gradual religion change among the people. So the number Christians are gradually found more.

#### 4.3.5 Occupational Structure of the Respondent

In the developing countries like Nepal the return of work or employment is not much. So the people are likely to work for more hours that result to pay less time for the conservation. On the other hand, the occupation of an individual makes him economically independent and sound economic condition of the family where he can contribute certain amount to the conservation and promotion of any works. For this, the researcher had made investigation about the occupational composition of the respondent and the fact collected from the field has been presented in the table 4.4 below:

**Table 4.4 Occupational Distribution of the Respondent**

<b>Occupation</b>	<b>Frequency</b>	<b>Percent</b>
Service	11	13.6
Business	34	42.0
Labor	14	17.2
Farming	18	22.2
Student	2	2.5
Housewife	2	2.5
<b>Total</b>	<b>81</b>	<b>100</b>

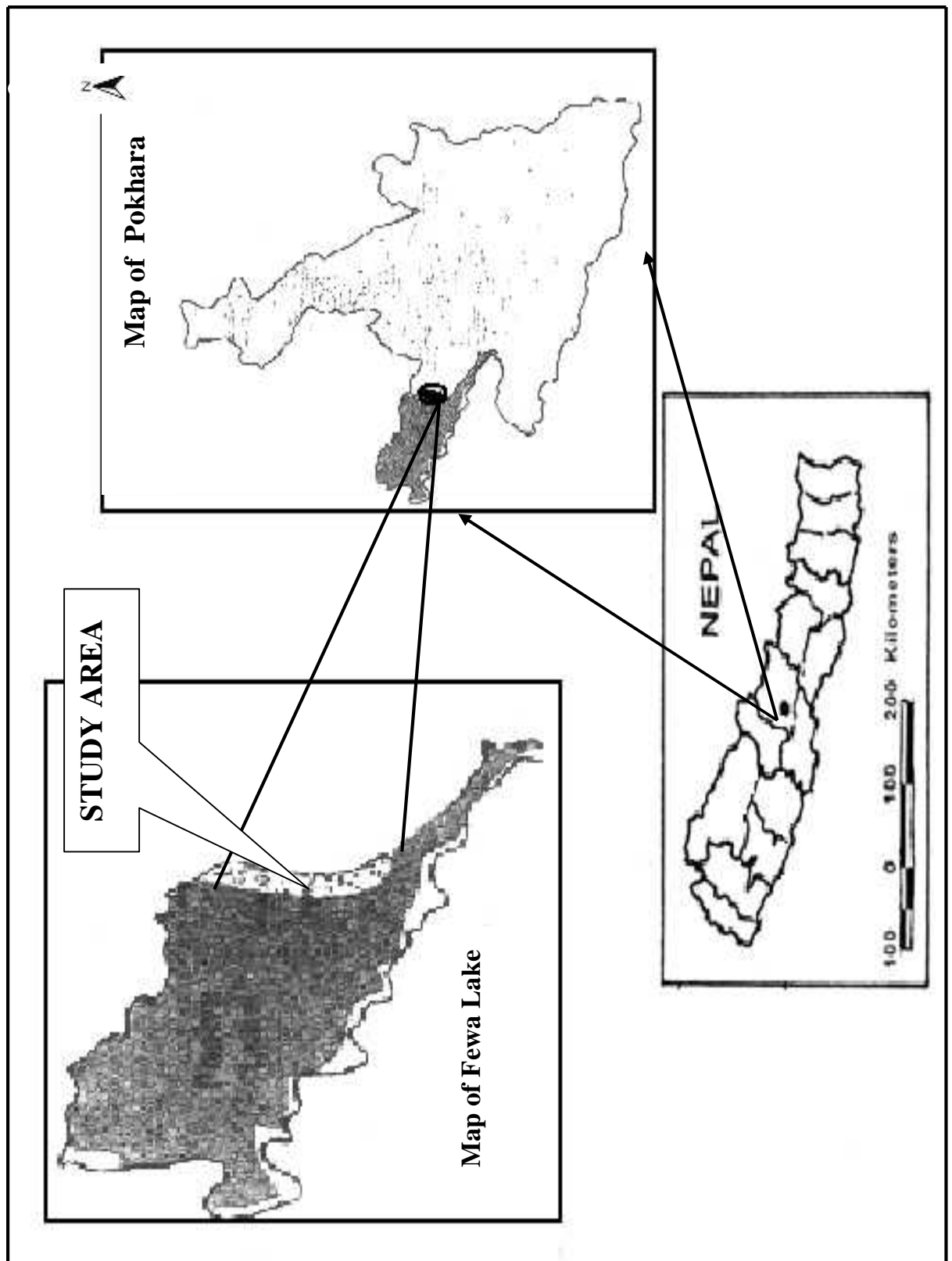
**Source:** Field Survey, 2009

The table 4.4 above discovers the fact that 42 percent of the total respondents were engaged in business that encompasses tourism related business. Similarly 22.2 percent of the respondents were involved in traditional occupation, especially farming which is followed by 17.2 percent the labor groups who basically depend on daily wages to meet basic requirement of the family. The private and government service holders were few in percent which is 13.6 and

the least one were 2.5 percent each respectively from student and housewife groups.

Viewing the above fact, the researcher had also interviewed about the monthly income of the respondent. The collected data reports the fact that 27.2 percent of the respondent fall in the group that earns in the range of Rs. 21000 and above. Likewise, it is followed by 25.9 percent of the respondents, the range from the earning group of Rs. 5,000 to Rs. 10,000. Similarly it is accompanied by 23.5 percent of the respondents from the earning range of Rs. 10,000 to Rs. 20,000. The groups of respondents (22.2%) earn the monthly income below Rs. 5000. So the economic structure of the study area seems to be sound.

We can conclude this chapter by stating that the locals of Fewa are well aware about the pollution of Fewa Lake. Socio-economically, the study sample was sound economic group and is found mostly in tourism related business. The level of education among them too was found of being normal and have wide knowledge about the worldly facts due to the influence of tourist. In the same way, the Lake is playing important role in enhancing the beauty of study site. It had also found tourism as the main source of income of the people. The survey report demonstrates that most of the families prefer to live in nuclear families. And it had found that most of them follow the Hinduism and some of them were found to have changed their religion to Christianity.



**Fig. 4.5: Map of Pokhara Showing Studying Site**  
Source: Department of Geography P.N.Campus Pokhara (GIS) 2009.

## CHAPTER V

### INTERRELATIONSHIP BETWEEN FEWA AND PEOPLE

This chapter includes the relationship between people and Fewa Lake in which the researcher has included the activities and the resources that has been performed and used by the people. This chapter begins with the frequency of visit to Fewa.

#### 5.1 Locals' Visit to the Fewa

The interaction between the Fewa and people or the use of resources can only be understood with the frequency of people's visit to the Lake, the higher the intensity of the visit, greater the chances of using local resources. So it can be clearer by the table below that shows the frequency of visit by the people to Fewa:

**Table 5.1 Frequency of Visit to the Fewa**

Type of visit	Frequency	Percent
Daily	43	53.1
Once a week	11	13.6
Once a month	3	3.7
Very often	24	29.6
<b>Total</b>	81	100

Source: Field survey, 2009

The table 5.1 above illustrates the fact that 53.1 percent of the total respondent make daily visit to Fewa Lake for different purposes. 29.6 percent of the respondent make visit very often or rare, whereas 13.6 percent of the total respondent had reported of making visit to the Fewa once a week. The 'very often' i.e. 3.7 percent of the respondents reported that they make a visit once in a month, even though they are living near by the Lake.

From the above details, we can say that there are very few respondents who make rare or very often visit whereas maximum people rely or make a daily visit to the Lake.

## **5.2 Resource Profile of the Lake**

Fewa Lake has been providing various resources to the people living around it. It has worked as the main basis for livelihood for the locals and the outsiders. The resources used from the Fewa Lake are listed as follows:

### **5.2.1 Business**

The water of Fewa Lake has been used mainly for the tourism related business where it encompasses hotel business, boating, sight seeing and rearing fishes. The hoteliers mainly use the water for their activities like washing dishes, using in bathroom, showering the plants etc. Similarly it is used as one of the main source of boat business by the locals and others for their livelihood. Hundreds of boaters place their boat for hire to the external and internal tourist which has been the good source of income for them. The Fewa has also created an option to the people to open different businesses such as provision stores, book stalls, souvenir shops, etc

### **5.2.2 Water Culture**

The water of Fewa Lake has been used by the locals since the past in different household activities. The respondents have also reported that the water of Fewa was suitable for drinking before ten years. But now they are using Lake water only for bathing and washing without caring its quality. Much of the Hindu people take a holy bath in this water and use the water as 'jal' in the various social and ritual ceremonies and rites. Similarly, Fewa has been used for swimming by the locals and the youths.

### **5.2.3 Recreational Site**

Fewa consists of large water body which helps view the panorama of Mount Machhapuchhree and the range of the Annapurnas. So, the people enjoy the

long hour's boat ride in the Lake. Also, the Fewa beach has provided one of the best sites for street festivals and other fairs. It also serves as a landing ground for the Para gliders.

Similarly, the open edge of the Lake has worked as a picnic spot to the different groups of people. Different people organize various kinds of picnics and parties during different occasions .So, the Fewa has provided a good environment and recreational site for the visitors. After the construction of pavement near the side of the Lake, it has attracted the people for morning and evening walk. So, it has also being a place of physical exercise.

#### **5.2.4 Water Transport**

The local people living in the western edge of Fewa use the water as a main source of transport. Beside this, the locals use water as a means of transport to collect the firewood from Raniban. During pre-autumn, the people go across the Fewa Lake to collect the chestnut from the forest. Some groups of people use boat as a means to collect fishes. The beautiful location of Tal Barahi had created regular transport facilities to pilgrims. Some of the hotel and restaurants use boat to carry their guests to their hotel.

#### **5.2.5 Religious Site**

The Fewa had got popularity not only because of scenic beauty of water but also due to the possession of important religious site which can be listed below:

##### **5.2.5a Tal Barahi Mandir**

The Tal Barahi is an island temple situated almost in the middle of the Lake. Hundreds of people make visit in a day to this temple due to the religious faith and to fulfill some of the basic needs and demands of the people. During Dashain, the crowd of Hindu people can be found more. This religious site is also used for marriages and other religious ceremonies as well.

### **5.2.5b Shiva and Kedareshwor Mandir**

Apart from Barahi temple, there exist two more temples namely Shiva and Kedareshwor Mandir. Especially greater numbers of people come to Shiva Mandir to worship Lord Shiva during Mahashivaratri. Kedareshwor Mandir remains busy throughout the year because people use this site as Mandap for marriage and Yagya for Bratabandha.

The Fewa Lake is also considered as sacred Lake as people gather near the Lake during Janai Purnima and worship the then used thread with the Lake water by the help of a priest.

### **5.2.6 Fishing**

Fewa Lake is natural habitat for different species of fishes. Different group of people are busy in the profession of fishing for their survival. Some people make fishing just for entertainment. Fewa has also given wide opportunities for fisheries development. And, it has also helped people to raise their economy by the means of fishing.

### **5.2.7 Irrigation**

On the western part of Fewa Lake, named Sedi , a smaller area of rice field has been irrigated by the Lake water. Even on the southern part of the Lake, another bigger area called Birauta has been irrigated by Lake water. For this purpose a dam has been built near Pardi. This has changed the living standard and the livelihood pattern of agricultural society. It is one of the factors that has helped give more value to the immovable property, the land.

### **5.2.8 Electricity**

The production of electricity has been carried with the help of Lake water. The Fewa Power house, generating electricity house lies in the southern steep hill of Pokhara. The production of electricity had helped increase the production capacity of the country. It has also helped to reduce the powercut for certain hours. This is a great relief to the people and initiation for industrialization.

Except these resources, the Fewa possesses the other resources as well. For example, water and lecturing soil for agricultural use, habitat for different migratory and non migratory birds and animals, etc.

In short, we can summarize the chapter as: it stresses more on the Fewa and people inter-relationship. It also studies about the people's visit to Fewa and the researcher has developed resource profile of Fewa Lake, that people use it in different form. Fewa Lake had proved itself that it can be used as multipurpose source. Most of the people had made Fewa Lake as the main source of living. So, it is clear from the above stated fact that efforts are very essential for conserving the Lake.

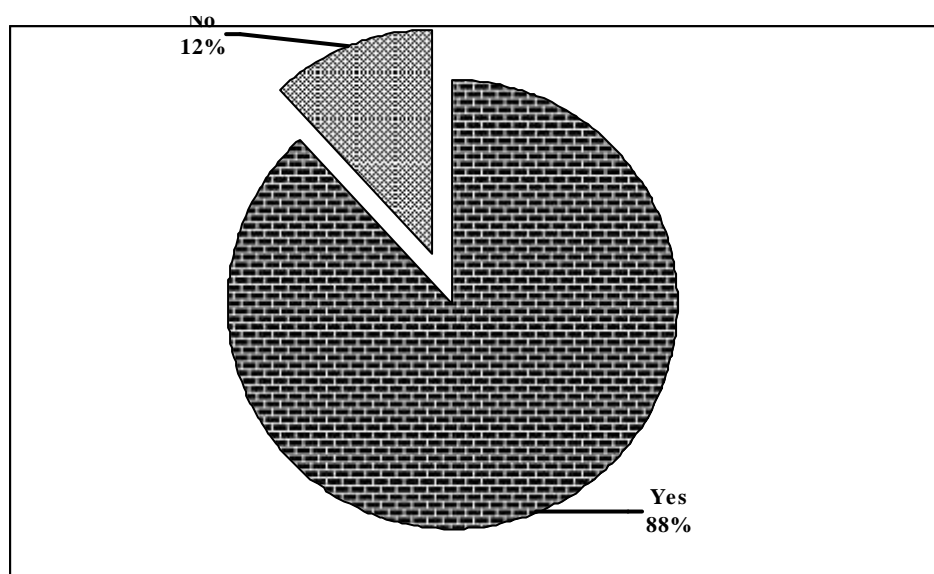
## CHAPTER VI

### LOCALS' PERCEPTION ABOUT POLLUTION AND ITS CAUSES

It is bitter reality that the Fewa water which has remained as the living source of people is becoming more and more polluted day by day. The different activities of human being had threatned the existence of Fewa Lake. This Chapter includes the perception of locals towards the pollution and its cause, responsive figure behind the pollution and some of the ways to mitigate the series problem.

#### 6.1 Perception Towards Pollution

The people who have seen the condition of Fewa knew that this Lake is getting polluted day by day. But here the reason wanted to know the perception of those locals who have year long experience of interaction with Fewa and had seen and experienced of degrading the quality of Fewa Lake. Due to this, the researcher had interviewed to the respondent whether they felt the Fewa is polluted or not. The following figure illustrates the fact given by the respondent about the pollution of Fewa Lake.



**Fig. 5.1: Pollution of Fewa Lake**  
Source: Field Survey, 2009

The above figure 5.1 shows that 88 (70) percent of the respondent had reported that the Fewa is getting polluted whereas 12(11) percent of the respondent had reported that they haven't notice any kinds of change in the Lake.

Out of 88 percent of the total respondents who had reported that Fewa Lake has been polluted or getting polluted, had remarked the different duration of time for the pollution. Out of them 51.4 percent of the reported groups of respondent had marked their time since 10 years. The pollution had started and now it is in the climax form. Similarly, 27.5 percent of the respondent had reported that the pollution had started before a decade. In the same way 22.9 percent of the respondents had marked that the rate of pollution had started from last five year.

When researcher had investigated about the perception on the rate of pollution of Fewa Lake, the different facts were gathered which have been demonstrated in the given table 6.1 below:

**Table 6.1 People's Perception on Rate of Pollution**

<b>Rate of pollution</b>	<b>Frequency</b>	<b>Percent</b>
High	51	72.9
Medium	17	24.2
Low	2	2.9
<b>Total</b>	<b>70</b>	<b>100.0</b>

**Source:** Field survey, 2009

Out of the 70 respondents, 72.9 percent of them had reported that the pollution is very high. Likewise, it is followed by 24.2 percent who had reported the rate is medium. Lastly, just 2.9 percent of the respondent had reported the rate of pollution is low.

So, here, we can conclude that, 'yes' the Fewa is polluted and started getting polluted in different period of time.

### 6.1.1 Changes in and Around the Fewa

From the field survey, the researcher had drawn numerous facts about the pollution of Fewa Lake. The researcher of the study wants to investigate some of the noticeable changes in and around the Fewa Lake. The fact gathered from the field has been illustrated from the figure 6.2 below:

**Table 6.2 Noticeable Change N=81**

<b>Changes</b>	<b>Frequency</b>	<b>Proportion</b>
Joining of <i>Seti</i> canal	3	3.7
Urbanization	7	8.6
Increase of water hyacinth	13	16.1
Increase of plastic and wastes	19	23.5
Increase of hotels	24	29.6
Reduction of Lake's border	18	22.2
Afforestation	1	1.2
Reduce of forest	1	1.2

Multiple responses case of 70 respondents

**Source:** Field survey, 2009

The above table 6.2 discovers the fact about the changes that was found in the Fewa Lake and its surroundings. So 29.62 percentage of the total respondent had reported that the hotels and restaurant were found in large number. In the same way 23.45 percent of the total respondent had reported that the uses of plastic bags and sewage from hotels have been increased in the periphery of Fewa Lake. In the same way, out of total respondent 22.22 percent of them had reported that the border of Fewa Lake has been reduced from the original lengthen. Likewise, increases of water hyacinth in the Fewa Lake have been reported by 16.04 percent. Some of the respondent also agreed about urbanization in rapid population growth around the areas which is reported by 8.6 percent of the total respondent. 3.7 percent of the total respondent again had noticed the joining of *Seti* canal to Fewa Lake as one of the major noticeable change in the Fewa Lake that has brought numerous changes within Fewa

Lake. Similarly 1.23 percent each had reported afforestation while others claimed in the reduction in the forest area respectively.

## 6.2 Causes of Pollution

In the above tables, the respondents have reported that Fewa is getting polluted. So, the researcher of the study had surveyed intensively on recording the main causes of Fewa pollution. As mentioned in the limitation of the study, it does not concern about the gender wise activities, the chemical composition of the pollutants has not been dealt and it has intensely focused on the people's experience and ideas for the pollution leaving especially in the study area only. It can be clearer from the table 6.3 below that highlights the main causes of pollution:

**Table 6.3 Polluting Factors**

<b>Causes</b>	<b>Frequency</b>	<b>Proportion</b>
Washing cloths	13	16
<i>Seti</i> canal	34	42
Sewage of hoteliers	43	53.1
Plastic products	21	25.9
Water hyacinth	17	21
Increase in population	3	3.7
Policy of government	1	1.2
Flood in rainy season	2	2.5

Multiple responses case of 81 respondents

**Source:** Field survey, 2009

The table 6.3 above gives the crystal clear vision about the causes of pollution by the locals. As per their known knowledge, 53.1 percent of the respondents had reported that it is the daily activity of the hoteliers, especially throwing the sewage and solid waste in the drain that means ultimately drain to Fewa Lake is the main cause for making the local resource, Fewa Lake, a major dumping site that had led to pollution. 42 percent of the respondent had reported that the rate of pollution had increased only after the connection of *Seti* canal to the

Fewa Lake, which carries the solid waste and sewage from northern, most part of Pokhara to the Lake. 25.9 percent of the total respondents have mentioned the use of plastic products as the main cause for the pollution. People after use throw directly in the drains which are carried to the Fewa. Similarly 21 percent of the respondents had reported that the excessive growth boreal aquatic plant called water hyacinth is gradually reducing the border of Fewa and is the main cause of the pollution. Likewise , researcher had observed and recorded the locals using the source of Fewa as a washing spot ( for photo, see appendix ) while 16 percent of the respondents had agreed that the local people use the excessive detergent and soap in the source of Fewa is one of the prominent cause for the pollution. Some of the key informant had also accepted this fact. They blame both government and public for not arranging the water supply to the people effectively. In the same way, 3.7 percent of the total respondents as well as all the key informants reported that due to the rapid urbanization, the growth of population has increased and that has resulted to pollute the Fewa. Some of the respondents i.e. 2.5 percent had reported that during rainy season, flood leaches the soil and carry all the thrown sewage to the Fewa Lake which has reduced the border and increased the pollution. Very few percent (1.2%) of the respondents had blamed that due to the lack of effective government policy, Fewa is getting polluted.

To sum up all above mentioned view, we can say that the locals accept that Fewa is getting polluted day by day. There are numerous causes behind it. So in the right time the right steps must be taken to mitigate the problem, otherwise the problem may get serious day by day.

### **6.3 Responsive Figures for Pollution**

The field survey had proved that the pollution of Fewa is getting crucial day by day. There are numerous polluting agents which are more actively involved in ruining the beauty of Fewa. The collected data for the responsive figure to pollute the Fewa is listed in the table 6.4 below that demonstrates the reported facts of locals with the year long experience:

**Table 6.4 Agents Responsible for Pollution**

<b>Responsive figure</b>	<b>Frequency</b>	<b>Percentage</b>
Connection of drain	4	4.9
DDC	1	1.2
Government	4	4.9
Hotel and restaurant	28	34.6
Local organization	1	1.2
Local people	34	42
Locals and tourism industry	1	1.2
Municipality(PSM)	2	2.5
Surrounding hotels and restaurant	1	1.2
The cloth washers	1	1.2
Tourist	3	3.7
Water hyacinth	1	1.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field survey, 2009

The table 6.4 above illustrates the fact about the local's perception for the most responsive figures which are active in making Fewa, a resource being polluted. Out of the total respondents 42 percent have reported that locals are responsible for the pollution. This is because they are fond of using the Fewa excessively as a dumping site, for swimming, washing clothes, etc. and do not actively participate in the cleaning activities. Similarly 34.6 percent of the respondents had reported that the hoteliers and the restaurants are main responsible figures because they had unauthorized link of the drain to Fewa and make it polluted which is not concerned by the concerned authorities. 4.9 percent each has reported that the locals had connected the drains to Fewa Lake which is the main cause for making pollution whereas 3.7 percent of the total respondents had reported that the increase of internal and external tourists is the main cause behind the pollution because they use the Fewa and threw the used up recreational goods and plastic bags in the Lake which is responsible behind the degradation of Fewa Lake. In the same way, 2.5 percent of the respondents had

reported that lack of effective workout plan and policies of the municipality is the main responsive figure behind the pollution and lastly 1.2 percent each has reported that lack of effective DDC's work, local organization's, locals and tourist industry, surrounding hotels and restaurant, cloth washers and water hyacinth are the other figures of pollution.

#### 6.4 Education and Local Perception on Pollution

The researcher of the field survey tried to get the in depth knowledge about the pollution of Fewa and the ways to conserve the Lake. So researcher had triangulate the education, local people and their percent which can be more clearly be seen in the table 6.5 below:

**Table 6.5 Education and local's Perception on Pollution**

Education	Local's perception on Fewa pollution				Total
	Normally	Indifferent to pollution	Left the work to government	Want to Work collectively	
Illiterate	5	4	2	0	<b>11</b>
Normal literate	11	8	4	3	<b>26</b>
Literate	24	9	5	6	<b>44</b>
<b>Total</b>	<b>40</b>	<b>21</b>	<b>11</b>	<b>9</b>	<b>81</b>

Source: Field Survey, 2009

From the above table, we can draw the fact that how the people react on the pollution and whom they feel more responsible for doing the work to make Fewa to come to its original state. Out of the respondent (11), maximum had reported being just normal towards the pollution, minimum they left the work to be done by the government. In the same way, out of total normal literate groups, the majorities were found being normal towards the pollution and some of them were found indifferent towards the pollution. Some of them wanted the government to do the work whereas very few respondents had reported to work collectively for the protection and mitigation of Fewa pollution. From the literate categories, 24 respondents reported normal towards the pollution of

Fewa and 9 of them were totally indifferent towards the pollution whereas 5 of them give sole responsibility to the government. Lastly 6 of them wanted to work collectively to solve the problem of pollution.

### 6.5 Ways to Mitigate the Problem

Pollution is not curable in itself. Only due to the lack of awareness, people do not concern about solving the problem and remain indifferent towards the work. The researcher of the field survey had interviewed to the respondents about the ways to curve the concerned problem. The reported fact had been tabulated in the table 6.6 below:

**Table 6.6 Ways to Minimize the Pollution N=81**

Ways	Frequency	Proportion
Diverting <i>Seti</i> canal	17	20.9
Constructing wall in the mouth	13	16.0
Not letting to wash clothes	25	30.8
Proper disposal of water hyacinth	29	35.8
Government should concern for pollution	3	3.7
Giving awareness to the hotelier	13	16.0
Punishment for the pollution makers	2	2.5

Multiple responses case of 81 respondents  
**Source:** Field survey, 2009

The table 6.6 above illustrates the fact with multiple response pacts. Out of the total respondent 35.8 percent of them had reported that the problem can be minimized if the water hyacinth is properly managed and pick up at a right time whereas 30.8 percent of the total respondent stated that if the concerned authorities formulate a strict plan not to let the people to wash clothes, the problem can be solved up to some extent. Likewise, 21 percent of the total respondents strangely connected on diverging out the entire *Seti* irrigational canal from Fewa Lake which is only the best way to solve the problem. Similarly, 16.1 percent each of the total respondent had reported that the awareness must be developed towards the drawback of Fewa pollution and the

consequences of Fewa being endangered to the hoteliers constructing gravel wall in the mouth of *Harpan Khola* that adjoins Fewa Lake to check the entry of water hyacinth to Fewa, is one of the best way to mitigate the problem. Lastly, 3.7 percent of the respondent had even forced that the government need to be active to formulate plans and policies with strict implication can help to make the local resource, Fewa pollution free.

### 6.5.1 Solid Waste Management by Locals

The visible component as one of the most responsive and crucial problem for the pollution is the issue of solid waste management. Here the researcher had interviewed to the locals about the ways they had adopted to manage the waste came out from their homes. They had given varieties of reponses concerning the management of solid waste which can be seen in the table 6.7 below:

**Table 6.7 Ways Adopted for Solid Waste Management**

<b>Ways of managing wastes</b>	<b>Frequency</b>	<b>Percent</b>
Collecting and using municipal van	54	66.7
Incinerate the solid burnable	9	11.1
Make manure , the biodegradable	18	22.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field survey, 2009

From the above table 6.7, we can draw the conclusion that 66.7 percent of the total respondents had used the facilities provided by municipality to dispose the solid waste. They mostly used to collect the solid waste and threw them with the help of municipality's vehicle. Subsequently, 22.2 percent of the respondents reported that they used to produce manure from the bio-degradable solid waste whereas 11.1 percent of the total respondent reported that they incinerate the burnable item and the non-burnable, they dispose through municipality vehicle.

### 6.5.2 Management of Water Hyacinth

In context to the Fewa Lake , the most burning and highlighted issue is water hyacinth which has attracted numerous organizations in the name of management with foreign aids and so – called non profit and social welfare organizations. For that, the researcher had asked the local concerns about the management of water hyacinth, the collected fact has been shown in the table 6.8 below:

**Table 6.8 Ways to Manage Water Hyacinth N=81**

Ways of management	Frequency	Proportion
By constructing stone bar at the mouth	2	2.5
Diverting out the <i>Seti</i> water	2	2.5
Properly decompose water hyacinth	13	16
Picking in non-rainy season	57	70.4
Using medicine to kill water weeds	14	17.3
By collecting and burning	21	25.9
By making manure	4	4.9

Multiple responses case of 81 respondents

**Source:** Field survey, 2009

The table 6.8 above illustrates the fact about the management of water hyacinth reported by the locals. 70.4 percent of the total respondents had reported that water hyacinth must be picked up in non-rainy season and must be disposed properly. Likewise, 25.9 percent of the total respondent had reported that the picked hyacinth must be dried and burned properly. In the same way, 17.3 percent had reported that there must be the use of medicine to end off such uncontrollable weeds. Similarly, 16.1 percent had simply responded to decompose the collected weeds properly. In the same way, 4.9 percent had reported that the weed must be converting into the manure for the proper management and to get the profit. Lastly, 2.5 percent each of the total respondents had reported that it is extremely essential to construct gravel wall at the mouth of *Harpan Khola* to check the entry of water hyacinth and by

diverting out the flow of *Seti* water from Fewa Lake to reduce the unnecessary pollutants to get entry in the water of Fewa.

To summarize this chapter, we find mostly it was stressed by the researcher on the people's perception about the cause of pollution and responsive figure for the pollution of Fewa Lake. Here, the level of education of the respondents were been also studied to know about the level of consciousness and awareness in relation to the pollution of Fewa Lake. This chapter states clearly about the ways to mitigate the pollution by the ways to mitigate the pollution by the ways adopted for solid waste management and management of the water hyacinth.

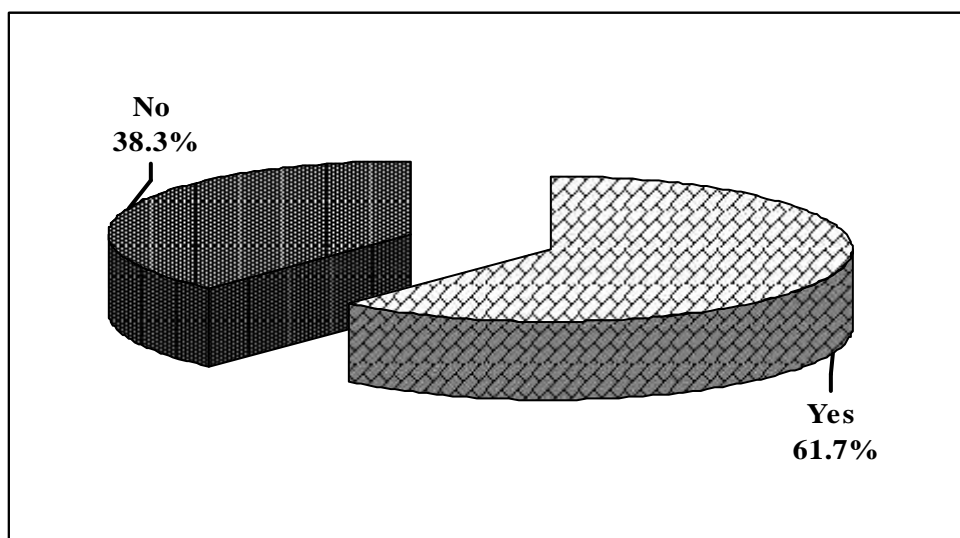
## CHAPTER VII

### LOCALS' PARTICIPATION TOWARDS CONSERVATION

This chapter includes the local participation rate, attitude and ways to be addressed in conservational activities, it also focused on people's satisfaction towards the present conservational activity. In the same way it highlights the main fact that is needed to be conserved and the need of government role to address locals and the way to increase the local involvement. It starts with the local activation in the conservational activity.

#### 7.1 Local's Activation in Fewa Conservation.

It is renowned fact that the involvement of stakeholders in the developmental and constructional activities makes the things durable and proves the sources sustainability. If we incorporate the locals for the conservation of local resource, we can gain in depth indigenous knowledge to preserve the local resources because they are users since from the ancient past. So they had adopted various methods for the conservation keeping that in consideration, the researcher of this study interviewed to the locals about the participation in the Fewa conservation. The data about the participation has been illustrated in the figure 7.1 below:

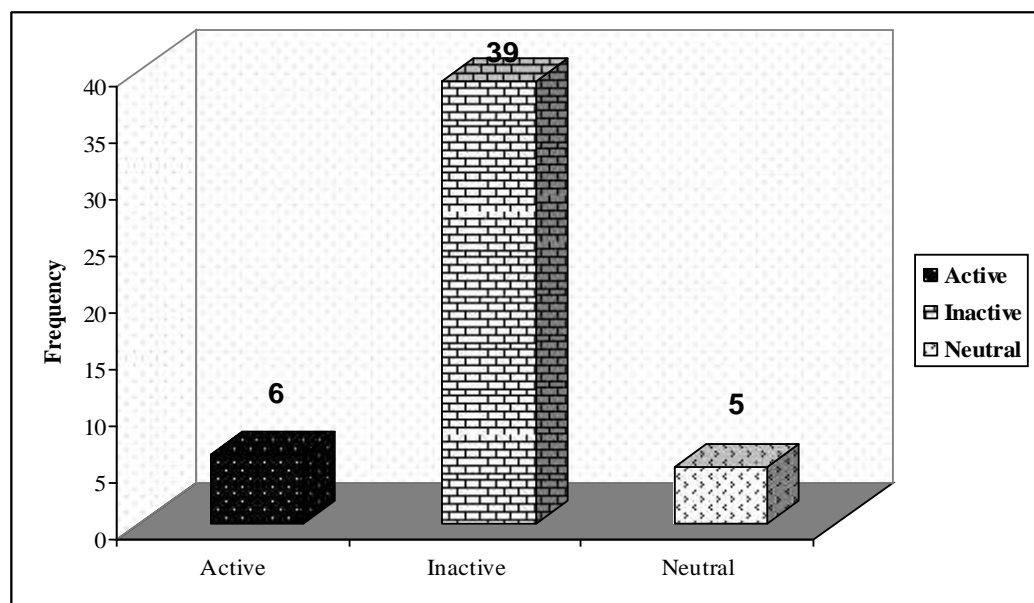


**Fig. 7.1: Local's Involvement in Conservation**

Source: Field survey, 2009

From the above figure 7.1, it is clear that 61.7(50) percent of the total respondent directly or indirectly involved in the conservational activity whereas 38.3(31) percent of the respondent were found being indifferent towards the conservational activities and have not given much time for any kind of conservational activities. Out of 61.7 percent of the respondent who had reported that they are involved directly or indirectly in the conservation had state of being participated in different programmes. 62 percent of the respondent from this category had reported that they were actively involved in picking the water hyacinth. In the same way 24 percent of the respondent had reported that they have been involved in various organizations and help to clean surroundings. Similarly 8 percent of them had reported of management of solid waste whereas 4 percent of them reported that they work to bring the Fewa in its original state. Likewise, 2 percent of them had reported that they were actively involved in giving awareness about Fewa conservation.

The researcher had made in depth interview with 66.7 (50) percent of the respondents who were in the different conservational activities about the rate of their involvement the following fact were gathered from the field which is in the figure 7.2 below:



**Fig. 7.2: Rate of Involvement in Conservation**  
 Source: Field survey, 2009

The figure 7.2 above discovers the fact collected from the 50(61.7) respondents have reported that they are involved in conservational activities. The figure discovers fact about the rate of locals' involvement. In the given figure, 78 percent of the total respondents are not actively involved neither in active in the work. They were normally participated in the conservational activity whereas 12 percent of them had reported that they are actively involved in the conservational activities to Fewa Lake. Whereas 10 percent among them have reported that their involvement was just noticeable. So her we can assume that people are actively or inactively involved to preserve and promote the Fewa Lake, they proudly state that it is their identity and responsibility to preserve the Lake.

## 7.2 Need for the Conservation of Fewa

As already discussed in the proceeding subheads about the importance of the local resource to the people, here field survey highlights the importance of Fewa Lake in the daily life of locals and has been the source of living for the numerous people. The importance of conservation has been listed in the table 7.1 below:

**Table7.1 Importance of Fewa Conservation**

<b>Importance of conservation</b>	<b>Frequency</b>	<b>Percent</b>
Source of livelihood	20	24.7
For country's economic progress	2	2.5
Multipurpose use	3	3.7
Identity of the nation	22	27.2
Habitat for aquatic animals	2	2.5
Recreational site	3	3.7
To save Fewa	2	2.5
Development of tourism	17	21
To make environment clean	10	12.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field survey, 2009

The table above discovers the fact about the importance of Fewa conservation. 27.2 percent of the total respondents have mentioned that it is the identity of our country, so the people must actively involve saving the Fewa resource. In the same way, 24.7 percent of the respondent stated that it is one of the main sources of livelihood which has provided numerous job opportunities to the locals and outsiders. In the same way, 21 percent of the respondents highlighted the importance of conservation as it will help to promote tourism. Whereas 12.2 percent have stated that the conservation will make the environment clean and will prove to be the best habitat for different species of birds and animals. In the same way, 3.7 percent each reported that the Fewa has act as recreational site and used for multipurpose to give it continuity, people must conserve whereas 2.5 percent each of the respondent had marked the importance of conservation on economic progress of the country, habitat for aquatic animals and to save the Fewa from remaining only in the book of History. Most of the respondents had stated that Fewa is an important resource for the insiders and outsiders. Even, the Fewa is getting polluted in a massive order. The only requirement is the increase in awareness among the people about the impact of pollution and advantages of conservation and translates in that awareness into practice. When the respondents were asked about the ways to conserve Fewa, they had reported the following facts which are listed in the table 7.2 below:

**Table 7.2 Ways Proposed by Locals to Create Awareness**

<b>Ways to create awareness</b>	<b>Frequency</b>	<b>Percent</b>
Means of mass media	40	49.4
Through academic curriculum	28	34.6
Through seminars and programs	12	14.8
Involvement of all in conservation	1	1.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field survey, 2009

The table 7.2 above demonstrates that 49.4 percent of the total respondents have emphasized that the awareness should be created through the means of mass media communication. In the same way, 34.6 percent had recommended about the conservation, it should be incorporate in the academic courses. Similarly, 14.8 percent of the respondents had stated that seminars and workshop must be conducted to create awareness towards the impact of pollution whereas 1.2 percent of the respondent had reported only need to involve in all sorts of conservational activities.

### 7.3 Considerable Factors for Conservation

The above table surveyed from the field shows that there needs to be considered while formulating or initiating conservational activities. The researcher had surveyed the respondents and interviewed them about the considerable factor for the conservation and discovered various facts which are listed in the table 7.3 below:

**Table 7.3 Factors for Conservation**

<b>Factors</b>	<b>Frequency</b>	<b>Percent</b>
Management of water hyacinth	18	22.2
Management of drain and canals	25	30.9
Management of <i>Seti</i> canal	9	11.1
Management of solid waste	11	13.6
Local activeness	2	2.5
Encroachment should be checked	5	6.2
Purification of <i>Harpan</i> water	4	4.9
Others	7	8.6
<b>Total</b>	<b>81</b>	<b>100.0</b>

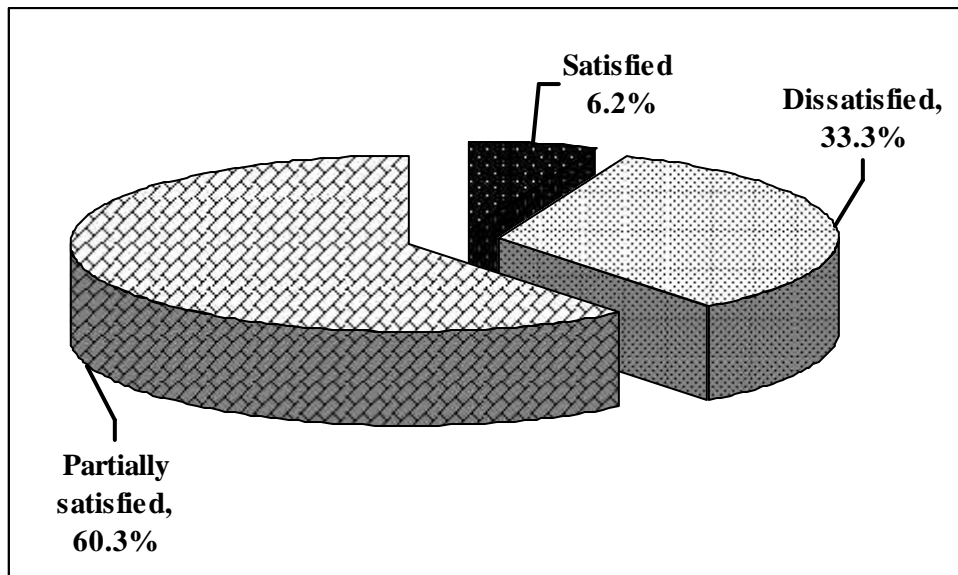
**Source:** Field survey, 2009

Table 7.3 above discovers the fact that there are various factors that are extremely necessary for keeping in consideration while formulating plan and programs related to conservation. The survey reports upon 81 households mark clearly that 30.9 percent recommend managing the drain and adjoining canal

from letting entry to Fewa. In the same way, 22 percent of them had reported the water weed called water hyacinth must be seriously concerned towards its management and proper decomposition. In this way, 13.6 percent of them had reported that the solid waste coming out from the household should be properly managed and also awareness programs should be conducted among people about the drawbacks of throwing solid waste in the water bodies. 11.1 percent of them had marked that the *Seti* water must be drained out from Fewa Lake. Likewise 6.2 percent of the respondents mentioned that the fast reducing border of Fewa Lake must be kept on first priority and work cooperatively to check the border of encroachment. 4.9 percent of them had marked that the water of Harpan Khola must be managed and purified before getting entry to the Lake and some of them also had reported that the gravel wall must be constructed at the mouth of the river to check the entry of water hyacinth through the river water. Subsequently 2.5 percent of them had reported that the locals must be made more active in the conservational activities whereas a person of each accompanied to 8.6 percent had reported as the afforestation program should be more active, the proper housing policies near Lake, awareness towards pollution and not letting people to wash their clothes in the source of Fewa are the main factors considered for the conservation of Fewa proposed by locals.

#### **7.4 Satisfaction Towards the Present Conservational Activities**

It is stated that the plan and policies formulated by man remain static for a certain period of time only. It is because of two factors. Firstly, due to the changing time and the environment and secondly, their formulated plan and policies where mend by mortal beings, so the plans mended ones do not last for a long time. So the case of satisfaction towards any work will get varieties of responses as it can be proved through the help of the figure 7.3 below collected from the field survey that highlights the rate of satisfaction of the locals.



**Fig.7.3: Satisfaction towards Conservation**

Source: Field survey, 2009

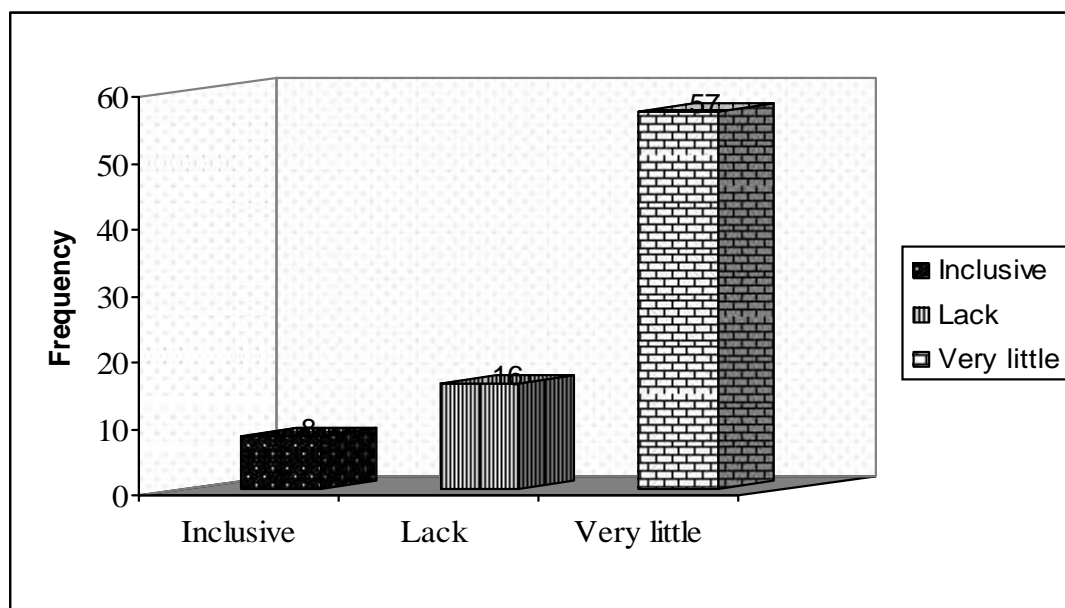
The figure 7.3 above elaborates the fact that only 6.2 percent were satisfied with the present conservational activities whereas 33.3 percent of the respondents were not satisfied with the present conservational activities. But 60.5 percent had stated that they are partially satisfied with the conservational activities launched by different government and non government organizations. From the given figure above, we can draw the conclusion that the rate of local participation in decisive role is still less which has results the large dissatisfaction range.

## **7.5 Ways to Address the Local**

The figure 7.3 above had marked that the locals were partially been satisfied and large number of the respondent were dissatisfied with the conservational works. So, the researcher has planned to survey about the rate of local's involvement in different organizational address to the locals in such works.

### **7.5.1 Locals Addressed by Organization in Conservation**

The field survey collected among 81 respondents shows the different ideas and their expression about the ways adopted to address the locals by different organization. The fact has been listed in the figure 7.4 below:



**Fig.7.4: Locals Addressed in Conservation**

**Source:** Field survey, 2009

The fig 7.4 above gives the glimpse about the ways adopted to address the local people in different conservational activities were 70.4 percent of the total respondents. Out of 81 from the field survey reported that there is very little representation of locals in the development and conservational works whereas 19.8 percent of them had reported that there are numerous organizations established in the name to preserve and promote the Fewa Lake but had not incorporated the locals in the work. They state that the locals have never been addressed only to get financial aid from outside. But 9.9 percent of the respondents had marked that the conservational activities always concern for the involvement of locals so had experienced that inclusive representation of local in the conservational activities.

### **7.5.2 Increment of the Local's Participation**

One cannot deny the importance of locals in the conservational activities of local resources; they are the sources of knowledge and experience about the use and management of the prevailing resource, when the interview was conducted among the total respondent to gain their ideas to increase the locals. They had presented various facts which have been illustrated in the table 7.4 below:

**Table 7.4 Ways to Increase Local Participation**

<b>Ways</b>	<b>Frequency</b>	<b>Percent</b>
By creating awareness	28	34.6
By making feel responsible	35	43.2
By paying wages	12	14.8
By giving contract	6	7.4
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field survey, 2009

From the table 7.4 above, we can gather the fact reported by the respondent of the study as 43.2 percent of the respondent out of 81 from field survey marked that the programmes must be conducted to make the locals feel responsible towards the local resource and make them aware about the importance of resources, that will help to increase the locals the conservational activities. Similarly 34.6 percent of the respondents had stated that awareness campaign and programme should be conducted so that people will realize the importance of Fewa and contribute their time for the management of the degrading resources. Likewise 14.8 percent of the respondents had reported that to increase in the local participation should be paid as daily wages or monthly salary whereas 7.4 percent of them had stated that to increase the locals contract must be given to the locals to increase the locals participation.

### **7.5.3 Plan and Policies Needed for the Conservation**

To work firmly, for any work, it needs proper formulated plan and policies. In the absence the work will not get proper direction and to meet the goal, will be impossible and the work will take long time with massive use of budget. So the researcher of the study had interviewed with the respondents about the ways needed for the conservational activities. They had proposed different plans in regard to the conservational works which are listed below:

**Table 7.5 Plans and Policies Recommend by Locals**

<b>Plans and policies</b>	<b>Frequency</b>	<b>Percent</b>
Bordering the Lake	11	13.6
Proper government policy	28	34.6
Incorporate locals and government	18	22.2
Management of canals and hyacinth	9	11.1
Management of waste	7	8.7
Master plan of the Lake	3	3.7
Maximum utilization of Lake water	2	2.5
Management of flood water properly	1	1.2
Need to follow international law	1	1.2
Conservation through tourism tax	1	1.2
<b>Total</b>	<b>81</b>	<b>100.0</b>

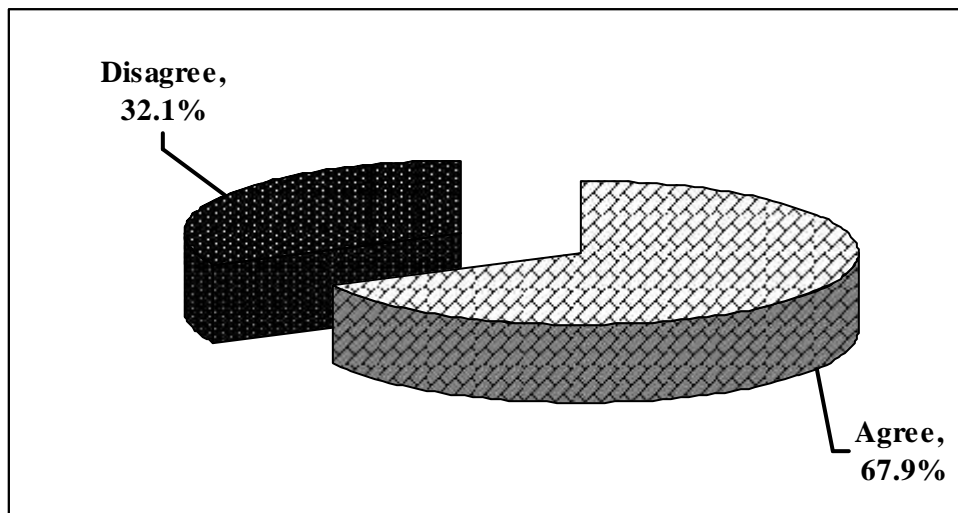
**Source:** Field Survey: 2009

With the help of given table 7.5 above, we can draw number of essential plans that are needed for the conservation of Fewa Lake. Out of total respondents 34.6 percent strongly recommended that as a responsible institute, government must consider this resource as one of the important like others and need to formulate plans and policies for the conservational and promotional works. In the same way, 22.2 percent of the respondents had marked that we should not only look upon for the government to complete the work rather the locals must incorporate along with the government in the conservational activities and promote for the self reliant. In the same way, 13.6 percent of the respondent had suggested that plans must be formulated to save the Fewa Lake, first which includes the bordering of the Lake which is a prominent factor. Similarly 11.1 percent of the respondent had recommended managing the water hyacinth and the unnecessary mixing of *Seti* water in the Lake which helps increase the water hyacinth. Likewise 8.7 percent of the respondent had recommended managing the solid waste coming out from the household especially near the Fewa Lake and those who are living by the side of *Seti* canal. 3.7 percent of the respondents recommended the need of master plan for Fewa's conservation and

promotion. In the same way, 2.5 percent of the respondent had reported to make maximum potential use of Fewa resource without hampering its original state. Similarly, 1.2 percent each has recommended managing the flood water, needing to follow the international law, conservation through the collection of tourism tax respectively. Keeping all the above in consideration, there needs a specific plan and policies to conserve the Fewa at the right time.

### 7.6 Need to Involve the Locals

The respondents of the field survey had marked the different views towards the involvement of the locals in the conservational activities, the fact gathered from the field had been shown in the figure below.



**Fig. 7.5 Involvement of the Locals**  
Source: Field Survey, 2009

The survey report clearly marks that there is a need to involve the locals in the conservational activity. 67.9 percent of the total respondents were agreed in the need of locals for the conservation whereas 32.1 percent of the respondent were indifferent to the issue and reported that government should be responsible for the conservational works. From the 55 respondents, out of 81 who marked the need of locals in the conservational activities had stated that different reasons behind the local's involvement, which can be more clearly understand through the help of given table 7.6 below:

**Table 7.6 Reason for Involving Locals**

<b>Reasons</b>	<b>Frequency</b>	<b>Percentage</b>
They are the first users	29	52.7
They knew the real problem	13	23.6
It is their identity	5	9.1
For long lasting	3	5.5
For agriculture	1	1.8
For their livelihood	4	7.3
<b>Total</b>	<b>55</b>	<b>100.0</b>

**Source:** Field survey, 2009

From the above table 7.6, we can draw the fact that 52.7 percent of the respondents out of 55 from the field survey reported that the locals are the first users of the local resources, so they should be more reasonable and responsible towards the issue of conservation. Similarly, 23.6 percent of them reported that they had used from long past and have year long experiences, so they have the real ideas and the knowledge for the pollution. Likewise 9.1 percent of them had reported that it is their identity, so, to save their identity they must work. 7.3 percent of them had reported that it is a main source of living for them. In the absence of it, their economic activity will come to a halt which is also agreed by the key informant of the study site. The key informants have also reported that the people living nearby the source directly rely on Fewa and conduct economic activities. In the same way, 5.5 percent of them marked that the locals' involvement will make the work durable, they are the stakeholders, so their ideas are very much essential while formulating or executing conservational works. Lastly very few percent (1.8%) had reported that the water is used for agricultural purpose, so the locals must be responsive behind the works.

### **7.6.1 Role of Locals in Conservation**

All the tables above have directly or indirectly accepted that there is a need of local's involvement in conservational activities. So the researcher of the field

study interviewed with the respondent to know about their expected roles in the conservational activities. The fact collected from the field survey has been demonstrated in 7.7 below:

**Table 7.7 Expected Role of the Locals**

<b>Expected role</b>	<b>Frequency</b>	<b>Percent</b>
Actively involve for conservation	23	28.4
Work to save the Lake	13	16.1
Emphasis on work than speech	4	4.9
Keeping <i>Seti</i> canal clean	1	1.2
Management of waste	8	9.9
Feeling of responsibility	24	29.6
Collective work	8	9.9
<b>Total</b>	<b>81</b>	<b>100.0</b>

**Source:** Field Survey, 2009

The table 7.7 above illustrates that the role of locals is very essential. So 29.6 percent of the respondent from field survey had reported that locals should feel responsible towards the work and to preserve and promote local most important resources. In the same way, 28.4 percent of the respondent had reported that they must work actively to execute to formulate the plans. Similarly, 16.1 percent had marked that the locals should work to save the Fewa. They should not drain out the solid waste in the canal or drains which joins the Fewa. The solid waste should be properly managed. 9.9 percent of the respondent had reported that the solid waste should be properly managed by the locals to solve the beauty of Fewa. Likewise, the 4.9 percent of the respondents had recommended that the locals should not be busy on giving fake speeches and assurances rather they need to work for the conservation and have to contribute more and more time to bring Fewa into its original shape. Lastly, 1.2 percent of the respondent from the field survey reported that the people near by the *Seti* canal must not throw the waste in the canal and should make the canal clean as much as possible. If they don't have time to keep the canal clean they have no right to make the canal pollute.

To sum up, this chapter focuses on the people's perception about the conservation of Fewa Lake. Here the researcher had focused on local activation as well as need for the conservation of Fewa as well as the ideas about most considerable factor for conservation. When asked with the respondents about satisfaction to the conservation work done at present. They were also asked the way how the locals can be incorporate or increase the participation. It was also studied that how do the local and national level project address the locals on the conservational plan to Fewa. Here the respondents had reported that the locals must involve in the conservation of local resources to the sustainable. And locals can play important role in conservational activities of the lake.

## CHAPTER VIII

### SUMMARY, FINDINGS AND CONCLUSION

#### 8.1 Summary

This study has mainly concentrated on the perception of local people toward the conservation of Fewa Lake. It has dealt with numerous research questions, based on local's income, stakeholder's involvement and perception of educated locals. Keeping the research questions in consideration, this research had drawn general objective as to analyze the conservational attitude of the people living near Fewa Lake. To meet the research questions, specific objective were also set for the studies which are as follows:

- i) To analyze the socio-economic status of the locals in the study area.
- ii) To prepare the resource profile of Fewa Lake.
- iii) To study the peoples' perception about the pollution of Fewa Lake.
- iv) To find out the local participation in conservation of Fewa Lake.

Basically, this is an academic study which aims to discover some new facts regarding the pollution and will help in formulating various policies regarding the conservation of Fewa Lake .This study is mainly focused on local people's attitude and suggestions that are needed for the conservation of Fewa Lake. As Fewa is one of the important natural resource as well as identity of Pokhara, so conservation in concern to the Fewa is an important issue. At the right time, right steps and plans must be formulated to save the Fewa, So it has investigated the issues on locals participation, needed for the participation, how the different agencies had incorporated and as well as it has focused on the level of income of the respondent. During this study, the literature on conservation of wetlands, sociology of knowledge, local's participation; natural resources in the world and in Nepal have been reviewed.

As a student researcher, the researcher was bound with different limitations such as budget, time and specific at only the locals in the conservation. It was

also unable to include gender differences or institutional difference in the conservation of Fewa Lake. The researcher had selected the purposive area to get the intended knowledge about the locals and their attitudes, so the household of Poudel, Pariyar, Pahari and Nepali built in the area of Northern edge of Fewa Lake from Camping Chowk to Komagane Park of ward no. 6 of PSM as a witness of the study.

This is a more descriptive while slight exploratory designed investigation to the study site. The households built in the study site has taken as the universe of the study and taken the sample of 65 percent of the universe as 81 household for the purpose of the study to collect the valid and reliable data. For the purpose of the study, observation, interview schedule and key informant interview were adopted as data collection techniques and tools, used for collecting qualitative and quantitative data. Thus, the data collected for the study are primarily based on the primary resource when needed. Some important secondary sources of data have also been incorporated.

For the purpose of getting reliable data, the interview schedule was prepared earlier was pre-tested in non-sampled area and the results were manually tabulated and refined the interview schedule. Both structured and unstructured observations were made from time to time. Key informant interview and the personal experiences were the structured observation while the interview schedule of the study yields quantitative and qualitative data. The participants of the key informants were the representatives of locals that have long experiences on the use and conservational promotional utilities. The collected data have been analyzed by using the computer program SPSS 12.0 for windows while qualitative data have been manually analyzed. Results of quantitative data have been analyzed by using various tables, charts and diagrams.

As the locals of Fewa periphery are the key stakeholders and the person who have numerous ideas and experiences about the use and management of the

resource. But due to the rapid urbanization, the locals were not incorporated or very less participation was made in the conservation of Fewa. The Fewa is getting polluted in massive way and numerous agencies were set up to curve with the problem but yet seem short. The government policies also seem short in relation to the conservational activities. The haphazard using of Fewa is found to be the most prominent factor for the pollution of Fewa and the lack of proper address to the local people in the conservational activities is another important reason for making the Fewa endangered.

## **8.2 Findings of the Study**

During the field survey, it has been explored and examined the different aspects regarding the Fewa and locals concern towards it. The major findings of the study are listed below:

- ) The study sampled shows that 58 percent of the total respondent lived in nuclear pattern of family while 42 percent of the respondents were lived in joint family.
- ) The survey report states clearly that 86.4 (70) percent of the respondents were literate with different standard and very few 13.6 (11) percent of the respondent were literate.
- ) The majority (69) of the respondent were from the age group range from 21 to 60 years old.
- ) Out of the total respondent 85.2 percent of them were the followers of Hinduism and 12.3 percent Christians and lastly 2.5 Buddhists.
- ) The majority (42%) of the respondent were engaged in business that encompass the tourism related business while 13.6 percent of the respondent were found of being involved in the service oriented jobs and the rest are farmer, labor, housewife and the student.
- ) The survey report states clearly that the majority (53.1%) of the respondents visited the Lake daily for different purpose as for business, boating, walking and for entertainment while 29.6 percent of the respondent reported that they visit very often.

- ) The Fewa has been used by locals for different purposes such as recreational site, water transport, religious site, fishing, irrigation and electricity.
- ) From the field survey, it was discovered that 88 percent of the respondent had admitted that the Fewa is getting polluted while 12 percent respondent reported as normal.
- ) Out of 88 (70) percent of the respondents who expressed that marked the Fewa is getting polluted with different range. 72.9 percent of them had stated that the rate of pollution is very high. Similarly, 24.2 percent of them had reported that the rate is medium while 2.9 percent had reported the Lake is getting polluted slowly.
- ) Out of 70 respondents, 23.5 percent had reported that the use of plastic had increased in the market and Fewa is used as a dumping site of plastic by the city dwellers. In the same way, 29.6 percent of them had marked that the hotels were increased in massive number that has also helped increase the pollution in Fewa Lake while 22.2 percent had admitted that the border of Fewa is gradually narrowing because of the increase of pollution and lack of conservation. The increase of water hyacinth by 16.1 percent.
- ) There are numerous causes behind the pollution as reported by the respondents; it gets polluted mostly by the plastic products, washing clothes in the source, *Seti* canal, water hyacinth, flood water and weak policies of the government.
- ) The most responsive figure reported by the respondents is the local people themselves. It has been marked by 42 percent of the respondents. Similarly 34.6 percent of the respondents had marked to the hotels and restaurants and followed by connecting the drains by 4.9 percent.
- ) Out of the total respondents the very few (11.1%) of them wanted to work collectively for the conservation of Fewa Lake. The maximum of them had treated the pollution normally while some of them were

indifferent to the pollution and left the work to be done by the government.

- ) Out of the total respondents, 35.8 percent had marked that the water hyacinth of Fewa Lake must be properly managed. In the same way, 30.8 percent had marked not to let the people to wash the clothes in the source.
- ) From the field study, 20.9 percent of the respondents had marked to divert out the *Seti* canal from being getting entry to Fewa.
- ) Out of the total respondents, 70.4 had recommended to pick up the water hyacinth in non- rainy season to make the Fewa pollution free while 17.3 percent had recommended using medicine to kill the water weeds. Rests of the respondent recommend diverting out the *Seti* canal from Fewa Lake.
- ) From the field survey, 61.7 (50) percent of the respondents were found of being involved in the conservational activities while 38.3 (31) percent were not found of being involved in any such activities.
- ) Out of 61.7 percent, 6 (12%) respondents were found of active involvement in the conservational activities.
- ) Total respondents had reported the need of conservation of Fewa Lake for different purpose as a source of income, for national identity, development of tourism, etc.
- ) Out of total respondents 30.9 (25) percent had recommended for the management of drain and canals to save the Fewa from pollution.
- ) The majority of the respondent had reported that there is very little address of local people during conservational works.
- ) There is an excessive need of government and non- governmental plan and policies and organization to address locals in the conservational works.

### **8.3 Conclusion**

Conservation is one of the inseparable part of the ecology. And the locals' involvement in such works can be a significant, so we cannot deny the involvement of locals in the conservational works. They possess numerous ideas and knowledge about the ways to conserve the local resources. But due to the modernization, the local values and ideas are reluctant and not incorporated that make the condition of resource more pitiable. Due to this all, the respondents of the study site were not much interested in the conservational activities rather they are fond of relying to the government for the conservational works. People are fond to be bond with dwell practices. On the one hand, they still believe the Fewa Lake as an identity of the country and on the other hand, same people are the main polluting agent of the Lake. At the same time, the apathy and failure to develop appropriate mechanism from the concerned authorities and agencies are other agents that must be accounted while talking about the problems of Fewa Lake.

It has been found that the conservational agencies had not appropriately addressed the locals during their conservational plans. The amazing fact is massive growth of water hyacinth because of governmental policy to connect *Seti* canal to the Fewa and city plan near the Lake without concerning the locals. The rapid growth of hotels and restaurants is also found as one of the main agents for the pollution.

So, keeping all the facts in consideration, we can conclude that in any developmental works the locals and their culture must be studied. Along with this study, they must be properly addressed in the conservational works. If the local values are neglected, then the local resource will be unable to preserve and promoted.

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## APPENDIX-1

### INTERVIEW SCHEDULE

#### PERCEPTION OF LOCAL PEOPLE TOWARDS THE CONSERVATION OF FEWA LAKE

##### A. Socio-Economic Background of the Family:

###### Introduction :

Name of the household head:

Sex:

Age:

Name of the respondent:

##### 1. Family Profile:

S.N.	Relation with household head	Gender	Age	Education	Profession
i.					
ii.					
iii.					
iv.					
v.					
vi.					
vii.					

2.	Type of family	a)nuclear	b)joint	c)others	<b>skip</b>
3.	House ownership	a)own	b)rented	c)others	
4.	Type of house	a)RCC	b)cemented	c)non-cemented	
5.	Education	a) Illiterate	b) literate	c) upto class 5	
		d) SLC	e) IA	f) BA g) MA or above	
6.	Religion	a) Hindu	b)Buddhist	c) Muslim	
		d)Christian	e) Others		
7.	Profession	a) service	b) business	c)labor	
		d) farming	e) other(specify)		

8.	Monthly income	a) up to 5000 c) 10-20 thousand	b) 5-10 thousand d) 20 thousand and above	
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### B. People's perception towards the conservation of Fewa Lake

S.N.	Questions	Answers	skip
1.	How often do you visit Fewa lake?	a) Daily    b) Once a week c) once a month    d) often	
2.	Why do you visit lake?		
3.	Whom do you think are more beneficial from the lake?	a) locals only    b) all Nepalese c) tourist    d) Others	
4.	Do Fewa influence living of local?	a)Yes    b)No	6
5.	What sort of influence?	a)support in business b)support in farming c)water for household activity d)others(specify)	
6.	Do you find any changes in Fewa lake and its surroundings?	a)Yes    b)No	9
7.	When did the change start in Fewa lake and its surrounding?	a)From last 5 years b)From 10 years c)Before 10 years	
8.	What are the major noticeable change been recorded?		
9.	Whom do you place the most responsive figure for the pollution?		
10.	What are the causes of pollution?		

11.	What is the rate of pollution?	a) high b) medium c) low	
12.	What are the ways to minimize the pollution of Fewa lake?		
13.	How is the presence of NGO/INGO in lake conservation?	a) ignorable b) moderate c) notable	
14.	Do you have idea that up to which generation the water of Fewa is fetch for drinking purpose?	a) During my childhood b) my father's childhood c) my grandfather's childhood d) Other(specify)	
15.	What should be considered as most important factor of conservation?		
16.	How can hyacinth be managed?		
17.	How do the local people perceive about the pollution of Fewa lake?	a) Normally b) Indifferent c) lift the work be done by govt d) wanted to work collectively e) Others	
18.	How is local people been address in conservational policies by the agencies during their programme?	a) Inclusive representative b) Lack representation c) Very little representation d) Others	
19.	Do you agree on the involvement of local people for conservation?	a) Yes b) No →	22
20.	Why should locals be concerned in the issues of conservation?		
21.	The participation of local	a) active b) neutral	

	people towards conservation is-	c) inactive	
22.	How can be the involvement of the locals in conservational activity be increased?	a)by creating awareness b) by making the feel responsible c)by paying wage d) by giving contract e) others	
23.	What kind of role do you expect from locals?		
24.	Do you think government is going with locals to conserve the lake?	a) Yes                      b) No	
25.	What are the methods adopted for the solid waste management?	a)Yes                      b)No →	28
26.	Have you ever participated in any conservational activity?		
27.	In which program were you involved for the conservation?	a) local people    b) tourist c) state/GO        d) NGO/INGO e) Others(specify)	
28.	In your opinion, whom do you think is playing great role in lake conservation?		
29.	In your opinion, whom should be more responsible regarding the conservation of Fewa lake?	a) hotel owners    b) tourist c) NGO/INGO    d) local people e) state	
30.	Why have you chosen this option?		
31.	Which factor should be considered during conservation?		

32.	Why conservation is important?		
33.	How can be the awareness regarding conservation be created?	a) means of mass media b) enforcing in academics c)conducting seminars d) others (specify)	
34.	Do you have any knowledge about the international policies regarding conservation of Lake?	a)Yes                      b)No	→36
35.	Do you find any defect in the housing policy near Fewa lake?	a) Yes                      b) No	
36.	Are you satisfied with the present conservation work?	a) fully                      b)partially c) not satisfied	
37.	What is the rate of your involvement in lake conservation?	a) very low    b)low    c) moderate    d)high    e) very high	
38.	Annually, in how many programs do you attend for conservation?	a) One                      b) Two c) Three                      d) More than three	
39.	What sort of plans and policies be adopted for the further planning regarding lake conservation?		
40.	Do you have any further suggestions?		

Thanks for your  
cooperation.

## **APPENDIX -2**

### **CHECKLIST OF THE KEY INFORMANTS**

- 1) What is the economic standard of the local people?
- 2) What is the main source of economy?
- 3) How is the level of local participation in the conservation of Fewa Lake?
- 4) What is your attitude about conservation of Fewa Lake?
- 5) In your opinion, what problem need to be prioritized concerning the conservation of the Lake and why?
- 6) What do you think about the conservation of Lake by the participatory approach between locals and concerned authorities?
- 7) What sort of possibilities can be expected from the locals towards the conservation?
- 8) What are the benefits to be acquired from the preserved Fewa Lake?

## **APPENDIX-3**

### **List of the key informants**

1. Ex-member, Nepal Tourism Board
2. Chairman, Environment and Social Improvement Club
3. President, Fewa Boat Association
4. Priest, Barahi Temple
5. Pokhara Incharge, JICA office.

**APPENDIX-4  
PHOTO GALLERY**



**Boxes built to pump water by hoteliers**



**Water hyacinth being dried up near lake**



**Wastes thrown on the surface of water**



**Fisheries development centre near lake**



**Garbage on the dried water hyacinth**



**Plastic bottles on and near by the lake**



**Soil deposition on the surface of lake**



**Area of the lake being decreased**



**Tourist entertain by boating**



**Barahi temple, the religious site**



**A lady busy in washing clothes in lake**



**Fish nets built on the lake**

## **APPENDIX-5**

### **Some of the Special Events Related with Fewa Lake**

Socio-Economic Survey of Fewa Lake watershed Area

Fewa Tal Siltation Survey ( FINIDA)

1992 Fewa Lake watershed Management Plan (FINIDA)

Environmental protection Study of Fewa Lake (ADB)

Fewa Lake Environment Report (NPC)

Fewa Lake Conservation Guidelines ( NPC/IUCN)

Fewa Lake Conservation Action Plan ( IUCN)

2001 Stay Order by Appeal Court to Stop polluted disposal at Fewa lake

2002 Public Hearing in the issue of Fewa Lake and Memorandum was signed by various Concerned Authorities

Till date: Number of activities carried out by various GOs/NGOs and so on in the name of Fewa Lake.

**(Source:** Parajuli, 2005)