CHAPTER-ONE
INTRODUCTION

1.1 Background

Nepal is biodiversity rich, mountainous and landlocked country. It lies in the heart of the Himalaya range between India and China, roughly rectangular in shape and wide range of climatic and altitudinal variation. It has a length of about 885 km east to west and 193 km width north to south, extending between 26^{o} 22' north to 30^{o} 27' north latitude and 80^{o} 4'east to the 88^{o} 12' east longitude and total area is 147181 sq km. The high Tibetan plateau of Asia bound it from the north and low indo-gangetic plain from the Southern side.

Nepal has a great diversity of vegetation due to the effect of topography, climate and edaphic factors. Nepal ranked on 10^{th} highest plant diversity in Asia and 27^{th} position in the world biodiversity richness. Many plants have their importance in maintaining environment, for the environment safe 43 % jungle is necessary. Many plants have their importance value such as medicinal purpose called medicinal plants. Those plants which are used to take fibre called fibre plants. Those plants which are used as wood value called wood plants.

Ethnobotany

It is the science, which deals with the belief, tradition, religion and culture of the particular community of particular area i.e. it refers the interrelationship between plant and people. It contributes to social, economical, cultural, and environmental development. Hence it is very important to human civilization. Due to the high demand and outgoing exploitation of plant resources, there is a threat on the existence of various important plant species. Hence, conservation practice is required at present scenario.

People use the plant and plant products for various purposes such as food, medicine, wood, oil, fodder, ornament etc since the prehistoric period. The term 'ethnobotany' was defined as "the study of plants used by primitive and aboriginal people" by American botanist Harsberger and since it has been refined by many workers. Nowadays, the field of ethnobotany has been widening with plants and their ecosystems.

The documentation of traditional and indigenous knowledge on utilization of various plants resources by different community is one of the main objectives of the ethnobotanical research. The recent development of ethnobotany in China, India, Nepal and Pakistan has been strongly focused to traditional herbal medicine, indigenous managed plant resources, traditional agroecosystem and ethnobtany of minorities (Khan, 1997).

The term 'indigenous' has been defined as 'system that are generated by internal initiative within a local community itself' (Fisher *et al.*, 1989). Indigenous knowledge is often considered as informal knowledge that exists in local societies in comparison with formal knowledge developed by Universities and research institutions of modern society (Pei, 1996).

"Ethnobotany is the scientific study of botanical knowledge of primitive people and their use of locally available plants in foods, medicine, clothing or religious rituals. Crude drugs derived from plants used in folk medicines have been found to be beneficial in the treatment of much illness, both physical and mental. The ethnobotany of pre- historic culture is discovered through examination of audient writings, pictures, pottery and plant remains in the Jars or madden heaps (garbage dumps) excavate at archaeological practices and cultural development of people can be periods of time with primitive people to study all phases of their lives including mythology, religious, practices and language in order to determine the specific plants used and method involved in their preparation. Traveller's Journals, the field notes of early botanist and other writings also yield information about local agricultural method and folk remedies."

-Encyclopedia Britanica vol. III (1981)

"Ethnobotany is the study of plants in relation to needs and customs given ethnic group or people". (Funk and Wagnalls, Standard Dictionary International vol. I (Through a Labour, 1962, pp. 436)

Ethnobotany is the:
1. The plant lore and agricultural customs of people.
2. Anthropology is the systematic study of such lore and customs. (Random House Compact Unabridged dictionary Second Edition, 1996, pp. 665)

Herbal Healer

Healer is that person who has knowledge about plants and healing practices. According him he has also extra power to cure disease. Herbal healer is a

person who has knowledge to treat the disease in traditional way by using medicinal/herbal plants. It is a person who recognized by the community in which he lives as component to provide health cure by using vegetable, animal, mineral substances and certain other methods based on the social, cultural and religious background.

Healers are following types.
1) Traditional healers: Traditional healer is a person who works as medical practioner on the basis of traditional experiences and beliefs without any formal study, eg- Dhami/Jhankri, Guruwa, Jhotishi, Baidya. Dhami/Jhankri in Nepali means shaman who regarded as a healer of spirit.

2) Faith healers: Faith healer is those who have been chosen by the god to nurish the creation. They always try to put link with supernatural power and the universe.

Traditional Knowledge and Medicinal Plants

Everywhere in this universe herbs are used in traditional medicine practices, and Nepal is not its exception. The knowledge on herbal healing practice is prevailed since human civilization initiated. Since that unknown period of time, disease may have been originated, simultaneously nature has also provided herbal curative remedies against those diseases and native people have discovered herbs and practiced to treat diseases.

Traditional knowledge is knowledge of local or indigenous people which means point of origin (Gill, 1993) that is unique to a given culture or society in particular field, sometimes referred to as system of local knowledge, indigenous knowledge or even commonsense knowledge. Indigenous means local origin knowledge but traditional means may not be local origin as their adoption may have been imposed from outside. It encompasses a strong interdisciplinary orientation towards practice experience and gained through inheritance from their ancestors. It is not written, much of verbal and preserved in peoples mind, must be repeated to insure its continuation, initiated and developed by the local people by themselves on the basis of their accumulated experiences is passed down from generation to generation for survival of their communities and culture. It is a people derived science and it represents peoples' creativity, innovation and skills (Rohna, 1993:11). It is stable, dynamic, flexible, improvement seeking, cost effective, scientific validity, constantly changing,

adapting to new condition and technology have potential role in sustainable development.

Traditional knowledge system is an important aspect of rural society. Rural people, though uneducated, possesses an invaluable fund of knowledge, local technology, innovations and skills have been helping them to survive in the hostile and unforgiving environment. It is the major resource of the poor who have limited access to basic and essential material resources. It is a major untapped resource for developing sustainable agriculture (Warren, 1991). Nepalese people also do not have a long experience of knowledge and technology from outside. Farmers have been depending on their own experiences and knowledge gathered from their ancestors. Different caste/ethnic groups in different ecological zones of Nepal have generated a vast body of traditional knowledge on utilization of resources. They have been practicing such local knowledge from many generations and such local knowledge is the means of adaptation to constantly changing social and physical circumstances.

Our country is one of the richest country in context of biodiversity where about 6500 species of flora are recorded (Hara *et al.*1978, 1979, 1982). Among them about 700 species of medicinal plants are recorded. These plants and plant parts are used in traditional and Ayurvedic medicine too. The distribution of these plants are found about 49.2% in tropical zone (upto 1,000 m), 53.95 in subtropical zone (1,000 – 2,000 m), 35.75 in temperate zone (2,000-3,000), 18% in subalpine zone (4,000-<) (Malla and Shakya, 1984-85).

The traditional medicine is widely spread throughout the world. It includes those practices based on beliefs and trial methods starts since when there were not any development and spread of modern scientific medicine. Knowledge on disease treatment is being passed from generation to generation verbally in all families of traditional herbal healers. Later some of information has been documented in books and in many other religious scripts. Besides this, much knowledge is still prevailing in tribal communities, folk healers, road herbal healers, native herbal professionals, which remain undocumented. Those practices are still in use.

The total sum of knowledge and practices used in diagnosis, prevention and elimination of physical, mental of social imbalance and relying exclusively bon practical experience ands observation handed down from generation to generation either verbally or in written (WHO, 1978).

More than 80% of world's people still use the traditional knowledge on medicinal plants and they have been extensively used (WHO, 19780). Due to extensively use, they are getting lost of becoming less available. The ethno botanical research links the traditional knowledge of herbal plants and their application in modern medicine. The conduction of this research plays vital role in the use of plants.

Those plants which are used for medicinal purpose called medicinal plants. Each and every plant has medicinal value; only difference is highly effective or less effective. The medicinal plants contain some chemical constituents such as alkaloids, glycoside, flavenoids, resins, tannins, essential oils, volatile oils, steroids, gums etc (Pandey, 1995). Due to the presence of these chemical substances plants are able to produce definite physiological and psychological actions on the human body that is why called medicinal plants or jadibuti in local language?

The use of medicinal plants in traditional medicine is wide spread in Nepal, with majority of the population relying on it. This can be explained by such factors as the lack of sufficient health post, doctors, medication, road facilities and the high expenses associated with such treatments (Taylor *et al*., 1996). In Nepal about 75-80 % of the rural population are said to used these traditional remedies (Manandhar, 1980)

In many parts of the world, there are no doctors and no allopathic drugs. Very often, there are doctors but no medicines. In these circumstances, it would be better to use herbal medicines chosen with care, supplied with a guarantee of quality. The increased uses of medicinal plants will probably lead to some financial savings. The medicines obtained from the plants generally have no side effects; their action is moderate and long lasting.

1.2 Statement of problem

Nepal is rich in bio-diversity due to its geographical and climatic variation. It has a wide range of floral diversity with altitudinal variation. Different plant species and their parts have been practiced by the traditional healers from very beginning. It is estimated that various communities in Nepal use approximately 1000 species of wild plants in traditional medicine practice and majority of which await proper documentation (Rajbhandari, 2001).

Information on traditional knowledge of plants has been documented in some books and in many other religious scripts but much knowledge is still prevailing in tribal communities, folk healers, road herbal healers, native herbal professionals, which remain undocumented and are still in use. That's why it is going to threat, so it is necessary to document. On study area local people found medicines, in forest; they generally did not interest on them that may due to easy access of modern medicines and lack of knowledge on traditional herbs. That knowledge will be lost by over period of time if not documented.

Many plant species have not been taken in use due to the lack of proper knowledge about them. The proper utilization of such valuable medicinal plants can minimize the use of allopathic medicines and encourages the use of local resources. Many traditional healers though they use different plant parts are lacking proper information about them and using them only on the basis of their experiences. In the different parts of the country as well as study area some plant resources are exploited and some of them are underutilized. No conservation practices are found effectively. Due to these reasons the biodiversity (diversity of medicinal plants) is being degraded day by day. Many plant species have been collected illegally every year from the different parts of the country. The present study aims to collect information about diversity, status and utilization practices of medicinal plants of Argha VDC of Arghakhanchi district.

1.3 Importance of this study

The traditional medicine is widely spread throughout the world that practices based on beliefs and trial methods starts since when there were not any development and spread of modern scientific medicine. Knowledge on disease treatment is being passed from generation to generation verbally in all families of traditional herbal healers. Later some of information has been documented in books and in many other religious scripts. Besides this, much knowledge is still prevailing in tribal communities, folk healers, road herbal healers, native herbal professionals, which remain undocumented and are still in use. That knowledge will be lost by over period of time if not documented. So this study helps to proper documentation of traditional knowledge which is important for the next generation.

This study helps the presence of number of medicinal plants of in the study area, type of parts used and method of used, disease specific plants. This study helps to know the process of used, disease specific plants, type of parts used for

the unknown persons of other places. This study helps to know the value of plants to the unknown persons, proper and increase the curiosity to save the plants and preserve the loss of biodiversity.

1.4 Objectives of the Study

The general objective of this study is to document the traditional knowledge about medicinal plants that are used to treat various diseases by local traditional healers.

i. To explore the traditional medicinally useful plants of this VDC.
ii. To asses the traditional knowledge about the medicinal plants, their properties and application system of the local people.
iii. To record the important locally available medicinal plants, their cultivation, conservation and production cycle.
iv. To asses the socio-economic importance of medicinal plants.

1.5 Limitations of Study

The general objective of the present study is to explore and to document the indigenous knowledge of utilization, conservation and management system of bio resources. The specific objectives of the study are below.

This study will be based within the area of Argha VDC. Although the study will be used on primary data, it can not be generalized due to its certain limitations which are:

i. Study will be encompassing only Argha VDC. So it may not be generalized for the other parts of country.
ii. The information obtained through direct interview will be considered hundred percent accurate.
iii. Because of the only concentration on Argha VDC, its generalization may not be applicable to the other VDCs of district.

1.6 Organization of the Study

The entire thesis has been divided into six chapters. The chapter one deals with the introduction, background, objectives and importance for conducting the study. The chapter two literature review on medicinal plants. In chapter three

there is explained the description of the study area. The methodology for conducting the study has been explained in chapter four. Chapter five deals with the analysis and presentation of the data. In chapter six there is summery of majour findings, conclusion and recommendations.

CHAPTER-TWO
LITERATURE REVIEWS

2.1 Indigenous Plant Resources

Nepal is rich of indigenous plant resources as well as indigenous group of people. More than 102 groups of indigenous people are lived in different location of Nepal (CBS, Report). Till now, they are far from allopathic medicines and doctors. To cure the diseases, they practiced indigenous medicinal plant resources from past and those practices based on indigenous knowledge i.e. beliefs and trial methods. Knowledge on disease treatment is being passed from generation to generation verbally in all families.

Due to the altitudinal and climatic variation, small area of the land occupied different kinds of indigenous plants. They are the majour resources of indigenous people. Plants played vital role in traditional medicinal practice and discovery of modern medicines. In the third world countries, the medicinal needs of about 75% are met by crude herbal medicines (Sharma and Sherpa 1996). Although many drugs were discovered in allopathic field of medicines, the diseases like immuno deficiency syndrome, arthritis, mental disorders and cancer can not be tackled and very less number of plants have been investigated for their medicinal value and still show potency to cure many diseases. In context of Nepal about 85% peoples are living in rural region, mostly they are depends on traditional medicines for their health cure. They are mostly depends on herbal medicines. Some parts of Nepal are still virgin land for the research work of medicinal plants.

2.2Medicinal Properties of the Plants

Plants possess medicinal value; this in fact is known from the times of human civilization. But, the scientific study of the medicinal plants started later here. The plants which were used by human to cure the various diseases and ailments and to relief the disease and ailments are called medicinal plants. Due to the presence of different chemical compounds on their parts, they are use in various diseases and disorders. The study of medicinal plants in Nepal started only the establishment of Department of Medicinal Plant (DMP) in 1937 A.D. With the establishment of DMP, many research works were started in this field. Following are the literatures about medicinal plant of Nepal.

Banerjee (1955), published a paper on medicinal and food plants of eastern reason of Nepal.

In 1969, Rajkiya Pragya Pratisthan published a book named “Nepali Nighantu” written by Koshnath Devcota which was mainly based on Raj Nighantu, Kaiyadev Nighantu, Bhabprakash, Nighantu, Dhanbantari Nighantu and others. In this book he has not only included medicinal plants but also animals, animal products and non living things which were used in medicinal purposes he divided these things into 28 groups and described their characters and medicinal values.

The bulletin of the Department of Medicinal plants is instituted in 1967 and the volumes appeared at irregular intervals. DMP in 1970 published a book “Medicinal Plants of Nepal, Vol-3” as under 310 genera along with their common names, therapeutic uses, short description and the places of representative collection. The numeration of the plants was arranged in Nepalese alphabetical order. Later on the same department published a supplement volume of medicinal plants of Nepal in 1984 as bulletin no.10. It was a comprehensive information of 178 Nepalese medicinal plants collected from different parts of the country. These two books are the authentic sources of information of different medicinal plants of the country.

Other publication of DMP related with medicinal plants are Jadibuti Parichaya Mala-1 published in 1977 as the name of “Jadibiuti Sankalon, Samrakshan, Sambardhan Bidhi” and jadibuti Parichaya Mala-2 published in 1983. Each book deals some rules about the collection, storage, cultivation and uses of 6 medicinal plants, which are mostly exported from our country.
Dobremez (1976) has explored the medicinal plants of eastern Nepal along with their uses, mode of preparation and dose etc.

Manandhar, N.P.(1980 a), was written a book Medicinal Plants of Nepal Himalaya which contained 37 species of medicinal plants of Nepal Himalayan region with their use, diagrams and short description.

Manandhar, N.P. (1980 b) have studied some of the less known medicinal plants of Rasuwa district along with their specific use, mode of preparation and doses.

Bhandari and Shrestha (1986), have reported 15 poisonous plants of Annapurna and Langtang Himalaya.

Malla and Shakya (1984/85), compiled a list of 630 medicinal plant species from Nepal along with distribution.

Bhandari and Shrestha (1986), carried out ethnobotanical investigations on 32 poisonous plants of Manang-Mustang Districts and their adjoinin areas.

Bhattarai (1987), described the traditional Pharmaceutical practice in central Nepal of the urban population in Kathmandu valley, describing 59 plants species with mode of preparation, dose and route of administration etc.

Malla (9191), described 44 important medicinal plants, their distribution and availability. He also included export figure of 18 species to India.

Gautam (9195), recorded 113 species of medicinal plants of Panchthar district with their ecology and active chemical compounds.

Siwakoti and Varma (1996a), recorded 212 species of medicinal plants from Terai and eastern Nepal with their local name, habit, plants parts used to obtain drug and purpose for which it is used.

Siwakoti and Varma (1996 b), studied ethnobotany of Satar community of Jhapa districtof Nepal and recorded 122 species of plants in medicinal practices.

Rai (1996), described 97 species of medicinal plant of Terhathum district with their distribution and uses.

Adhikari, (1997), studied the indigenous healing practices of tharu od dang district. He found that the treatment pattern is highly dominated by traditional healers.

Nepali, (1998), studied the ethnobiology of gaine of Arghakhanchi district. He found that the integrated technique of traditional healing practice is more effective than the non-integrated technique.

Siwakoti and Siwakoti (1998), recorded 76 species of plant, which were ethnomedicinally used by timber tribe of Morang district.

Similarly, in 1998, under the institution of forestry (T.U.) and International Tropical Timber Organization, “The Training and Manpower Development in

Community Forest Management", published a book named "Manual of Important Non-timber Forest Product in Nepal" written by Prajuli, Gyanwali and Shrestha. In this book they included 70 species with their local names, short desription, rough diagram, conservation status (Forest rules,1955), royalty rate for wood (Rules 1995) and ethnobotanical uses.

Bhattarai (2001), described medicinal uses and procured of about 170 species of plant. He also described economic status of 16 important medicinal plants.

Koirala, (2001), studied the medicinal plants of sunsari district. He found that those plants found in study area used for medicinal properties are wild and mostly used in cuts and wounds.

Pokharel, 92004), studied the traditional healing practices of people of Gorkha district. He found that most of the people believed in traditional healing practices.

Shrestha, (2004), studied the medicinal plants used by local communities of Tokha area of kathmandu valley. He found that most of the medicinal plants are herbs and mostly they are used in cuts and wounds.

CHAPTER-THREE
INTRODUCTION OF THE STUDY AREA

3.1.1 Geographical Settings

The study area is situated in Arghakhanchi district. Arghakhanchi district is situated in the hilli area of Lumbini zone, western development region of Nepal. It covered 1193 sq. km. area and the altitude varies from 305-2512 meters above the sea level. It bounded Gulmi and Palpa districts on eastern side, Pyuthan and Dang districts on western side, Gulmi and Pyuthan districts on Northern side and Kapilbastu and Dang on southern side. Geographically it lies between $27^0$45' – $28^0$6' north latitude and $82^0$45' – $83^0$23' east longitude. The headquarter of this district is Sandhikharka. The study area Argha VDC is located in the northern side of sandhikharka. (District Profile 2006).

3.1.2 Topography

The general topography of the district and study areas are steep. The headquarter Sandhikharka is consider as valley. In some places there are highly steep areas. The slope of the areas increases with the increase of altitude.

Table No. 1: Topographical Distribution of Land- Hectors

Physical Condition	Agriculture		Grazing	Forest	Others	Total
	Cultivated	Noncultivated				
Mid Mountain	20996	13642	9433	40239	22	84032
Siwalik	3548	2060	309	3895	428	39240
Total	24244	15702	9742	73134	450	123272

Source: District profile, 2006

3.1.3 Soil and Climate

The district has tropical, subtropical and temperate climates, similarly tropical, subtropical and temperate forests are found. Reddish brown soil found through the district.

3.1.4 Drainage Pattern

Regarding the drainage system of the study area, most of the rivers flow from north to south. Some are flow towards west. They are mainly from mahabharat range. The main rivers of the district are Badganga, Ghutra Besi, Mathura, rapti, Sita, Bangi, Chauwa, Durga. Similarly, major lakes and ponds of the districts are Jhirradaha, Kamal Pokhari, Khanadaha, Shalyangdaha, Gauchar. Similarly the major water falls are Tilkuwa, (Arghatosh) Supakhola. Most of the rivers are met Kaligandaki. On the way many water mills are operated. The river Badganga mostly remains dried during the winter season but flows with water current during the rainy season.

3. 2 Forest and Vegetation

The district has covered by dense forest at southern belt. There are tow types of vegetation i.e. deciduous and evergreen plants found in the district. Most of the trees are Saal, Pinus, simal, chilaune, Kafal, Uttis, Saaj, bamboo and many types of herbs, shrubs and medicinal plants are found.

3. 3 Social Aspects

3. 3.1 Population

Total population of the district is 2,083,91 among them female population is 112042 and male population is 96349. The population density is 175 per sq km and growth rate is 1.45 percent. The total no of households are 40869(District Profile, 2001).

3. 3.2 Education and Health

Literacy rate is 55.90 percent where as male is 67.01 percent and female is 46.72 percent. There are all together 557 educational institutions and 78700 students. Many children lack of access to educational institution due to socio-economic factors.

Average life expectancy at birth is 62.54 years. Children mortality and infant mortality is 60.68 per thousand. The districts has one governmental hospital, two public health centre, eight health post and thirty one sub health post. Population per doctor is 41678. Sometimes the hospital runs without doctors due to the transformation and late attendance in the hospital. So many people faced postmortem and checking problems (District Profile, 2006).

3.3.3 Caste/Ethnic Groups

Arghakhanchi disistrict is a common residence of various castes and indigenous people. Majority of population belong to Brahimin, Chhetri and Magar casts. Other description is as shown in table No. 1.

Table No. 2: Distribution of Caste/Ethnic Groups

Caste/ethnic group	Total number
Chhetri	38155
Brahmin	76983
Magar	34078
Kami	18245
Newar	6070
Kumal	5081
Sarki	7580
Damai/Dholi	6076
Thakuri	1191
Sanyasi	1144
Muslim	1916
Unidentified Dalit	4904
Unidentified caste	547
Others	6421

Sources: District Development Profile, 2006

3.3.4 Religion and Language

Though most of the people of Arghakhanchi district belong to Hindu religion, people deliving in other religious also reside in the district. Population according to religion in different census is presented in table No. 2.

Table No. 3: Population of Arghakahanchi District According to Religion in Different Years.

S.N.	Religion	1991	2001
1	Hindu	178749	202026
2	Buddhist	75	4392
3	Islam	1953	1916
5	Christian	50	33

6	Jain	45	3
7	Sikh	0	5
8	Bahai	0	3
8	Others	8	13
9	Non stated	4	0
Total		180854	208391

Source: Disttrict Demographic Profile, 1981, 1991, 2001.

Nepali language is major language. Some Magar and most of the Newar use their own language.

3.3.5 Political Division

The district has 42 VDCs. The headquarter of this district is Sandhikharka. It has been dividend into 2 constituencies.

3.4 Economic and Development Aspect

3.4.1 Agriculture

Nepal is an agricultural country. Agriculture contributes 39 percent to the GDP of the country (Economic Survey, 2003). However, pressure on this sector in increasing day by day in Nepal's population in increasing annually at 2.24 percent. Rural population is 85.30 percent (CBS, 2001). Rural area of Nepal is characterized by rampant poverty; widening disparity and agricultural stagnation. Agriculture is a traditional practice. Corruption deepening day by day making the country an empty pot to sell to donors in the name of poverty.

Arghakhanchi district is a Agricultural district. Paddy, Maize, wheat, Barley and millet are main food crops, cash crops especially oil seed, potato production and seasonable vegetable farming, Ginger production are rich agricultural practices in the district. In some places different kinds of fruit production practices are run-under. Agricultural statistics are shown in the table no. 4.

Table No. 4: Agricultural Statistics of Arghakhanchi District

S.N.	Description	Indicators
1	Total population	208391
2	Agriculture dependent	182687

3	Farm household (have not economic activities)	35821
4	Total area of dist.	123272Ha
5	Cultivated land	24244Ha
6	Irrigated land	2611Ha 03/04
7	Cultivable land(seasonal irrigated)	21633Ha
8	Annual Paddy production	1.8M.ton/Ha
9	Annual Maize production	1.71M.ton/Ha
10	Annual Millet production	1M.ton/Ha
11	Annual Wheat production	1.65M.ton/Ha
12	Annual Barley production	1M.ton/Ha
13	Oil seed production	0.96M.ton/Ha
14	Potato production	8.55M.ton/Ha
15	Milk production	18076M.ton/Year
16	Meat production	2085M.ton/Year
17	Egg production	4109000No/Year
18	Wool Production	580kg/Year

Source: District profile, 2006.

Above table no. 4 showed that Arghakhanchi is an agricultural district of country. But the land suffers from unemployment and disguised unemployment. The production of Tobacco, Sugarcane, Jute, and Fish production not found in this district. Paddy, wheat, maize and millet are main food crops. Out of 24244 ha. cultivated land, most of the area 21633 ha. is to cultivable land, which is rarely irrigated. This agriculture is seasonal and depend on rain. It provides only seasonal employment (District profile, 2006).

Horticulture is another viable sector of the district. It is under practice have not been modernized due to lack of market facilities, store house and processing factories. If horticulture is modernized it can contribute a lot to reduce poverty of the district.

Livestock share 30 percent in Nepalese agriculture. It is an important source of income in Arghakhanchi district also. Availability of fodder, grazing place, noncultivated land and climate favours livestock farming there. Milk products and meat is mainly consumed within district. Numbers of livestock is given below in table no. 5.

Table No. 5: Livestock Statistics of the District

Year	Cattle	Buffaloes	Sheep	Goat	Pigs	Fowl	Duck
2003/04	**24559**	**71989**	**841**	**61564**	**1086**	**168788**	**120**

Source: District Profile, 2006.

3.4.2 Financial Institutions

Mainly government financial institutions are launched. They provide service like loan, saving investment for income generating activities and other services. Main financial institutions of the district are: Branches of Rastriya Banijya Bank and Agriculture Development Bank in Sandhikharka. Agriculture Development Bank has two sub branches in Thada and Khidimpokhara.

4.5 Gender Aspect

Like others sectors, women development is also weak in Arghakhanchi district. Traditional belief, norms and values that dominate women and limit them in household sector and farm work have not been improved yet. Gender sensitive development indices are shown in table no. 6.

Table No. 6: Gender Sensitive Development Index (GDI 1996)

Life expectancy		Adult literacy (%)		mean year of schooling		Proportion of earned income		GDI	Rank
Female	Male	Female	Male	Female	Male	Female	Male		
63.26	61.89	36.3	62.6	2.36	3.54	0.396	0.417	0.463	29

Source: District profile, 2006.

Gender empowerment indices are also very poor in the district. Gender empowerment indices are shown in table no. 7.

Table No. 7: Gender Empowerment Index (GEM) 1996

Woman's participation in local election	Female % share in professional job	Female % share in adm. work	Female % share in income (1996)	GEM	Rank
20.35	19.39	6.97	0.503	0.356	44

Source: District profile, 2006.

CHAPTER-FOUR
METHODOLOGY

4.1 Rationale of the Selection of Study Area

The study area Argha is situated in Arghakhanchi district. The name of Argha and Khanchi were the two sub-kingdoms before unification. Varieties of caste and ethnic groups are inhabitant of that area. Ward no one and two are dominated inhabitant of dalit ie Gaine, Damai and kami. On the other wards inhabitant of Brahmin, Chhetry, Magar and also Sarki and kami.

People living in this area are more confined into social taboos, the location of this VDC is purely hilly with rural atmosphere, backward, disadvantaged, and marginalized communities are presented in study area. The socio-economic condition of people of that VDC is very low. The marginalized and backward people mainly depend on traditional practices in many sectors such as treatment of disease, farming, fooding. So there is rich of traditional cultural values and practices. No one has performed such type of related study. Assessing some facts may be helpful for the further formulation of plans and programs of the district so as to step up towards the population empowerment. Ultimately it will contribute information to national level. So this study is specially designed to understand the traditional knowledge about medicinal of local bodies and local healers of Argha VDC in Arghakhanchi district are significant.

4.2 Research Design

The present study is based on the exploratory and descriptive research design. In descriptive design the information is taken from field visit to collect traditional knowledge towards plant resources and socioeconomic condition of respondents. In exploratory design it is done to explore the issues and challenges concerned with the local people to their indigenous knowledge
.

4.3 Nature and Sources of Data

This study is based on both primary and secondary data. However, it is heavily depended on primary data which is researcher himself collected from field work. The secondary data are collected from various sources, Government,

NGOs and INGOs offices, related private offices, published literatures, Books, Research papers.

4.4 Sample Size

The Argha VDC was selected for this study out of 42 VDCs of district. The whole households of Argha VDC are taken as universe has 5947 population, where as male 2679 and female 3268, total households 1247, average house hold size 4.77 and inhabitant of different casts and ethnic groups. Respondents are selected from randon sampling and specific method. In ward no-7 focus group discussion was carried out.

4.5 Tools and Technique for Data Collection

In order to know the kinds of medial plants using in the study area, first of all some information were collected from the villagers who use to treat the diseases using plants and plant parts. The primary data has collected through multi-instrumental tools such as interview, observation, questionnaires survey, key information and various PRA tools that suit the nature of the study for this research. The study area was visited twice on April and july 2007. Following methods were used to collect data.

4.5.1 Interview

The information about indigenous knowledge was collected by the interviewed with the local herbal healers i.e. Baidhya, Dhami, Priest with the help of structured and unstructured questionnaires. Local names of flora and fauna, and method of their utilization was taken.

4.5.2 Focus Group Discussion

Focus group discussion was carried out in ward no- 7 by following PRA method. Interviewed the elder and experienced local people.

4.6 Collection of Plant Material

On the basis of primary data collection medicinally important plants were selected in the assistance of the local people, the plant specimens were collected along with their field notes and taxonomic characters. Those plants used as medicinal value, collected their parts i.e. stem, leaves flower, fruits of trees and

whole plants of herb plants. Field note i.e. their local name, flowering and fruiting period, parts used, habit and habitat also noted. Photographs of some important medicinal plants were also taken.

4.7 Herbarium Preparation and Identification

The collected plants were pressed keeping in between the folds of news papers (Lawrence, 1951). The paper was changed each day till the pressed plants become dehydrated. The dehydrated specimens after poisoning with Mecuric chloride and pasted in herbarium sheets of standard size (42×29) cm2 by the help of synthetic resin i.e. febicol.

The collected specimens were carefully studied and identified with the available literature (Hoker, 1972-79; Haines, 1962; Hara et al 1978, 1979, 1982, Siwakoti and Jha, 1987; Siwakoti and V. Berma, 1996; Flora of Kathmandu Valley, Flora of Bhutan, Flora of China) as well as from herbarium sector. The unidentified specimens were identified by tally with the specimens of TUCH and National Herbarium and Plant Laboratories, Godhabari.

4.8 Presentations and Illustration

The specimens collected in the present work were arranged in alphabetical order. The correct name of the species were given with their respective local name followed by families' brief description, flowering and fruiting season field notes, place of representative collection, medicinal uses with cautions and active constituents.

4.9 Data processing and Analysis

All the data have been processed and analyzed to fulfill the objectives of the study. To illustrate the research work, tables and figures have been used for data presentation. Coding, tabulation and editing were done to process data and some statistical tools like percentage, average and ratio have been used to analyze data.

CHAPRER-FIVE
DATA ANALYSIS AND PRESENTATION

5.1 Demographic Features of the Respondents

5.1.1 Caste/Ethnicity of Respondents

Caste refers to a certain social status of individuals in a society and is one of the most influencing factors for socio-political and socio-economic condition in Nepalese society. All respondents are traditional herbal healer but on focus group discussion there was involvement of local peoples. Information on ethnicity of the respondents is given below:

Table No. 8: Distribution of Caste/Ethnicity of the Respondents

S.N	Caste	Type	Age	Caste
1	Mati Lal Marasani	General	51	Brahimin
2	Lok Nath Bhusal	General	55	Brahmin
3	Debi Bahadur Raymajhi	Bonejointer	85	Kshetri
4	Jit Bahadur (Lakhen) Gandharba	General	58	Dalit
5	Thakur Prasad Acharya	General& Dhami	30	Brahmin

Source: Field survey, 2007.

The table no. 8 shows that the major traditional herbal healers and interviewed. All are male and female herbal healers are not found on that area. Their main occupation is agriculture; all are lower medium family except Jit Bahadur. Among them some respondents cure the disease according to their culture and religious method. Most of the plants used in group do not used separately; it is difficult to say scientifically which plant cures which types of disease? But it is effective from past to now. They say different plants have different roles during curing period. Sometimes they used animals' parts and different types of soils with plants parts.

5.1.2 Status of Respondents

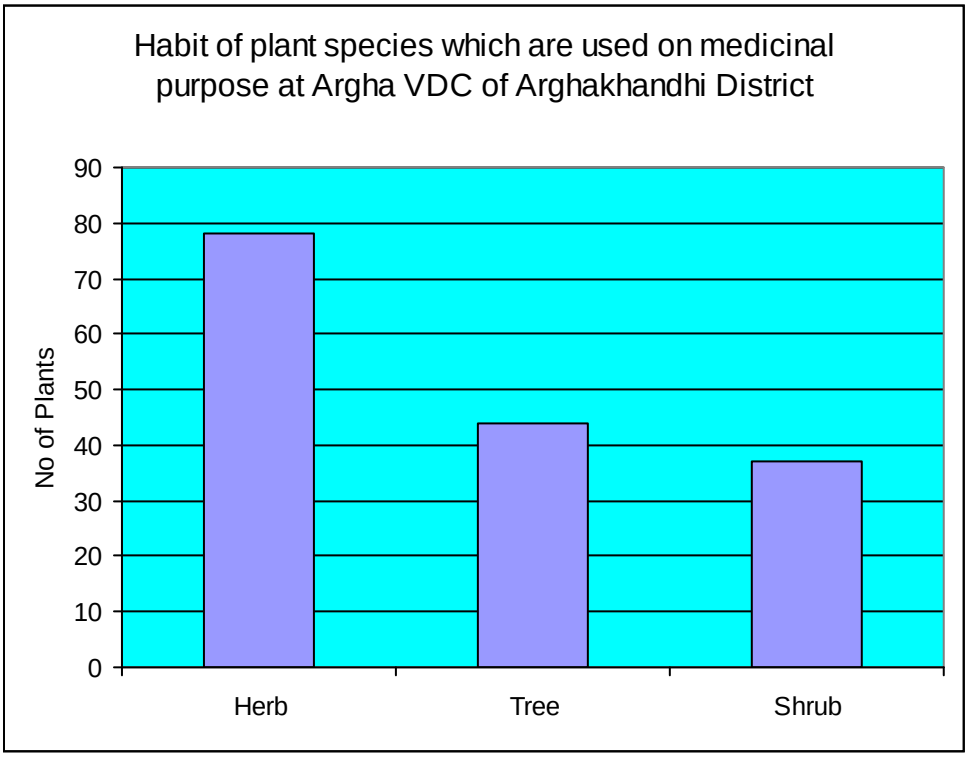
The marital status of herbal healers of study area were married. Some are joint family and others are nuclear family. The nature of the family are male dominated. The education status of the respondents is good, they have not any certified documents only literate are except Jit Bahadur. The literate person took their education within in their family from literate person and some gain

primary education from school. The economic status of the family is not good, economically they are lower medium class, the economic status of the Jit Bahadur is very poor, he fulfilled his and his family basic needs from his treatment wases, burrowed corns. Except Jit Bahadur, other herbal healers have sufficient land. All the land are unproductive, the irrigation on their land depend on rain water, so they could not earn produced sufficient corn in comparison to their hard work. All herbal healers have not any official job, they are totally depends on agriculture and their main occupation is agriculture.

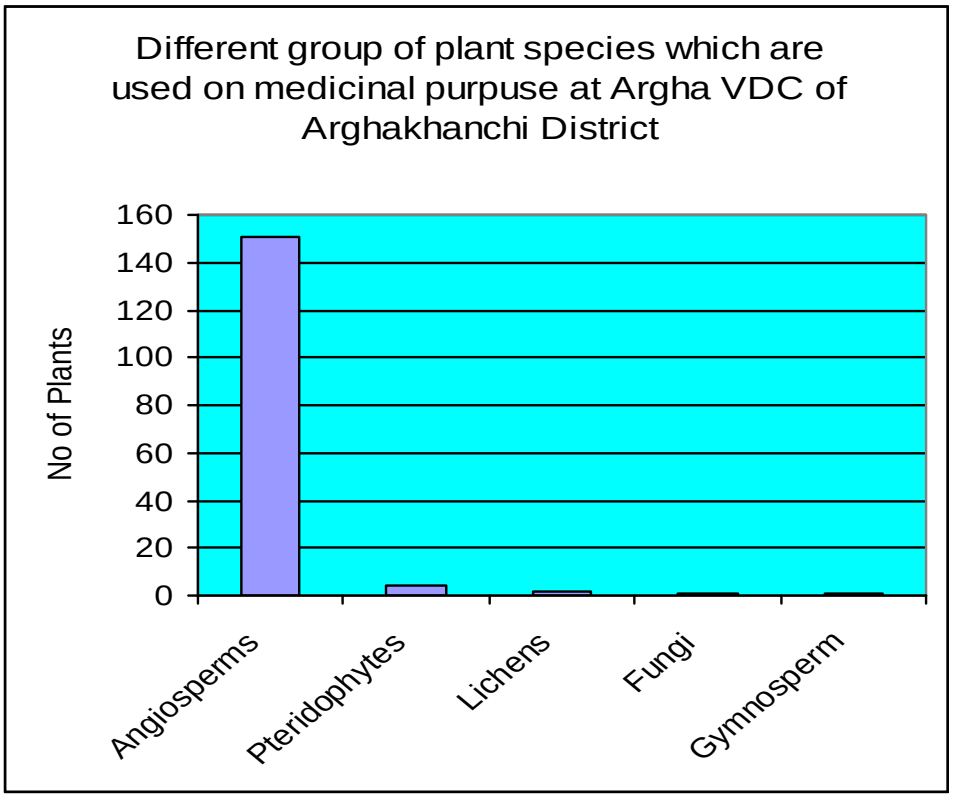
5.2 Herbal Medicine Practices

Herbs have their own potential curative properties but in study area i found that when one herb and more than one herb are mixed with other potent herbs was said to be more effective. All herbal healers practiced to cure disease with mixture of different herbs parts. Therefore herbal healers prefer to prescribe herbal medicine wit other association too. The association would be chemical or animals' related parts or things or herbal or any other natural products.

5.3 Graphical Presentation of Data



Above bar diagram shows that those plants found in Argha VDC used on medicinal purpose are 78 sps herbs, 44 sps trees and 37 sps shrubs. Mainly they are herbs which have soft stem and annual.



Above bar diagram shows that those plants found in Argha VDC used on medicinal purpose are 151 sps angiosperms, 4 sps pteridophytes, 2 sps lichens, 1 sp fungi and 1 sp gymnosperm. Mainly they are angiosperms which are autotrophic and complete plants.

5.4 Application on Diseases Care

Different types of diseases, their treatment method and plant parts used at the study area are following. The quantity of plants parts increases according to the severity and length of the infection period of the disease.

1. Gastric locally called 'Gano'

Plants parts used: Rhizome of black and yellow turmeric, bark of maidal, bark of mango, ginger, climbing stem of badalpate, seeds of methi, and seeds of narabathe.

Method: Parts of above plants are collected, mixed each other and grinded in powder form. One spoonful powder is administered twice a day, at morning with a cup of slightly hot water and one spoonful at evening with a cup of cold water for five to seven days.

2. Food poisoning locally called 'Gar' or 'Kapta'

Plants parts used: Juice of bark of tatelo, roots of chita, roots of datiwon, tips of bhagate, little amount of bark of galaichi.

Method: Parts of above plants are collected mixed and grinded in powder form. One tea spoonful powder administered twice a day with one cup of cold water at morning and at evening in colder season, same amount is administered with a cup of hot water for one to two days.

3. Round worm locally called 'Juka'

Plant Parts used: Seeds of black jira

Method: Pats of above plant are collected and ground in powder form. One spoonful powder is administered with a cup of cold water, twice a day for one and half days.

Plants parts used: Roots of sungre.

Method: Parts of above plant are collected, ground and filtered. The juice obtained from it, a tea spoonful juice administered, twice a day for one and half days. For children one or two drops is administered with a cup of hot milk. Before administered plant juice given sugar or cold sweets to lure or active stage of round worm.

4. White dysentry locally called 'Tus', AAU

Plants parts used: Seeds of all corn plants which are taken by patients as food.

Method: Seeds of all corns are collected and mixed with the ghee, courd, milk of buffalo, oil of mustard, sugar, bone of goat, Sweet supari cook highly and grind in powder form. One tea spoonful powder is administered with a cup of cold water, twice a day for one and half of day.

For children

Plant parts used: Young fleshy stem of siudi

Method: Part of above plant is collected and cooked in the hot ash. A tea spoonful cooked inner fleshy material is administered with a tea spoonful of butter, twice a day for one and half days.

5. Diarrhoea locally called 'Pakhala'

Plants parts used: Rhizome of Kalo neuro, unripe fruits of mayal, unripe fruits of local banana also called 'Marche Kera'.

Method: Parts of above plants are collected, mixed, grinded, filtered and obtained juice. Two tea spoons full juice is administered with a cup of curd, two times for one and half day.

6. Fever locally called 'Jwaro'

Plants parts used: Roots of sahastrajari herb

Method: The above plant parts are collected; grinded with cold water filtered and obtain juice. Three tea spoons full juice is administerd, twice a day for two and half of day.

7. Typhoid locally called 'Kukhat'

Plant parts used: Fruits of hadedaria, jaipatri, leaves of pudina, fruits of lawang and sukmel, tips of aaisalu, stem of srikhanna.

Method: Parts of above plants are collected, mixed, grinded with bone of tortoise and obtained paste. One tea spoonful paste mixed with a white portion of an egg for male and two eggs for female and administered twice a day for two and half days.

Plant parts used: All parts of ghodtapre

Method: Parts of above plant is collected grinded and obtain paste. One tea spoonful paste mixed with white portion of an egg and administered twice a day for three days.

8. Jaundice locally called Pahenle or Pyanle

Plants parts used: All parts of aakasbeli

Method: Part of above plant is collected, grinded, filtered and juice obtained. One cup of juice mixed with a cup of juice of sugarcane and administered twice a day for seven days.

Plants parts used: Stem of chinilaharo

Method: Parts of above plant is collected, grinded, filtered and juice obtained. One cup of juice mixed with a cup of juice of sugarcane and administered twice a day for seven days.

Plants parts used: Roots of sungre

Method: Parts of above plant collected, mixed with sugar water, boiled, filtered and juice obtained. A cup of juice of mixture and administered twice a day for seven days.

Method: Crabs collected, grinded and obtain paste. Two spoon full paste mixed with a cup of cold water and administered twice a day for five days.

9. Sprain locally called 'Markeko'

Plans parts used: Leaves of bilajor, bulb of bhuichampa, bark of laheregathe, current tips of pine.
Method: Parts of above plants are collected, mixed with sticky soil and cow dung, grinded, obtain paste slightly warmed. The warmed paste pasted on the sprained place and soaked by warm water, two times daily for fifteen days.

10. Fractured locally called 'Had bhachiyako'
Plants parts used: Leaves of Bilajor, bulb of Bhuichampa, bark of Laheregathe, Chipality and current tips of Pine.
Method: Parts of above plants are collected, mixed with sticky soil and cow dung, grinded, obtain paste and slightly warmed. The fractured bone stretched if necessary otherwise not. Checked the condition of fractured bones if it is right straighten the fractured places. The warmed paste pasted on the piece of cotton clothes and covered the fractured place with it sprained place and soaked two times daily for thirty days.

11. Scratch of ligaments locally called 'Sadkeko or Nasa Tarkeko'
Plants Parts Used: Neti (Rope which is made from local fibre used to make butter from curd), ghee.
Method: Parts of Neti collected, cooked on fire and mixed with ghee to form paste. Two spoonfuls paste is administered twice a day for two days.
Plants Parts Used: Seed of chansur, rice
Method: Parts of above plants are collected, mixed and grinded to form powder. From this powder make fried bread, these fried bread is administered as meal three times a day for two days.

12. Sinusitis locally called 'Pinas'
Plants Parts Used: Milk of Aanke, rice.
Method: Parts of above plants are collected, mixed, raped by a piece of cloth and placed on body for cook. Later taken out from body and made powder. The smell of this powder taken once a day for three days.
Method: A piece of stem of Aanke taken as cigarettes, twice a day for five days.
Plants Parts Used: Current tips of 'peepal'
Method: Seven current tips of Peepal collected, grinded to form powder. The smell of powder is administered twice a day for four days.

13. Scabies locally called 'Luto'
Plants Parts Used: Mustard oil, pine of Pinus.

Method: The above Plants materials collected mixed and cooked. This cooked mixture pasted on body till recovery.
Plants Parts Used: Current leaves of Angare
Method: Above plants parts collected, grinded, filtered and juice obtained. This juice pasted on body till recovery.

14: Common cold locally called 'Rugha'
Plants Parts Used: Leaves of lemon, guava, Surale, rudhilo, amilo, tulsi. Seeds of jwano, hing/birenon, red soil, soil of kalo dhimero.
Method: Parts of above plants are collected, mixed with hing birenon and cooked with water. Reduced its water (two parts) one third levels. Half cup of this water is administered twice a day for 2 and half days.

15. Scorpion bite
Plants Parts Used: Dried fruits of chilaune, stem of tulsi, kastura.
Method: Parts of above plants collected, made paste and pasted on bitted places till recovery.
Method: Only dried fruits of chilaune is collected, made paste with water and pasted on bitted places till recovery.

16. Constipation locally called 'Kapta' or 'Gota Parne'
Plants Parts Used: Seven or five current tips of Aansuro or Banbhogate
Method: Parts of above plants are collected, grinded and juice obtained. Two tea spoonfuls this juice is administered twice a day for two days.

17. Allergy locally called 'Jabe'
Plants Parts Used: Rhizome of turmeric
Method: Rhizome of turmeric taken and grinded with acidic buttermilk locally called **'Mahi'** and make paste, pasted on body till recovery.

18. Bleeding locally called 'Ragat bagne'
Plants Parts Used: Seeds of soop, bark of Sajh, bark of Jamun
Method1: Seeds of soop mixed with Silajit and milk of cow, grinded, a full tea cup of this mixture administred twice a day for two and a half days.
Method2: Seeds of soop mixed with silajit and bark of Sajh, made juice, two tea spoon full of this juice admistred twice a day for two and a half days.
Method3: Bark of jamun and Sajh taken, mixed with curd, and grinded two tea spoon fulls of this mixture administred twice a day for two and a half days.

19. Dysentry locally called 'Ragatmasi'

Plants Parts Used: Flowers of white Rhododendron and Dhariyo, leaves of black Neuro, bark or fruits of khahhu, bark of kaphal, bulb of onion and leaves of Mint.
Method: Parts of above plants are collected, mixed, grounded and made juice from this mixture. Three tea spoon full of this juice is administered twice a day for five days.

20. Cough locally called 'Kanso'
Plants Parts Used: Fruits of 'Haro', 'Barro', and 'Amala', rhizome of bojo, stem of Chabo.
Method: Parts of above plants are collected, mixed and cooked with urine of cow and dried. The dried mixture grinded to form powder. One tea spoon full of this mixture of powder is administered twice a day with a cup of hot water for two and a half days.
Plants Parts Used: Rhizome of ginger, leaves of tulsi.
Method: The above plant part taken, grounded and made juice from it. This juice mixed with honey 1:1 volume and half boiled this mixture. Two tea spoon fulls of this mixture administered twice a day till recovery.
Plants Parts Used: Rhizome of ginger and turmeric, seeds of jira
Method: Rhizome of ginger and turmeric taken 1:1 weight, mixed with powder of seeds of jira and little salt, cooked into hot ash. 10 gm of this cooked mixture administered twice a day till recovery.

21. Asthma locally called 'Dhamki' or 'snyasnya'
Plants Parts Used: Rhizome of Zinger
Method: Parts of above plants collected, grinded, to form juice. This juice mixed with equal volume of urine of cow ie 1:1 on propotion and this mixture if juice hoted inside the compost cow-dung for 7 days, after that it is taken out and made small balls from it. These balls two balls at once is administered twice a day for three days.

22. Uric Acid locally called 'Bhajjero' or 'Jorni dukhne', 'Khadjuro'
Plants parts Used: Juice of rhizome of ginger, turmeric, and fruits of lemon
Method: The above types of juice are collected, mixed with butter and curd. Two teaspoon full of this mixture of juice is administered with a cup of hot milk twice a day for three days.

23. Dandruff locally called 'Chanya'
Plants Parts Used: Juice of lemon, urine of cow

Method: The above materials collected and administerd at the time of bathing separately till recovery.

23. Stone locally called 'Patthari'

Plants Parts Used: Seeds of gahat, Badalpate, seed of methi (cultivated as well as wild)

Method1: Seeds of gaghat collected and soak in much litres of water, this water is administered for four litres per day for one month

Method2: Leaves of badelpate collected and cooled with 5 litres of water and reduced the water level 90% and mixed with seeds of Metji, and 7,7 seeds of rice, till kalo, cyanodon tips seeds of jahu (barley), darsundhunga and grounded to form powder. Two tea spoon fulls of this powder is administered with a cup of one night old curd for one times for one month.

24. Heart Pain locally called 'Mutu dukhne'

Plants Parts Used: Seeds of timur, flower of maroity, rhizome of turmeric, bulb of garlic

Method: Parts of above plants are collected, mixed, grinded and form mixture of paste. Two tea spoon fulls of this mixture of paste is administered twice a day with a cup of hot water till recovery.

25. vomiting locally called 'Banta'

Plants Parts Used: Rhizome of ginger, leaves of mint, fruits of Anar

Method: Parts of above plant is collected mixed, grinded and made juice. This mixture of juice mixed with honey 1:1 volume. Two tea spoon fulls of this mixture is administered frequently till recovery.

26. Pin worms locally called 'Baunta'

Plants Parts Used: Roots of sungre

Method: Part of above plant is collected, washed, grinded and made juice from it. Two tea spoon fulls of this juice is administered twice a day for two and a half days.

27. Body Pain locally called 'Sharir dukhne'

Plants Parts Used: Leaves and Soft parts of Bilajor

Method: Parts of above plants are collected, grinded and made small balls from it. Each ball cooked with ghee and administered or mixed with flower of rice and made bread and administered twice a day till recovery.

28. Cut and Wounds

Plants Parts Used: Leaves of Dubsinki, bark of chilauni, current tips of gandhe jhar, woolly jhus stem or leaf of Bhogate
Method1: Leaves of Dub sinki collected dried and made powder, this powder administered to the cut and wounds to check the bleeding till recovery.
Method2: The bark of Chilauni is collected, the woolly hairs (Jhuice) of this part is pasted to the cut and wounds to check the bleeding till recovery.
Method3: Some current fresh tips of Gandhe jhar is collected, grinded and made juice from it, this juice is applied on wounds till checked the blood.
Method4: Wooly Jhus of stem or leaf of Bhogate directly applied on cuts and wounds for blood clotting.

29. Cooling Locally called 'Garmi fallne'
Plants Parts Used: Leaves and current tips of Pudina
Method: Parts of above plant is collected and made juice from it. This juice mixed with sugar solution and leave at open place a whole night. A cup of this solution is administered twice a day till recovery.
Plants Parts Used: Ripen fruit of 'Isabgoal'
Method: Part of above plant is collected and squeeched and mixed with sugar and water form solution. Two cups of this solution is administered twice a day till recovery.

30. Gouts formation locally called 'Thalino'
Plants Parts Used: Fruit stalk of jack fruit
Method: Parts of above plant is collected, made paste and this paste pasted on the place of gouts formation till recovery.

31. Burn locally called 'Dadheko'
Plants Parts Used: Leaf of *Aloe vera* (Ghue kuwari)
Method: The above part of plant collected, teared the leaf and takenout the fleshy watery substance, this watery flashy substsnce pasted on the burned places till recovery.

CHAPTER SIX
SUMMARY, CONCLUSITIONS AND RECOMMENDATIONS

6.1 Summary of Majour Findings

- The information about indigenous knowledge of Argha VDC was collected by the interviewed with the 5 no. of local herbal healers i.e. Baidhya, Dhami, Priest and local people on April and july 2007.

- Focus group discussion was carried out about medicinally useful plant, their treatment method for disease in ward no- 7, interviewed the elder and experienced local people.

- Local names of flora and fauna, and method of utilization, their field notes and taxonomic characters were taken in the assistance of the local people.

- Those plants used as medicinal value, collected their parts i.e. stem, leaves flower, fruits of trees and whole plants of herb plants.

- The collected plants were dried, after drying dried specimens of medicinal plants poisoned with Mecuric chlorider/ fungicide and pasted in herbarium sheets of standard size (42×29) cm2 by the help of synthetic resin i.e. febicol.

- The collected specimens were carefully studied and identified and arranged in alphabetical order.

- The correct name of the species were given with their respective local name followed by families' brief description, flowering and fruiting season field notes, place of representative collection, medicinal uses with cautions and active constituents.

- The study area is rich of biodiversity and medicinal plants. Local people and herbal healers used the medicinal plants to cure the various human diseases and ailments by using traditional knowledge.

- Traditional medicinal practice mainly found in poor and marginal family who is unable to pay high amount to the allopathic drugs and doctors.

- The use of medicinal plants and their products to cure the disease is limited within the family members of herbal healers and their relatives.

- All herbal healers are male, their main occupation is agriculture; all are poor and lower medium family.

- The education status of the respondents is good. The literate person took their education within in their family from literate person and some gain primary education from school.

- Most of the rich people prier to the allopathic drugs, when they failed to cure from allopathic doctors and medicine, they turns towards locally found medicinal plants and local herbal healers.

- Those plants are used to cure the diseases, mostly they are wild, and most of them are used in diarrhoea, dysentery, cuts and wounds on their traditional ways.

- Local herbal healers harvested plants sps mostly from their community forest randomly; rarely they were cultivated these plants in their lands and boundaries, no one were practiced of medicinal plants except healers.

- Altogether 159 sps belonging to 134 genera and 71 families were found.

- Among 159 sps, 151 sps are angiosperms, 4 sps are pteridophytes, 2 sps are lichens, 1 sp is fungi and 1 sp is gymnosperms.

- Among 159 sps 78 sp are herbs, 44 sp are trees and 37 sps are shrubs.

- Among 151 angiosperms mostly they are dicot and few are monocot.

- All plants have curative properties against different diseases. 31 types of human diseases were cured/ practiced by locally found medicinal plants parts.

- One plant has curative properties against different types of diseases and even the single disease can be cured by different plant species.

- Local people and traditional herbal healers treat the disease on integrated ways i.e. for one disease they used more than one medicinal plants or sometimes they mixed animal parts and food grains also.

- According to some healers, they are more effective when they are mixed with animal parts, oil, food grains and soils also.

- Their mixture depends on herbal healer, disease types, duration of infection period and treatment method. Herbal healers said some disease affect to the people by their food and their feeding habit, so to cure the diseases food grains also used.

- Current pine tips and fresh cow dung is used to cure the fractured bones because they have sticky and hard properties when pasted on fractured places as like as plasters.

- Herbal healers recommend medicinal plant parts in the powder and liquid form; sometimes they also mix animal parts and food grains with the plants parts to cure diseases.

- There is pressure of allopathic drugs, most of the peoples are devoted and believed towards the allopathic doctors, rarely they believed to the herbal healers and ayurvadic doctors.

- Those sick people economically sound, they prier to the allopathic doctors and paid their wages to the allopathic doctors but ayurvadic doctors and herbal healers treated free of cost, so healers did not fulfil their needs on that profession and automatically left that profession or choose another profession, so allopathic doctors dominated on the treatment sectors.

- Lack of knowledge and value of importance, some important plant are destroying by local people.

- Most of these plants are used to cure diarrhoea, dysentery, cuts and wounds. Some medicinal plants are also used in green manuring as well to cur animal diseases

- Mainly poor and marginal peoples only used local medicinal plants and met ayurvadic doctors to treat their diseases.

- Most of the people believed in traditional healing practices because of its regularity, cheapness, quick and local availability. The treatment patterns are found to be highly dominated by traditional healers like gruwa (faith healers) and badhiya (hernbalist) than allopathic medicines or allopathic practioners.

- Those poor local people when suffered any disease, at first they met traditional healers such as dhami/jhakri (shaman/healer of spirit), faith healers (chosen or sent by gods to cure people diseases and link with the gods or super natural power), guruwa, jhotisi, badhiya (herbalist), when they failed to cure, they met to the allopathic doctors.

6.2 Conclusion

From this research it can be concluded that, those plants found in study area which are used to cure diseases, over exploited, mostly they are wild, local herbal healers harvested/collected plants sps mostly from community forest, rarely they cultivated these plants in their land. So important plants sps are not found in that place where they collected in the past. Lack of knowledge and value of the plant they are going to be threat in near future. They used local plants in combined state i.e. many plants used to cure single disease from generation to generation. Sometimes they also used animal parts and food grains to cure diseases. There is the pressure of allopathic drugs, most of the economically sound people are devoted and believed towards the allopathic doctors, rarely they believed to the herbal healers and ayurvadic doctors. Sick people prier to the allopathic doctors and paid their wages to the allopathic doctors but ayurvadic doctors and herbal healers treated free of cost but sometimes they accept cloth and cigarettes that depend on herbal healers. So healers did not fulfil their needs on that profession and automatically left that profession or choose another profession, so allopathic doctors dominated on the treatment sectors. Poor and marginal peoples only used local medicinal plants to treat their diseases and ayurvadic doctors. Most of the herbal healers are literate but economically poor, their practices limited within their family and their relatives.

6.3 Recommendations

The present study is a preliminary work on medicinal plants. The information was obtained from the primary source (direct interview). The following recommendations are drawn from the present study.

1) The local people need to encourage conserving the valuable medicinal plants, such conservation and its commercial utilization lead to increase income of family, herbal healers as well as society.

2) The cattle should be controlled from grazing such valuable plants.

3) Awareness program should be launched for the utilization of forest product and the conservation practices.

4) Due to the pressure of allopathic medicine and treatment, the herbal treatment and traditional knowledge going to decreasing. This traditional knowledge passed on orally from one generation to another without documentation of knowledge, so there is great chance to loss their important indigenous knowledge. Therefore, it should be urgent need for conservation of this traditional knowledge.

5) Due to the misuse and misunderstanding valuable and endangered medicinal plants depleting continuously so that we should develop skill towards such plants and people protect the rare, valuable and endangered.

ANNEX

Summarized Description of Some Medicinal Plants Species of Argha VDC of Arghakhanchi District which are Used Traditional Way to Treat Different Diseases are Given Below

SN	Botanical name of plants.	Family	Common name	Local/Vernacular name	Parts used	Used in	Chemical constituents.
1	*Acacia reguta* (Lam.) *Voigt*	Leguminosae	Soap nut	Sikakai/Ramritha	fruit	Fruit juice used for hair tonic.	
2	*Achyranthus aspera* L.	Papaveraceae	Prickly chaff flower	Datiole/Apamarg	Leaf, stem,root	Food poisoning, diuretic, laxative, expectorant, stomachic, haementinic	4-methylheptatriacont-1-en10-01, 2-tetracontanol, 27-cycloheptacosan-7-o1
3	*Acorus calamus* L.	Araceae	Sweet flag	Bojho	Rhizome	Vomiting, asthma, diarrhoea, dysentery	β-caryophyllene, tatarine-A, tatarine-C
4	*Aegle marmelos* (L.) Corry	Rutaceae	Bengal quince	Bel	Fruit, leaf	Diarrhoea, dysentery, asthma, fever, inflammations, religious,	Marminal, xanthoxol, anthraquinone
5	*Aesandra butyracea* (Roxb) Macb	Sapotaceae	Indian butter	Chiuri	Latex, seed ghee	Ghee used in skin rupture (chapped) due to dryness to fit, oil used in ointment	
6	*Agave Americana* L.	Amaryllidaceae	Agave	Katuki	Leaf	Cattle and buffalo cough	
7	*Ageratum conozoides* L.	Compositae	Goat weed	Neelo gandhe	Leaf	Blood clotting on wounds	
8	*Ageratum haustonium* L.	Compositae	Goat weed	Seto gandhe	Leaf	Blood clotting on wounds	
9	*Alium cepa* L.	Liliaceae	Onion	Pyaz	Bulb	Diarrhoea	
10	*Albizia julibrissin* D-urazz. Var. Julibrissin	Leguminosae	Silk tree, Persean acacia	Shirish	Bark, flower	Bark – anxiety, insomnia, pulmonary abscess, cough, trauma. Flower- insomnia, amnesia, & feeling of constriction on chest	
11	*Alium sativum* L.	Liliaceae	Garlic	lasoon	Bulb	Headache, joint & heart pain	
12	*Allium wallichi* Kunth	Amaryllidaceae		Ban lasoon	Whole plant	Carminative, stimulant & flavouring	Imperatorin, Ticogenin
13	*Alnus nepalensis* D. Don	Betulaceae	Alder tree	Utis	Root & leaf	Leaf paste-cuts & wounds Root decoction- orally used to treat diarrhoea	
14	*Aloe vera* (L.) Burm. f.	Liliaceae	Indian aloe	Ghiukwanri	Leaf	Burn, Jaundice	
15	*Amaranthus spinosus* L.	Amaranthaceae	Pickiy amaranth	Bun or kande lude	Root	Colic pain and leucorrhoea	α –spinastero octacosanoate
16	*Amaranthus virisdis* L.	Amaranthaceae	Non-spiny amaranth	Late/ghar lude	Seed, leaves	Abdominal disorder	
17	*Anethum sowa* Kura	Umbelliferae	Dill	Sampho	Fruits, leaf	Carminative, stomachic & stimulant, leaf used as vegetable to relief body pain, dysentery, increasing milk	
18	*Arctium lappa* L.	Compositae	Cocklebur	Kuro	Fruit	Fruit are pungent and used in common cold, cough,	

						headache, sore throat and inadequate measles eruption	
19	*Areca catechu* L.	Palmae	Betet nut	Supadi	Fruit	Tapeworm, urinary problem, snake bite	
20	*Arisaema intermediu-m* Blume Var Interm-edium	Araceae	Sarpa makai	Sarpako makai	Root, leaves	Paste of roots used in ulcer to remove the puss. Leaves used to cure the fever.	
21	*Argmone mexicana* L.	Paparvaceae	Prickly poppy	Sungre	Root	Worms, cooling	
22	*Artemisia indica* Willd	Compositae	Mugwort	Titapati	leaf	Brain disease, stomachic, antihelminthic Antispasmodic, Leaf juice- scabies	Maackianin, Exiguaflavanone- A
23	*Artocarpus integra* L.	Moraceae	Jackfruit	Rukh katar	Petiole of fruit	Gouts	
24	*Asparagus racemosus* Willd (Buch- Ham)	Liliaceae	Wild Asparagus	Kurilo/Satawar i	Tuberious roots	Weakness, T.B., leprosy, epilepsy, diuretic, rheumatism, astringent, tonic, appetizer, diarrhoea, dysentery, aphrodisiac, appetizer, galactogogue	Racemosol, Asparagamine-A
25	*Atrocarpus lakoocha* Wall.	Moraceae	Monkey jack	Badahar	Latex	Coated on boils & swelling of glands in throat	
26	*Azadirachta indica* A. Juss	Meliaceae	Neem tree	Neem	Leaves, bark	Fever, diabetic, intermittent fever, ulcers, worms	Flowerone, meliatetraole-none
27	*Begonia sp*	Begoniaceae	Begonia	Makarkanchi	Leaf petiole/ Pat ko danth	Pickle/Soue juice used for appetizer	
28	*Bauhini purpuria* L.	Leguminosae	Pink bauhinia	Tanki	Root, bark & flower	Ulcer, constipation, gripping pain in stomach	
29	*Bauhinia variagata* L.	Leguminosae	Mountain ebony	Koiralo	Root, leaves, flower & bark	Constipation, snake bite, diarrhoea, dysentery, piles, blood purifier, worms	Nicotiflorin, 5-hydroxy-7,3.5 tetramethoxy flavone
30	*Berberis asiatica* Roxb. ex. DC.	Berberidaceae	Chutro, spiny	Chautari/Morp yasi	Whole plant	Eye disease, alternative, deobstruent, astringent, diaphrotic, antiperiodic	Berbinium, magnoflorine
31	*Berberis aristata* DC.	Berberidaceae	Chutro spinless	Chautari/Morp yasi	Root & bark	Eye conjunctives, piles sores, purgative for children	Berbamine, berlambine
32	*Bombax ceiba* L.	Bombaceae	Simal tree/ silk tree	Simal	Root, gums, bark, leaf, flower, seed	Latex-Influenza, diarrhoea, dysentery, vomiting, Leaf-skin eruption, fruit, flower, bark-sexual impotency	
33	*Boerrhavia diffusa* L.	Nyctaginaceae	Spreading hogweed	Punnarma jhar	Whole plant	Rabid/mad dog bite, eat to solve eye problem	
34	*Brassica campestris* L.	Cruciferae	Mustard	Tori	Seed	Massage to relief pain, Scabies	
35	*Bridelia retusa* (L.) Spreng	Euphorbiaceae		Gayo	Bark	Scabies	
36	*Bryophyllum pinnatum* (Lam)	Crassulaceae	Sprout-leaf plant	Chiranjivi/Aja mbari	Leaf	Roasted leaf applied on bruises, boils, wounds & insects bites, also used healing of wounds & sores	
37	*Cassia fistula* L.	Fabaceae	Cassia pods	Rajbrich	Fruit, leaf, flower	Flower paste pasted on part of gout formation, leaf paste pasted on snake bite. Purgative	
38	*Cannabis sativa* L.	Cannabinaceae	Turehemp	Ganga	Leaf, seed	Migraine, malarial headache, asthma, diarrhoea, dysent-ery, also in stomachic problem of domestic animals	Cannabigerol, tetrahydrocannabinol

39	*Carica papya* L.	Coricace	Papaya	Mewa	Fruit, latex	Round worm	
40	*Calotropis gigantean* (L) Aiton	Asclepiadaceae	Madar/Gia- nt milkwe-ed	Aanka	Latex, whole plant	Sinusitis, leprosy, skin disease, boils, piles, tumours, liver & abdominal problem	Calotropnaphthalene, calo-tropursenyl acetate-C& B
41	*Capsicum microcarpum* DC.	Solanaceae	Chilli	Jire khorsani	fruit	Rheumatism(heart pain), toothache, chest pain, throat disease	
42	*Celosia argentea* L.	Amaranthaceae	Feather c-ockscomb	Sahastrajari jhar	Leaf, seed	Fever, keratitis, chronic, cuvetitis, dizzinessd -re to hypentension, seed- conjunctivitis	
43	*Centella asiatica* L. Urban	Umbeliferae	Water pe-nnywort	Ghodetapre/Bakamali	Whole plant	Blood purifier, gastric, uric acid, cooling, memory, headache, wounds, syphilis	Madasiatic acid, Quercetin
44	*Chenopodium album* L.	Chenopodiaceae	Lamb's quarter	Bathe	Stem, leaf	Constipation, diabetes, post delivery period, round worm,	
45	*Chilanthus bicolour* (Forss K.) Kaul.	Pteridiaceae		Dun/Dub/Kalisinki	Leaf	Blood clotting	
46	*Citrus aurantifolia* Swingk	Rutaceae	Lemon	Kagati	Fruit, leaf	Cough, common cold, diarrhoea, fruit-juice used for uric acid & dandruff	
47	*Citrus grandis*Osbeck	Rutaceae	Pummelo	Amilo	leaf	Cough	
48	*Cinnamum tamala* (Buch.-Ham) Nees & Ebrm	Lauraceae	Indian cassialignea	Sinkauli/Tejpaat	Bark, leaf	Cough, intestinal disorder, flatulence, diarrhoea, nausea	Myricetin, p-Eugenol, Transcaryophyllene
49	*Cissus repens* Lam	Vitaceae		Pureni	Freshly water sap	Externally in eye for stye	
50	*Clinopodium umbrossum* L.	Labiatae		Bilajor	Leaf, stem	Fracture, body pain	
51	*Clerodendron viscosum* (Vent.)	Verbenaceae	Turk's turban	Bhogate/Rajbeli	Stem, leaf	woolly hairs of stem (Jhus) & leaf is used on blood clotting of wounds	
52	*Crataeva unilocularis* Buch-Ham	Capparaceae	Three lea-ved paper	Simlican/ Siplican	Leaf decoction and bark	Antipyretic, rheumatism, stones, tonic, appetizer, laxative	Catchin, (-)-Epiafzelechin 5-0-β-D- glucoside
53	*Cuminum cynum* L.	Umbelliferae	Cumin seed	Kalo jira	Seed	Round worm	
54	*Curcuma angustifolia* Roxb.	Zingiberaceae	Turmeric	Besar pahiolo	Rhizome	Gastric, irregular menses, stimulant, conjunct- ivitis, sprains, wounds & injuries, carmonati- ve, tonic, blood purifier, skin disease	Curcuminoide, sabinene, cineol, borneol, zingiberine
55	*Curcuma aromatica* Salib.	Zingiberaceae	Curcuma wild	Ban/ Janjali /yellow zedoary	Rhizome	Gastric, cosmetic, flavorant, tonic, blood Purifier, ointment, poultic(in wounds)	Tumerones niacin, protein, vitamin
56	*Cucurma caesia* Roxb.	Zingiberaceae	Black zedoary	Kalo besar	Rhizome	Gastric, blood Purifier	
57	*Cuscuta reflexa* Roxb	Cucutaceae	Dodder	Akasbeli	Stem	Jaundice, itch, fever, astringent, diuretic	Angustifoline,Hydroxylupanine, kempferol 3-0-rhamnoside

58	*Cynodon dactylum* (L) Pers	Poaceae/Graminea	Bermuda	Dubo	Whole plant	Stone, Skin disease, diarrhoea, dropsy, dysentery, haemorrhage, haematunia	Phytol
59	*Cynoglossum zeylanicum* L.	Compositae	Sheep bar	Bhedokuro	Whole plant	Antiseptic, apply to dry and heal wounds	
60	*Cyperus rotundus* L.	Poaceae/Graminеae	Nut grass	Mothe/ Nagarmothe	Rhizome powder	Antihelminthic, skin disease, wounds, leprosy, scabies, cholera, diarrhoea, dysentery, stomachic disorder	Cyperine, rotundene, β-selinene, β- caryophyllene epoxide
61	*Datura metal* L.	Solanaceae	Stramonium/Thorn apple	Kalo dhaturo	Seed oil, whole plant	Massage in pain, antiseptic, asthma, poultice (used in Wounds) , Seed for diarrhoea of goats	Hyoscine
62	*Datura stramonium* L.	Solanaceae	Thoen apple	Sano dhaturo	leaf	Warmed leaf put on sprained parts for analgesic, asthma, poultice & Parkinson's disease	Hyoscine & Hyocyamine
63	*Desmodium oojensis* (Roxb.) Ohashi	Leguminosae		Sajhan/Sandan /Pannan	Bark	Antipyretic, bleeding, dandruff, diarrhoea, dysentery, urinary problem, cooling, diabetes, ulcers, gonorrhoea, anaemia, fever, urorrhagia, gonorrhoea, swelling, constipation.	
64	*Desmostachya bipinnata* L	Poaceae	Kush grass	Kush	Whole plant	Urine stone, cooling, diuretic, asthma, aphrodisiac, jaundice, blood disease	
65	*Dichroa febrifuga* Lour	Sexifragaceae		Basak	Root	Fever, malaria, productive cough	g-dichroines
66	*Durenta erecta L.*			Nil kanda	Leaf, fruit	Leat-antipyretic, diuretic. Fruit juice-spraied pond and swamp areas as larvicide	
67	*Dichroa aspiioides* L.	Loranthaceae	Vepris biocularis	Aaijaru	Leaf	Pasted on boils, used on wounds and menstrual problem	
68	*Didymocarpus albicalyx* C.B. Clarke	Gesneriaceae		Kumkum/Gou kuldhoop	Root	Heache	
69	*Discorea deltoida* Wall. ex Griseb	Discoraceae	Deltoid yam	Vakur	Root	Constipation,round worm, diarrhoea, dysentery, Used to extract diosgenin for the manufacture of steroid hormones and cortico stroids	Erin, Nitogenin
70	*Dolichos biflorus* L.	Leguminosae	Horse gram	Gahat	Seed	Stone, swelling	
71	*Drymeia diandra* Blume	Caryophyllaceae	Lightining weed	Amizale	Leaf & stem	Fever	
72	*Dryopteris cochleata* L.	Aspidiaceae		Khane neuro	Rhizome	Diarrhoea	
73	*Elettaria cardamomum* L.	Zingiberaceae	Lesser car damomm	Sukmale	Fruit	Tonic, vomiting, stone, face washing	
74	*Euphorbia hitra* L.	Euphorbiaceae		Dudhe/Rato lahere ghas	Whole plant	Colic trouble, dysentery, cough, asthma, vomiting & worms.	
75	*Euphorbia Roylena* Boiss	Euphrobiaceae		Siudi	Latex	Dysentery, applied on warts	
76	*Ficus lacor* Buch.-Ham	Moraceae		Kabhro	Bark, fruit, sour current tip	Bark juice-ulcers, burning sensation, biliousness inflammation, leprosy, hallucinations, loss of	

						consciousness. Fruit & seed- bronchitis, scabies, boils. Tip- stomach disorder	
77	*Ficus religiosa* L.	Moraceae		Peepal	Leaf, bark, fruit, soft tip	Sinusitis, gonorrhoea, leaf &fruit constipation	
78	*Ficus semicordata* L.	Moraceae		Khannyu	Fruit, bark	Allergy	
79	*Foeniculum vulgare* Mill.	Umbelliferae	Foeniculum	Soop	Seed	Bleeding	
80	*Lepidiium sativum* L.	Cruciferae	Garden cress	Chamsur	Seed, leaf	Leaf- Urinary problem. Seed flower on- cough, scratch of ligament.	
81	*Garuga pinnata* L.	Meliaceae		Dabdade	Bark	Skin disease, headache ,cuts	
82	*Grewia sclerophylla* Roxb.	Tiliaceae		Pharso	Bark	Bark juice eaten to treat constipation.	
83	*Hibuscus sabdariffa* L.	Malvaceae	Indian sorrel	Patuwa	Leaves, flower, fruit	Fruit-possess anti-scorbutic properties. Leaves-regarded as emollient, diuretic, sedative, refrigerant. Seed paste- pain. Flower juice-constipation	
84	*Jatropha curcas* L.	Euphrobiaceae	Physic nut	Sajiban	Stem	Stem used on brush the teeth	
85	*Juglans regia* L.	Juglandaceae	Himalayan walnut	Okhar	Bark	Bark-anthelmintic & detergent, scabies, fever, ring worm, eczema. Leaf juice-cuts & wounds. Root juice-boils & pimples. Latex-boils, pimples, pyorrhoea, rheumatic pain.Leaves-scrofula	Epicatechin, catchin
86	*Justicia adhotada* L.	Acanthaceae	Malabar nut tree	Ansuro	Leaf	Constipation, fever, cough, bronchitis	Pegamine, essential oil vascinone, vasnetine
87	*Kaempfera rotunda* L.	Gingiberaceae		Bhuichampa	Whole plant	Fracture	
88	*Lycopodium clavatum* L	Lycopodiaceae	Club moss	Nagbeli/ lycopodijum	Spores	Spores dessicative which prevents the chapping the children skin	Lycoclavanol**,** α –onoceron
89	*Lyonia ovalifolia* (Wall.) Drude	Ericaceae	Lyonia	Angaro /Angari	Leaf	Scabies, pesticide	
90	*Madhuca longifolia* (Kognig)	Sapotaceae		Mahuwa	Seed, flower	Seed oil in skin disease & oil cake for fish poisoning, flower for cooling, tonic, nutritive cough, colds	
91	*Maesa chisia* Buch.-Ham. ex D. Don	Myrsinaceae		Bilauni	Root bark. Leaf, fruit	Insecticidal & also used in syphilis. Ripe fruit-scabies. Leaf-fish poisoning.	
92	*Mangifera indica* L.	Anacardaceae	Mango	Aanpa	Bark	Gastric	
93	*Mentha spicata* L.	Labiatae	Common mint	Pudina	Leaf, stem	Cooling, fever, typhoid, vomiting, dysentery, washing sores, carminative	Carvone-pinen,-phellandrene, 1-limonene
94	*Melia azadirch* L.	Meliaceae	Bead tree	Bakaino	Bark,fruit, leaf, root	Antiseptic, worms, allergy, paste pasted on wounds, skin disease, leprosy, emetic, cathratic	Azadirachtin M, 22,23-Dihydronimocinol
95	*Mimosa pudica* L.	Leguminosae	Sensitive plant	Lajabati	Leat, root	Vaginal & uterineal ailments, relief from gout, skin & kidney disease, fistula, asthma, fever, cough, dysentery	Mimopudine, strophanthidin 3-0-b-D-glucopyranosul-(1-4) -0-b-D-xylopyranoside
96	*Morchella esculenta* (Linn.) Pers.	F-Helvallace-ae Class-Ascomycetes	Sponge mushroom	Guchhi chyau	Whole plant	Vitamins and nutritious food.	

97	*Musa sp*	Musaceae	Banana	Marche Kera	Fruit	Diarrhoea, asthma, flower-dysentery	
98	*Myrica esculanta* Buch..-Ham.ex D. Don.	Myriceae	Bay berry	Kaphal/ Kapasi	Bark juice, fruit	Stimulant, rheumatism, carminative, astringent, chronic, antiseptic, diarrhoea, dysentery, asthma	Myricanone, myricadol
99	*Myristica fragrans* Houtt.	Nyristicaceae	Nutmegs	Jaypatri	Fruit	Typhoid	
100	*Nephrolopsis cordifolia* L.	Polipodiaceae		Paniamala	Tuberous Rhizome	Cooling, cough	
101	*Nicotiana tabacum* L.	Solanaceae	Tobacco	Surti/Kancho-pat	Leaf	Scabies	
102	*Nicandra Physaloides* L.	Solanaceae	Ispghula spogel	Isabgoal	Fruit, seed	Cooling, Urine problem, dysentery,	
103	*Oroxylum indicum* (L.) Kurz	Leguminosae	Trumpet tree	Tatelo	Bark,fruit, seed	Food poisoning, appetizer, cooling, diarrhoea, dysentery, rheumatism	Ellagic acid, methyl oroxylopterocarpan
104	*Oscimum sanctum* L.	Labiatae	Sacred basil	Tuli	Leaf	Cough, common cold, stem paste on scorpion bite, bronchitis, skin disease, antibacterial, insecticide, worms, digestive problem	eugenol, nerol, pinene, ursalic acid
105	*Oscimum basilicum* L.	Labiatae	Basil	Babari/Padam	Leaf	Gnoria, body pain, wound, catechetic, eaten many times when stomach boiled.	
106	*Osyris wightiana* Wall. Ex.Wight	Santalaceae	Wild tea	Nundhiki	Leaf Bark	Infusion of leaves- emetic, Bark- diarrhoea	
107	*Oxalis corniculata* Linn.	Oxalidaceae	Indian sorrel	Chariamilo	Whole plant	Fever, scurvy, diarrhoea, dysentery, to remove warts, cooling, antiscorbutic, stomachic	β-sitosterol, Isovitexin
108	*Parmelia sp*	Parmeliaceae	Lichen	Jhau	Whole plant	Mental ailments & epilepsy also used in sticks, spices & vetenary drugs. Paste used in ointment & antibiotic n cuts & wounds.	
109	*Paris polyphylla* Sm.	Liliaceae	Herb paris	Satuwa	Roots, Flower	Gastritis, menstruation pain, rhizome anthelmintic & tonic	Polyphyllin A, kaempferol 3-gentiobioside
110	*Phyllanthus emblica* Linn	Euphrobiaceae	Goose berry	Amala	Fruit	Flatulence, fever, scurvy, anaemia, jaundice, dyspepsia, common cold , constipation	Phyllanemblinin B, Phyllaemblicin A
111	*Piper cubeba* L.f.	Piperaceae	Long pepper cubeb	Kawachni/ Thulo pipla	Unripe fruit	Cough, asthma, bronchitis, genitourinary disease like gonorrhoea, gleet, rheumatism,flatulence, hay fever, wounds, ulcers, anorexia, dyspepsia, halitosis	
112	*Pinus roxburghii* Sarg	Pinaceae	Pine tree	Rani Sallo	Soft tip	Fracture as plaster	
113	*Plumbago zeylanaca* L.	Plumbaginaceae	Ceylon leadwort	Chitu	Roots	Food poisoning, appetizer, antibiotic, diarrhoea, toothache, piles	
114	*Plumeria acuminata* L.	Apocynaceae	Temple/Pagoda tree	Chuwa	Bark, leaf, latex	Fever, asthma, swelling. Latex plus mustard oil used massage in joints of rheumatic pain.	
115	*Pogostemon benghal-ensis*(Burm.F)Kuntze	Labiatae		Rudilo	Leaf Juice	Fever applied on for head	
116	*Premna integrifolia* L.	Verbenaceae	Headache tree	Gennery	Whole plant	Uric acid,	
117	*Psidium guigava* L.	Myrtaceae	Guava	Balauti/Amba	Fruit	Common cold	

118	*Prunus pashia* Buch-Ham	Rosaceae	Wild pear	Mayal	Fruit	Diarrhoea	
119	*Prunus cerasoides* D. Don	Rosaceae	Himalayan cherry tree	painyu	Seed, bark, leaf	Seed oil for stone, bark for swelling, twig & leaf are abortive.	Afzelin, puddmin-B(1), Neosakuranin, (-)-Naringenin, (2S)-Naringenin
120	*Punica granatum* L.	Punicaceae	Pomegranate	Anar/Darim	Bark, leaf, fruit & seed	Dysentery, diarrhoea tapeworm, kidney stone, fever, cooling, tonic, emetic, aphrodisiac, burning, cures biliousness, clear voice, diuretic, alternative	
121	*Ramalina sp.* (Ach. sp)	Usneaceae	Lichen	Jhau	Whole plant	Antiseptic, burns & wounds, epilepsy, ointment & antibiotic in cuts & wounds used tincture of iodine	
122	*Raphaanus sativus* L.	Cruciferae	Raddish	Mula	Whole plant	Skin disease, urine problem, appetizer	
123	*Rubus elipticus* Sm.	Rosaceae		Aaisalu	Leaf	Typhoid	
124	*Rhus javanica* Linn.	Acanthaceae		Bhakkimlo	Fruit	Dysentery, blood dysentery	
125	*Rhododendron arboretum* Sm.	Ericaceae	Rhododendron	Lali/Rato Gurans	Flower, bark	Dysentery, cough, menstrual disorder	Pectolinaroside, Quercetin 3-0-β-rutinoside
126	*Rumex nepalensis* Spreng	Poligonaceae	Common field sorrel	Halhale	Roots, leaf	Root- purgative, venereal disorder, swelling, fracture. Leaf-Colic, syphilitic ulcers	Chrysophanol, 6-0-Methyle-modin, 2-Acetyl-1, 8-dihydroxy-3- Methylnephthalene
127	*Rhododendron antopogon* D. Don.	Ericaceae	Anthopogon leaf	Sunpati	Flower	Diuretic problem, cough, cold, fever, chornal bronchitis, aromatic, stimulant, appetizer.	
128	*Saraca indica* L.	Fabaceae	Ashok tree	Ashok	Leaf, flower, bark	Flower- on diabetic. Leaf – juice on stomachic. Bark- uterine affection in menorrhazia, dysentery, piles. Bark paste- externally used on pimples, ulcers, scorpion bites	Tanninsn& Catechin
129	*Saccharum officinarum* L.	Poaceae/ Graminae	Sugarcane	Ukhu	Sweet juice	Jaundice	
130	*Santalum album*	Santalaceae	Sandal tree	Shreekhanna/ Seto-chandan	Stem	Skin disease, face washing, stone, dirt	
131	*Scoparia dulcis* L.	Scrophulariaceae	Sweet broom sides	Chinijhar/lahar o/Metha jhar/Patal mishri	Whole plant	Eye trouble, toothache, boils Root juice-diarrhoea Root paste-fever	
132	*Scurella elate* (Edgew.) Danser	Loranthaceae	Cuckoo berry	Aaijuri	Leaf	Paste applied on boils and blisters, leaving top part exposed	
133	*Schiuma wallichi* (DC.) Korch	Theaceae		Chilauni/Goecasima	Bark, Leaves, Roots	Cuts and wounds, fever, anthelminthic, irritates skin, rebefacient, antipyretic	
134	*Semecarpus anacardium* L.	Anacardiaceae	Marking nut tree	Bhalayo	Fruit	Acrid, hot & anthelmintic, ascites, rheumatism, asthma, skin disease, piles, psoriosis	Anacarduflavanone, semecarpetin
135	*Sesamum orientale* L.	Pedaliaceae	Sesamum	Til	Seed	Menstruation problem, uric acid, hair	
136	*Sida cordata* (Burm. f.) Borss.	Malvaceae	Country mallow	Balu/Balu jhar	Bark, leaf	Blisters, dirutic, analgesic, tonic, cooling, aphrodisiac, antipyrutic	
137	*Solanum surattenese*	Solanaceae	Yellow b-	Kantakari	Root, fruit,	Root-expectorant, stomachic, diuretic, anthelmintic.	Solasodine, Solaso-3,5

	Burm. f.		eried nig-ht shade		seed	Flower-cough & asthma. Seed-asthma, toothache.	diene
138	*Solanium nigrum* Linn.	Solanaceae	Black b-erry/bl-ack night shade	Kamai, Kali, Kalobihi	Whole plant (Berries)	Fruit-applied forehead relief for headache, rheumatic & gouty joints, cirrhosis of lever, sedative, alternative, diuretic, heart disease, expectorant, Berry- tonic	Solanargine, Deglactotigonin
139	*Spindus mukorossi* Gaertn	Sapindaceae	Soap nut tree	Ritha	Fruit	Fruit -emetic, expectorant used in salivation, chlorosis & epilepsy	
140	*Stephania lauca* (Roxb) Meers	Minispermace ae		Badal pate	Root, stem	Gastric, stone	
141	*Spilanthes spicata* Wall. ex. DC.	Compositae		Marouti	Flower	Heart pain, toothache, stomachic pain	
142	*Swertia chirayita*(Roxb. ex. Fleming) H. Karst	Gentinaceae	Chiretta	Chitato/Tita	Whole plant	Cold , Fever, Tonic, diarrhoea, dysentery, body ache, skin disease, intestinal worms	Chiratol, swerchirin
143	*Syzygium cuminii* (L.) Skeels	Myrtaeae	Jaman/Bla ck plum	Jamuno	Fruit, bark, whole plant	Stomachic problem, diarrhoea, asthma dysentery, diabetes, ulcers , bronchitis, bleeding	Myricetin-3-ribinobioside, β-linalool, β-pinene
144	*Syzygium aromaticu-m* (L.) Merr.	Myrtaceae	Clove	Lawang	Flower	Chewing for toothache	
145	*Terminalia alata* Heyne. Ex Roth	Combretaceae	Lourel tree	Saaj	Bark, gum	Gum- skin burn. Bark juice-swelling, cut & wounds, skin disease.	
146	*Terminalia chebula* Retz.	Combretaceae	Myrobal-an	Harro	Fruit	Cough, fever, bleeding, cold, diarrhoea, dysentery, tonic carminative, piles	1,6-0-Digalloyl-β-D-glu-copyranose, Penta-0-gall-yl- β-D- glucopyranose
147	*Terminalia belerica* (Gartn) Roxb	Combretaceae	Bastard	Barro	Fruit	Cough, fever, headache, diarrhoea, cold, piles, leprosy, dropsy, appetizer	Ericordigenine, 7-Hydroxy-3,4-methylenedine-dioxyflavan
148	*Thysanolaena maxic-ana* (Roxb.)O.Kuntze	Poaceae	Bouquet grass	Amriso	Root	Bone fracture, body pain, fever	
149	*Tinospora sinensis* (Lour)Merr	Minispermace ae	Tinospora	Gane gurgo	Rhizome	Gastric, diarrhoea, tonic, antipyretic, aphrodisiac	Giloin, gilenin, tinosporine, gilosterol
150	*Trigonella foenum graecum* linn.	Leguminosae	Fenugreek	Methi	Seed. Leaf ,stem	Gastric	
151	*Urtica dioca* L.	Urticaceae	Stinging nettle	Sisnu	Roots & leaf	Diarrhoea, menstrual flow, worms	
152	*Valeriana Jatamansii* Jones	Valerianaceae	Valeriana	Suganwala	Whole plant	Headache, eye trouble, blood affliction	Valepotriates, valeric acid, glycoside, isovalerate, valerenal, valeranone
153	*Vitex negunda* L.	Verbrnaceae	Indian pivet	Simali	Leaf	Fever, headache, hair tonic, clear hearing, tonic(tonic), hermifunge	
154	*Woodfordia fruticosa* (L.) Kurtz	Lythraceae	Fire fla-me bush	Dhairo	Flower	Dysentery, skin disease, conjunctives, mucous problem	
155	*Xanthoxylum*	Rutaceae	Nepal	Timur	Seed, bark	Heart pain, blood pressure cholera, dyspepsia,	

	armatum DC.		papper			carminative	
156	*Xanthoxylum oxyphyllum* Edgew.	Rutaceae		Siltimur	Fruits	Fruit-Appetizer, anthelmintic, for reduce pain, tumours Seed & bark-fever, cholera, dyspepsia. Flower-are antidate to snake bite.	
157	*Xeromphis spinosa* (Thunb.) Keay.	Rubiaceae	Common nut	Maidal/Main kanda	Bark	Gastric	
158	*Zingiber officinalis* Rosc.	Zingiberaceae	Ginger	Aduwa	Stem	Gastric, cough, asthma, vomiting	L-Asarinin, 1,8-cineole, Armatamide
159	*Ziziphus mauritina* Lam	Rhamnaceae	Chinese date	Bayar	Bark, fruit, root	Bark juice- diarrhoea, dysentery, externally in boils. Fruit- cooling, aphrodisiac, tonic, laxative.Root juice- fe- ver, ulcers, wounds, peptic, backache, stomach & mens- trual disorders, old wounds. Ripe fruit- fever, ulcers, w-ounds, digestion, blood purifier. Root juice of *Achyrant- hes aspera*, *Mimosa pudica* & Bayar to cure Measals	

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Questinnaire

Personnel Information of the Respondents

1) Name of the respondents …….

2) Age ……

3) Education i Primary. ii lower secondary. iii Secondary. iv Higher education.

4) Main occupation. i Agriculture. ii Business. iii others.

5) Village/Ward no.....

6) Distance from forest or community forest. m..……..km……..

Information about Disease Treatment

1) What is your health? i Good. ii Bad. ii Normal.

2) Would you sick frequently? i No. ii yes.

3) Whom do you visit when you are sick? i Doctor. ii Dhami. iii Badhiya

6) Why do you give priority to the doctors? i Quick treatment. ii Easy to access.

6) Why do not give you priority to the doctors? i Expensive. ii Believe on traditional herbal treatment method. iii Far from the home.

7) Do you visit healers or treat yourself? .....

8) Do you give priority to the herbal healers? i No. ii Yes.

9) Why do you give priority to the herbal healer? i Chip. ii Easy to access. iii No side effect

For Healers Only

10) Do you take allowance/fees from sick people after treatment? i. No. ii Yes.

11) What type of allowance? From sick people. i Money. ii Food material. iii Cloth. iv Others.

12) How much? …….

For Sick People Only

13) Do you give allowance/fees to the healer after treatment? i. No. ii Yes.

14) What type of allowance? i Money. ii Food material. iii Cloth. iv Others.

15) How much? …….

Information about Medicinal Plants

1) Common plants found in the respondent locality. i Trees. ii Shrubs. iii Herbs.

2) Which season do you collect plant? i Rainy. ii Summer. iii Cold. iv Atum.

3) For what purpose do you collect plants? i Medicinal. ii Food. iii Fodder.
iv Fire wood. v Timber. vi Others.

4) After collection do you use plants? i Immediately. ii Store for long time for future.

5) Which type of plants is good for treatment? i Fresh. ii Stored plants

6) Where do you get herbal medicinal plants? i Forest. ii Own land. iii Healers.

7) Group of commonly used plants. i Trees. ii Shrubs. iii Herbs.

8) Which parts do you used for medicinal practice? i Root. ii Leaf. iii Bark.
iv Fruit. v Seed. vi Flower. vii Whole plant

9) Which form of plants do you used for medicinal practice? i Powder. ii Juice. iii Paste.

10) Which part of plants do you used for medicinal practice for powder, juice and pate? i Root. ii Leaf. iii Bark. iv Fruit. v Seed. vi Flower. vii Whole plant

11) How do you prepare medicinal plants for medicine? i Grind. ii Cook. iii Chope the parts.

12) How do you use medicinal plants for medicine? i Single plant. ii Mixed with other plants parts.

13) At the processing time do you mix plants parts with others? i Yes. ii No.

14) If yes, which materials do you mix plants parts at the processing time? i Mixed with animal parts. ii Food materials/grains. iii Others.

15) At treatment time why do you mix plats parts with others? i To make effective. ii Non-effective.

16) At the processing time which animals which part do you mixed plants parts? i Bone. ii Blood. iii Others., a) Animal name……

17) Did you plant medicinal pants in your land that you are used for treatment? i Yes. ii No.

18) Is there in the growth such medicinal plants? i Yes. ii No.

19) Does the medicinal plants have other uses? i Yes. ii No.

20) Do you use medicinal plants for animal and plant disease? i Yes. ii No.

21) What type of plant and animal disease to treat medicinal plants?.....