

# **CHAPTER: ONE**

## **INTRODUCTION**

### **1.1 Backgrounds of the Study**

Infrastructure is baseline for overall development of a region. It is structure or foundation of development before starting any types of activities. Infrastructure is also basic physical, organizational and geographical structure of the environment. Infrastructure development is needed for the operation of a society, human-natural interaction and socio-economic development. Infrastructure development bring change in society, transfer the natural structure, set new structure by replacing the old structure and eventually establishes the new modern facilities. Hence, for any region's overall development with an effective service delivery mechanism infrastructure plays a crucial role.

Infrastructure development is combination of two word 'infra' mean below 'Structure' mean form and development means to bring the change of structure. This French word mainly has been used in English science at least 1927. It means "subgrade" (the native material underneath a constructed pavement or railway). NATO has been used this word science 1940s and was then adopted by urban planner in its modern civilization (Oxford English Dictionary 1940). So infrastructure development means to bring the change social organizational, personal or natural into modern facilities.

Infrastructure development is mainly related of road, bridge, building, hydroelectric power generation, telecommunication network, transportation facilities and safe drinking water facilities etc. It has also included the building facilities such as public house, school, universities, hospitals, industry or shopping complex. The modern infrastructure development in Nepal started during 1950s and until then Nepal had not infrastructure linkages to the rest of the world.

Nepal is a one of the poorest country in the world. Poverty reduce is a major challenge for Nepal. Poverty a one of the most reminds problem of Nepal to develop the basic infrastructure. Transportation plays of vital role in the overall development and socio-economic transformation on the country. It can be regarded that

transportation infrastructure service is a backbone for an overall socio-economic development in Nepal followed by communication, which has great role in the overall increase the development and socio-economic linkages within country and country to the world. Communication services is and easy and effective instrument to diffuse the process of development and to aware and inform people about new innovation and idea.

Infrastructure development has been related with the society and nature. It exploits the environmental situation giving great benefit for society actives. Nepal is a rich country in the world in terms of water resources, but it can not yet be used for sufficient energy, drinking water, irrigation due to lack of ability to develop sufficient required infrastructure together with skill manpower, lack of investment and policy. As a result most of the population both in rural and urban area suffers from power shortage, water borne diseases, inadequate sanitation.

Nepal is a natural scenic beautiful country in the world and it is play import role for developed the tourism sector. Tourism sector would have in generating employment, increasing foreign exchange earnings and maintaining external sector stability, it is crucial for Nepal to speedily develop. At present, around 50% of the urban population has access to water and sanitation services. This is targeted to increase to 100% by 2027.

According to the economic survey 2010/011 total length of road in Nepal is 12,455km. Total road out of the 6874km is blacktopped, 5036km is graveled and 9545km is earthen were constructed. There has been quantitative and qualitative increase in telecom services, daily new papers, TV transmission services, Radio broadcasting service and cable printing service in the country. Infrastructure development mainly aim are providing basic needs for local people and investment the minimum by the local people and society. It is indirectly leads to poverty eradication by providing a better working, better living, stander environment create, physical healthily and human capital formation for the poor. It has been found that in spite of the existence of physical and social infrastructure in certain disadvantages groups like poor children and woman.

Government body and local people are discussing the gap between roadway development and utilization the local level resources for infrastructure development. It is encourage and facilitate financial intermediaries and provide security for investment the finance to infrastructure projects. It is address the need to special skills manpower for infrastructure development accepts.

## **1.2 Statement of the Problem**

Infrastructure development can be achieved by mobilizing the pace of natural, social and human resources management. Transportation, drinking water and communication are the most important factors for development. Development always starts from the center (core) and diffuse or extend slowly extend towards rural area, (periphery). So core always attractive periphery, because periphery areas are always supply raw materials for core areas development.

Nepal is a hill country with very weak land structure, active and young mountain and fragile geology, steep slope and rugged topography. The physiographic condition of Nepal is well knowingly considered as difficult territory for any types of infrastructure development. Many of the infrastructures if not handed carefully result different types of negative consequences in the society by disturbing road structure, destroying agricultural land, water sources, communication, power and natural resources.

Land structure in Nepal is unique and greater with its altitude variation in a short distance. Infrastructure development activities in Nepal has been rise to natural hazards likes, landslides, soil erosion, sedimentation, drought and deteriorating water resource, decrease the food production, increase the social abuse, exploitation the resources and destruction of the social structure etc. Communication is friend for people. Without communication man are paralyzed. Modern tools of the communication have made people dependent so that there is no possibility of development without communication facilities. Similarly, electrification plays a greater role in economic and social development of a region.

The urban area of Nepal have been ahead than rural area in infrastructural development. However, infrastructure does not always leave positive impact on

society in straightforward and in expected rate. They bring some of the negative consequences for the societal development of a region. The socio-economic status and the ability of people of that region to accept, adopt and use for their overall development is the most. In this regards, the study has tried to find out the role of infrastructural development in one of the rural area of Nepal. More specifically this study was concentrated to search answers of the following research questions.

- i. What are conditions of infrastructure development activities in the study area?
- ii. What is the socio-economic condition of the people in the study areas?
- iii. What are effect on the society and life style of the people from implementation of infrastructure development program in the study areas?
- iv. What are the problems and prospects of infrastructure development in the study area?

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

The general objective of the study is to analyze impact of infrastructure development on society. The specific objectives of the study are as follows:

- i. To examine the role of infrastructure in changing socio- economic status of people.
- ii. To analysis the level of infrastructural development.
- iii. To examine the problem and prospect of infrastructure development.

### **1.4 Significance of the Study**

Infrastructure development has both positive and negative impact on the society. However, while establishing or locating infrastructure the government or any other stakeholders have to focus on the positive impact. For this purpose they have to know about the positive and negative consequences an infrastructure development activity has raised. Hence, this study will explore the impact of infrastructure development on Kotanti Bhumlu VDC Kavrepalanchok District and their effect on the social development activities. The study was considered as useful for the following:

- i. It is helpful to other researchers, who are interested in similar research field in future.

- ii. It is helps to show impact of infrastructure development activities on society, environment and resources management.
- iii. This study provides facilities of the policy-maker and planner to design formulate relative policies of impact of infrastructure development on society.

It's providing substantial knowledge about the concept of infrastructure development, which is a tangible input to the people for participation in the development programs.

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

The study has following limitations:

- i. This study based largely on primary data collected from the field survey with the support of secondary information.
- ii. Due to the time and budget only 69 respondents were taken from the sample household.
- iii. Interview has been conducted with directly involve the infrastructure development activities and directly feel about the impact of development in study areas.
- iv. It is concentrated on kolanti Bhumlu VDC, which may or may not represent to other similar rural area in Nepal
- v. Infrastructure development is multidimenal; I focused only transportation and electricity field.

### **1.6 Organization of the Study**

This study is organized into five chapters. The first chapter presents the introduction on the subject matter. The second chapter includes literature review of containing matters from various thesis/ dissertation, book, documents, journals and public and unpublished book. Third chapter deals with research methodology. Likewise, fourth chapter data presentation and analysis and at last chapter includes the summary and major finding, conclusion and recommendation.

# **CHAPTER: TWO**

## **LITERATURE REVIEW**

### **2.1 Introduction**

Researcher must have the knowledge of previous studies, which are closely related to the topic. The previous study provides the foundation to the present study for the continuity in the research. This continuity in research is ensured by linking the present study with past research studies and to get way forward.

This chapter presents and discussion about the historical development of infrastructure condition in Nepal, concept of infrastructure development, empirical studies related to the infrastructure development. There are very scanty numbers of empirical studies directly related to impact of infrastructure development in Nepal as well as in the study area. However, available studies, concepts were reviewed which helped enhancing the knowledge about the impact of infrastructure development in the society, in general. Several publications related to impact of infrastructure are published in the form of books, booklets, journals, documents and many useful articles were reviewed. Likely there are several book, booklet, journals and articles written by Nepalese writer as well as foreign writers in the context of infrastructure development in Nepal were also reviewed. Likewise the researcher gone through published and unpublished document, related thesis and related polices are guidelines.

Infrastructure development perspectives is a new genuine and on appropriate approach to analyze the socio-economic status, geographical structure, people living standard and environmental condition of countryside, area and country. It focuses about the condition of infrastructure and their impact in the society, socio-economic structure and development activities. Infrastructure developments are at the very heart of the economic and social development. They provide the foundations for economic activities virtually in every aspects of modern day.

Infrastructure development is mainly related of transportation, building, hydroelectric power generation, telecommunication network, transportation facilities and safe drinking water facilities etc. it is discussed only transportation and electricity.

## **2.2 Concepts of Infrastructure**

Infrastructure is basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. It can be generally defined as the set of interconnected structural elements that provide framework supporting an entire structure of development. It is an important term for judging a country or region's development. The term typically refers to the technical structures that support a society, such as roads, water supply, sewers, electrical grids, telecommunications, and so forth, and can be defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions (Wikipedia, 2011).

Rao (1978) in his books "urban planning and Development Authorities" Rao is a famous developer and economist , his speech can't be taken up his isolation but it is put of large basket of urban reforms and strategies at state and national level once center and state/ urban strategies /resources commitment are worked out, then only detailed exercises could be mounted to identify strategy cities as per their institutional meads, wherever development agency are to be set up adequate resources commitment and policies aimed at requisite resource mobilization are to be made at local and state level.

Srein (1988) in his books "infrastructure planning and management" he was define mainly the three important way.

1. It affects the intensity at which facilities deteriorate and mad to be replaced.
2. It alters the mix of required capital investment. As the economy restructures and new production technology develop, demand pattern change and evolve.

3. Economic growth is distributed unevenly, same area of the country require additional infrastructure to serve growing population. In this speech say that about the “infrastructure planning and management”.

Global Economic Prospects Report the World Bank (2009) had forecast the global economy would expand a mere 0.9 per cent in 2009 and world trade volume would fall for the first time in 26 years by 2.1 per cent. Overall, the outlook for economic activity weakened through 2008 and became evident through declines in GDP for many advanced economies and official recession announcements. As consumer confidence dwindled, the purchasing of goods and services declined with households cutting spending in further deteriorating conditions. Business investment and industrial production also worsened as revenues fell and credit markets seized. Inter-bank lending continued to be stalled and whilst some national interest rates have declined to near record lows, these lower rates have not been transmitted to producers and consumers who found it difficult to spend as they feared further job reductions. To compound the situation, banks have been hesitant to offer loans to consumers, seeing an additional risk with unemployment on the rise.

Gangol,(2012) the Executive Manager of the Independent Power Producers’ Association (IPPAN) reasons, “The private investment is all the more important in poor countries like Nepal, which have limited resources to invest in infrastructural sectors like power, telecommunication, and transportation. If the private sector invests in hydropower, the government can allocate more funds for sensitive sectors like health and education”.

Above speech show the economic status and infrastructure combination. Economic can be important indicator of development and living status increase the population. Economic and infrastructure increase with the people living stander, social status and quality of community.

### **2.3 Review of Empirical Studies**

OECD (2006), Report that statement of Infrastructures is at the very heart of economic and social development. They provide the foundations for virtually all modern-day economic activity, constitute a major economic sector in their own right,



and contribute importantly to raising living standards and the quality of life. However, infrastructures also have less desirable consequences. To name but a few – more roads may mean more traffic and more noise, power plants may add considerably to greenhouse gas emissions, and dams may entail the destruction of large areas of countryside and the displacement of population. The next decades are likely to see an accentuation of two facets of infrastructures. On the one hand, they will prove a vital tool in resolving some of the major challenges faced by societies – supporting economic growth, meeting basic needs, lifting millions of people out of poverty, facilitating mobility and social interaction. On the other, environmental pressures in the form of changing climatic conditions, congestion and so on are likely to increase, turning the spotlight firmly on the inherent tensions between the imperative for further infrastructure development and the quest for sustainability.

This is just one good reason for taking a long-term perspective on infrastructures there are others? Infrastructures usually last a very long time, often generations, and also take a long time to build, so that bringing about change in their systems requires long-range thinking and vision. Moreover, globalization is intensifying economic and other interlink ages among countries, making it increasingly necessary to plan, develop and finance infrastructures across national borders. The key players too change over time, as the roles and responsibilities of the public and private sectors shift and evolve. Such changes underscore the importance of taking a longer-term view of both the objectives of public policy – economic, social and environmental – and the regulatory and institutional framework within which they are pursued.

Hence, the next 25 years offer a useful time frame for exploring many of the issues that will need to be tackled if these various challenges are to be addressed successfully. How much investment in infrastructures is likely to be required and what are the forces – economic, demographic, technological and environmental – shaping those requirements? How will they be financed? What difficulties is the management of infrastructure likely to confront? These are some of the key questions this publication sets out to explore. In doing so, it will highlight the importance of considering infrastructure not just as distinct sectors but also as a series of interdependent systems.

Water infrastructure technology in developed countries exists in its present form in large measure due to strategic decisions made in the past. Hence these systems are “path dependent”. Fundamental strategic choices have been made in the past without proper critical evaluation, but dictate paradigms of delivery for long periods (Juuti and Katko, 2005). Current approaches to water supply and sanitation, developed over the past 150 years, are time-consuming to install and expensive, and generate environmental problems such as traffic congestion, dirt and noise. But there is actually no Need to rely entirely on these traditional solutions, due to the fact that scientific developments have paved the way for alternatives as effective, reliable and robust as the traditional solutions, but less costly and less time-consuming to install and operate (WSSTP, 2005).

Technological change presents the opportunity to challenge some but not all of the ways in which water services are provided. The key question is the extent to which technology can bring about the closing of the water cycle such that the requirement for the input of new resources is minimized. It must so in a way that is cost-effective, appropriate for those who must use it, and capable of widespread adoption. There was technological requirements to enable localized cycles to be closed, and at the same time technological needs to manage the wider systems within which the localized systems are embedded. This may be supported by enhanced techniques for desalination in the near future, benefiting arid countries in particular. There was increasing requirements for real-time monitoring.

Sitaula (2007) has studied infrastructure development in the last two decades. He has mentioned that there is possibility that all the district headquarters would be road linked within next two years. Infrastructure including road transport is seen as a vital tool towards poverty reduction. People have shown their keen interest towards infrastructure development in their areas. The donor support towards infrastructure development is increasing over the last few decades which have been instrumental to shape the road network of Nepal to present status. Legal provisions such as Acts, Regulations, plans and policies are in place to create enabling environment. The private sectors are willing to put their investment to infrastructure sector once the political stability is restored. Rapid progress of China and India, the two big neighbors could benefit Nepal from their development. The opportunity for infrastructure

development is therefore, quite high in Nepal. Capacity building of both the consulting and construction industry is required in order to shoulder this responsibility mostly from within the nation.

Sijapati (2007), on his study puts a primary concern the adequate infrastructure for the development of an economy. He states “The basic infrastructures required for facilitating the agricultural development is the facilities such as transport, marketing, irrigation, banking, storing and power etc. These facilities are not developed adequately in Nepal though the HMG has adopted institutional approach to build it rapidly. The book states that these roads are not sufficient to fulfill the requirement of the country. The marketing of agricultural product have not been developed due to inadequate facilities of transport and communication, absence of warehousing facilities, lack of information about market conditions and lack financial facilities to producers etc.

## **2.4 History of the Infrastructure Development**

The history of infrastructure development is related with the origin of human civilization. Due to the population increase, people started to use resource intensively. Scarcity of resources lead to the utilization related resource conflict, which eventually lead to the need of infrastructural development to utilize those resources optimally to satisfy human environment as well as environmental protection. Similarly, the human welfare and well being concept is also emerged. Then after many scholar, researcher, NGO, INGO and government authorities have focused their attention in infrastructural development.

According to the *Online Etymology Dictionary*, the word infrastructure has been used in English since at least 1927, originally meaning "The installations that form the basis for any operation or system".

Other sources, such as the *Oxford English Dictionary*, trace the word's origins to earlier usage, originally applied in a military sense. The word was imported from French, where it means *subgrade*, the native material underneath a constructed pavement or railway. The word is a combination of the Latin prefix "infra", meaning "below", and "structure". The military use of the term achieved currency in the United

States after the formation of NATO in the 1940s, and was then adopted by urban planners in its modern civilian sense by 1970.

The term came to prominence in the United States in the 1980s following the publication of *America in Ruins*, which initiated a public-policy discussion of the nation's "infrastructure crisis", purported to be caused by decades of inadequate investment and poor maintenance of public works. This crisis discussion as contributed to the increase in infrastructure asset management and maintenance planning in the US.

That public-policy discussion was hampered by lack of a precise definition for infrastructure. A US National Research Council panel sought to clarify the situation by adopting the term "public works infrastructure", referring to:" both specific functional modes – highways, streets, roads, and bridges; mass transit; airports and airways; water supply and water resources; wastewater management; solid-waste treatment and disposal; electric power generation and transmission; telecommunications; and hazardous waste management – and the combined system these modal elements comprise. A comprehension of infrastructure spans not only these public works facilities, but also the operating procedures, management practices, and development policies that interact together with societal demand and the physical world to facilitate the transport of people and goods, provision of water for drinking and a variety of other uses, safe disposal of society's waste products, provision of energy where it is needed, and transmission of information within and between communities."

In Keynesian economics, the word *infrastructure* was exclusively used to describe public assets that facilitate production, but not private assets of the same purpose. In post-Keynesian times, however, the word has grown in popularity. It has been applied with increasing generality to suggest the internal framework discernible in any technology system or business organization. The history of infrastructural development can be categorized into different stages.

## 2.4.1 Infrastructural Development Before 1700

Infrastructure before 1700 consisted mainly of roads and canals. Canals were used for transportation or for irrigation. Sea navigation was aided by ports and lighthouses. A few advanced cities had aqueducts that serviced public fountains and baths, while fewer had sewers.

The first roads were tracks that often followed gametrails, such as the Natchez Trace. The first paved streets appear to have been built in Ur in 4000 BCE. Corduroy roads were built in Glastonbury, England in 3300 BC and brick-paved roads were built in the Indus Valley Civilization on the Indian subcontinent from around the same time. In 500 BCE, Darius I the Great started an extensive road system in Persia (Iran), including the Royal Road.

With the rise of the Roman Empire, the Romans built roads using deep roadbeds of crushed stone as an underlying layer to ensure that they kept dry. On the more heavily travelled routes, there were additional layers that included six sided capstones, or pavers, that reduced the dust and reduced the drag from wheels. In the medieval Islamic world, many roads were built throughout the Arab Empire. The most sophisticated roads were those of the Baghdad, Iraq, which were paved with tar in the 8th century.

The oldest known canals were built in Mesopotamia c. 4000 BCE, in what is now modern day Iraq and Syria. The Indus Valley Civilization in India and Pakistan from c3300 BCE had a sophisticated canal irrigation system. In Egypt, canals date back to at least 2300 BCE, when a canal was built to bypass the cataract on the Nile near Aswan. In ancient China, large canals for river transport were established as far back as the Warring States (481-221 BCE). By far the longest canal was the Grand Canal of China completed in 609 CE, still the longest canal in the world today at 1,794 kilometres (1,115 mi).

In Europe, canal building began in the middle Ages because of commercial expansion from the 12th century. Notable canals were the Stecknitz Canal in Germany in 1398, the Briare Canal connecting the Loire and Seine in France in 1642, followed by the Canal du Midi in 1683 connecting the Atlantic to the Mediterranean. Canal building

progressed steadily in Germany in the 17th and 18th centuries with three great rivers, the Elbe, Oder, and Weser being linked by canals.

## 2.4.2 Infrastructural Development from 1700 to 1870

**Road:** As traffic levels increased in England and roads deteriorated, toll roads were built by *Turnpike Trusts*, especially between 1730–1770. Turnpikes were also later built in the United States. They were usually built by private companies under a government franchise. Water transport on rivers and canals carried many farm goods from the US frontier between the Appalachian Mountains and Mississippi River in the early 19th century, but the shorter road route over the mountains had advantages.

In France, Pierre-Marie-Jérôme Trésaguet is widely credited with establishing the first scientific approach to road building about the year 1764. It involved a layer of large rocks, covered by a layer of smaller gravel. John Loudon McAdam (1756–1836) designed the first modern highways, and developed an inexpensive paving material of soil and stone aggregate known as macadam.

**Canals:** In Europe, particularly Britain and Ireland, and then in the early US and the Canadian colonies, inland canals preceded the development of railroads during the earliest phase of the Industrial Revolution. In Britain between 1760 and 1820 over one hundred canals were built.

In the United States, navigable canals reached into isolated areas and brought them in touch with the world beyond. By 1825 the Erie Canal, 363 miles (584 km) long with 82 locks, opened up a connection from the populated northeast to the fertile Great Plains. During the 19th century, the length of canals grew from 100 miles (160 km) to over 4,000 miles (6,400 km), with a complex network in conjunction with Canada making the Great Lakes navigable, although some canals were later drained and used as railroad rights-of-way.

**Railways:** The earliest railways were used in mines or to bypass waterfalls, and were pulled by horses or by people. In 1811 John Blenkinsop designed the first successful and practical railway locomotive, and a line was built connecting the Middleton Colliery to Leeds. The Liverpool and Manchester Railway, considered to

be the world's first intercity line, opened in 1826. In the following years, railways spread throughout the United Kingdom and the world, and became the dominant means of land transport for nearly a century.

In the US, the 1826 Granite Railway in Massachusetts was the first commercial railroad to evolve through continuous operations into a common carrier. The Baltimore and Ohio, opened in 1830, was the first to evolve into a major system. In 1869, the symbolically important transcontinental railroad was completed in the US with the driving of a golden spike at Promontory, Utah.

The first successful transatlantic telegraph cable was completed on 27 July 1866, allowing transatlantic telegraph communications for the first time. Within 29 years of its first installation at Euston Station, the telegraph network crossed the oceans to every continent but Antarctica, making instant global communication possible for the first time.

### **2.4.3 Infrastructural Development from 1870 to 1920**

**Roads:** Tar-bound macadam, or tarmac, was applied to macadam roads towards the end of the 19th century in cities such as Paris. In the early 20th century tarmac and concrete paving were extended into the countryside.

**Canals:** Many notable sea canals were completed in this period, such as the Suez Canal in 1869, the Kiel Canal in 1897, and the Panama Canal in 1914.

**Electricity:** At the Paris Exposition of 1878, electric arc lighting had been installed along the Avenue de l'Opera and the Place de l'Opera, using electric Yablochkov arc lamps, powered by Zénobe Gramme alternating current dynamos. Yablochkov candles required high voltages, and it was not long before experimenters reported that the arc lights could be powered on a seven mile (11 km) circuit. Within a decade scores of cities would have lighting systems using a central power plant that provided electricity to multiple customers via electrical transmission lines. These systems were in direct competition with the dominant gaslight utilities of the period.

The first electricity system supplying incandescent lights was built by the Edison Illuminating Company in lower Manhattan, eventually serving one square mile with

six "jumbo dynamos" housed at Pearl Street Station. The first transmission of three-phase alternating current using high voltage took place in 1891 during the International Electro-Technical Exhibition in Frankfurt. A 25 kilovolt transmission line, approximately 175 km (109 mi) long, connected Lauffen on the Neckar with Frankfurt. Voltages used for electric power transmission increased throughout the 20th century. By 1914 fifty-five transmission systems operating at more than 70,000 V were in service, the highest voltage then being used was 150,000 V.

**Subways:** In 1863 the London Underground was created. In 1890, it first started using electric traction and deep-level tunnels. Soon afterwards, Budapest and many other cities started using subway systems. By 1940, nineteen subway systems were in use.

#### **2.4.4 Infrastructural Development 1920 Onward**

**Roads:** In 1925, Italy was the first country to build a freeway-like road, which linked Milan to Como, known as the Autostrada dei Laghi. In Germany, the autobahns formed the first limited-access, high-speed road network in the world, with the first section from Frankfurt am Main to Darmstadt opening in 1935. The first long-distance rural freeway in the United States is generally considered to be the Pennsylvania Turnpike, which opened on October 1, 1940. In the United States, the Interstate Highway System was authorized by the Federal-Aid Highway Act of 1956. Most of the system was completed between 1960 and 1990.

### **2.5 History of Infrastructure Development in Nepal**

Infrastructure development in Nepal started during 1950. Until then Nepal had no infrastructure linkages to the rest of the world. Since then, the government has been making efforts to provide increased access to education, transportation, communication, health services, electricity and other infrastructure services. Despite these efforts Nepal remains one of the poorest countries with poverty reduction as the major challenge.

One of the most dominant challenges of Nepal is to develop the basic infrastructures to accelerate its pace of development. For this, transportation plays a vital role in the



overall development and socio-economic transformation of a country. In Nepal, road transport has predominant role because it is the only means for public transportation except the limited air service to some part of the country which is not affordable to common people. Therefore, Road infrastructure serves as a backbone for an overall socio-economic development of Nepal. Negligible length of Railways available in Nepal has diminished surprisingly in the last 4 decades. Janakpur Jainagar Railway which is a narrow gauge in poor condition is the only railway facility in Nepal. Since the overall development of Nepal is pivoted around Infrastructure development focused at road transport and aimed at poverty reduction, hence, the Government of Nepal has its priority in this sub-sector.

## **2.6 Status of Road Development in Nepal**

Road development in Nepal started only after the advent of democracy in 1950. The first motorable road was constructed in the Kathmandu Valley by the then Rana rulers in 1924. The 42 km all weather gravel road between Amlekhganj to Bhimphedi was the first road of its kind constructed in 1929 outside the Kathmandu valley. The first long distance road to link Kathmandu with the Terai was taken up in 1953 with Indian assistance. This 115 km long road between Thankot (Kathmandu) and Bhainse (Makawanpur) was opened to traffic in 1956. The National Road Network comprises of National Highways, Feeder roads, urban roads, District roads and Village roads. The National Highways together with the Feeder roads constitute the Strategic Road Network (SRN) of the country. The Strategic Road Network is the backbone of the National Road Network. The construction and maintenance of the strategic roads fall on the responsibility of the Department of Roads.

Thee district roads together with village roads constitutes the District Road Network. At present the National Road Network has altogether 24000 km (30% blacktop, 27% gravel and 43% earthen roads) in 2008. The strategic, urban and local roads share 32.5%, 13% and 54.5% respectively in the National Road Network. The Strategic Road Network serves as the backbone of the National Road Network. The strategic roads have high traffic volume in comparison to district roads. There are 15 National Highways and 51 Feeder roads totaling 8000 km in the Strategic Road Network. The government plans to increase the length of SRN to 12000 km by the year 2017.

Local Road Network (LRN), comprises of District Roads, those urban roads not included in SRN, village roads, agriculture roads, mule trails and tracks, Trail Bridges, Ropeway etc. With the advent of multiparty democracy in 1989, there has been a tremendous demand of constructing roads in rural areas. Though there are District Transport Master Plans prepared by the districts the growth of LRN is quite haphazard. Road development status of Nepal is not satisfactory compared to the south Asian countries. Nepal has a very low road density of 6.39 km per 100 sq km thus indicating poor accessibility to various parts of the country. At the end of first year of eleventh plan 6 districts head quarters namely Bajura, Dolpa, Mugu, Humla, Manang, Solukhumbu are still lacking road connection. The Eleventh plan aims to road link the 3 district headquarters namely Bajura, Manang and Solukhumbu this year and the remaining three headquarters by the end of the eleventh plan that is 2010 (Sitaula 2007 ).

## **2.7 Impact of the Infrastructure Development on the Society**

According to the economic survey 2010/011 total length of road in Nepal is 12,455km. Total road out of the 6874km is blacktopped, 5036km is graveled and 9545km is earthen were constructed. There has been quantitative and qualitative increase in telecom services, daily new papers, TV transmission services, Radio broadcasting service and cable printing service in the country. The levels of investment would be further enhanced if the investment in urban areas is coupled with the need to provide similar facilities in scattered rural areas. Unlike hydro-power projects which have attracted substantial private sector interest for investment, urban infrastructure projects are almost entirely funded by Urban Local Bodies (ULBs) which are significantly cash-strapped and also unable to access finances from commercial banks and capital markets due to their poor financial condition.

Hence, financing of infrastructure projects across various sub-sectors from non-government sources would be a major challenge and would require a significant level of push and sustained support through investor-friendly

Infrastructure development mainly aim are providing basic needs for local people and investment the minimum by the local people and society. It is indirectly leads to poverty eradication by providing a better working, better living, stander environment

create, physical healthily and human capital formation for the poor. Infrastructure development is to make the people self-reliant and capable of meeting their basic needs out of their own resources. It is extension market; the transport and communication has profound effect in establishing links between cores to periphery. It has been found that in spite of the existence of physical and social infrastructure in certain disadvantages groups like poor children and woman.

Government body and local people are discussing the gap between roadway development and utilization the local level resources for infrastructure development. It is encourage and facilitate financial intermediaries and provide security for investment the finance to infrastructure projects. It is address the need to special skills manpower for infrastructure development accepts. Hence, financing is main challenge for collection because investor always investment in the non production sector so, it is hard work for agree to invest in the infrastructure projects. Infrastructure projects are across various sub-sectors from non-government sources. It would be a major challenge and would require a significant level of push and sustained support through investor-friendly.

# **CHAPTER: THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Research Design**

The research design for this study is based on both exploratory & descriptive types. Descriptive research design has been used to gather qualitative information about the research area & exploratory research design has been used to collect information about the possibilities of particular research for study of infrastructure development, their impact on society of Kolanti Bhumlu VDC, Kavrepalanchowk. Both primary and secondary data were collected from the library, District office, and Municipality office, CBS and Different NGOS /INGOS. Primary data are collected in the field by using various tools such as questionnaire survey and key informant interviews.

### **3.2 Nature & Sources of Data**

The data in this study were qualitative & quantitative in Nature. Both primary & secondary source were collected to fulfill the objectives of this study. But the study is mostly based on the primary data collected through field survey through different techniques such as interview with the respondent, some case observations, focus group discussion and other informal discussions. The secondary data were collected from necessary books, research papers & reports, informative articles, various individual information, published documents & unpublished information sources.

### **3.3 Rationale of the Study Area**

The study area lies in the center part of the Kolanti Bhumlu VDC, Kavrepalanchowk, where all modern facilities, Government offices, private service providers, micro industrial sector & other development activities are available. In this case, it is an appropriate area to examine the impact of Infrastructure development on society. Similarly, this area is well known to the researcher, which is another cause of selecting for the study.

### 3.4 Population and Sampling Procedure

The study was conducted in one ward of Kolanti Bhumlu VDC, Kavrepalanchowk district. The priority for selection had been made on the basis if ward one those recently influences by the infrastructure activities, therefore among the nine ward of Kolanti Bhumlu VDC had been selected as sample for study. The selection of information for study was based on socio-economic consideration follow random sample system. This information were selected under different areas that are occupational activities, economics, social status, literacy standers and living standers impact by infrastructure development activities in the study area.

Out of 345 households in the study area only 69 (20% HHs) household were selected as the respondents. These have been sampled randomly and preference has been given to these households related with impact of infrastructure development.

**Table No- 3.1 : Population of Sampling**

<b>Ward No.</b>	<b>Households</b>	<b>Sample (20%)</b>
1	93	19
2	22	4
3	33	7
4	41	8
5	29	6
6	35	7
7	31	6
8	22	4
9	39	8
Total	345	69

*Source VDC Profile, 2015*

Their locations were verified by using topographic maps published by government of Nepal. Study had been mainly related with impact of infrastructure development, prospect of infrastructure, problem of infrastructure in the society and utilization condition of resource etc. I was observing about the existing of

infrastructure development in the field. Stratified random sampling was done to select informants using random number. Most of the interviews were done with the family head of house as well as they were also done with the housewife and other family member who are available at that time. Total 3 indicators were measured in this area. Out of this single were measured using household survey, one using Key information interview (KII) and Secondary data collections. Data collection method is given below table.

	<b>Objectives</b>	<b>Indicators</b>	<b>Data Collection Methodology</b>
Project Goal	To analyze the level of infrastructure development.	Level of infrastructure in study area i.e. transportation and Electricity	HHs survey Secondary data collection
	To examine the role of infrastructure in changing socio-economic status of people.	Change in income Change in family structure Change in job structure Change in people composition Change in occupation	1 HH survey 2 checklist
	To examine the problem and Prospect of infrastructure development		Checklist

### **3.5 Methods of Data Collection**

This research has been conducted by employing various methods for data collection. Both primary as well as secondary data has been collected. The researcher himself collects the primary data from the respondents by conducting interviews and informal group discussion during the meeting carried out in the open place with the community people. Following techniques have been used to collect data for this study.

### **3.5.1 Household Survey**

The major method to collect the data of this study was interview. The interview of the respondents was taken through structured questionnaire to the household respondent. Interview with the family head as well as other available member of the household were conducted as per the survey questionnaire. A structured scheduled was used for collecting data in the present study. The questionnaire has structured into three specific sectors. First part is structured to take detail information about respondents household. Second, part was structured for impact of the infrastructure development on the society with major problem and infrastructure development effect in area was in the last part.the format of household survey questionnaire is in Annex I.

### **3.5.2 Direct Observation**

Nearly three weeks time was spent in the research area as field observation and questionnaire survey. During the study period and field visit to the community, most of the households' living standards, varieties of social activities, the main people of the family, housewife were interviewed. The major intervention, positive and negatives impacts of infrastructure development activities were discussed with the family members during the visit. A special attention was paid on those families who were involved in income generating activities, and families having access on improved the status. While interviewing with the respondents, the researcher observed and recorded the activities/status of the family members, respondents and other people of the society. The way of working of respondent, livelihood status, traditional/modern occupation, farming system, family structure, adopted improved technologies and other related evaluated and obtained through this technique. Such observations have helped to make the judgments on the information provided by the household respondents and other key informants. The format of observation checklist is in Annex II.

### **3.5.3 Secondary Data Collection**

Most of the secondary data relevant with this study were collected with different governmental and non-governmental organizations working in the infrastructure

development program related field in Nepal. The literature review includes reports published through different organizations, books and article published in different article and daily newspaper. The major offices visited during the literature and data collection are Center library, Central Bureau of statistics Kathmandu, National Trust for Natural Conservation (NTNC) Khumaltar Lalitpur Nepal Development and Research Institute, Kavrepalanchowk, District Development Committee, Village Development committe office, Kavrepalanchowk and related websites. Discussion with the key persons of the organizations was also made during the literature collection and before visiting the study area for field survey.



## **CHAPTER: FOUR**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1. Study area: At Glance**

##### **4.1.1 Kavrepalanchowk District**

It lies on the bagmati zone of middle development region. It is surrounded by Kathmandu, bhaktapur, lalitpur, makawanpur, and Ramechhap district. The area of kavrepalanchok district is 1396 km<sup>2</sup>. Kavre district is situated in the height of 1107 m to 3018 m from the sea level. There are 76 vdc and 5 Municipality, 15 elaka and 4 electoral constituencies. The average temperature is 24 degree Celsius and maximum temperature is 40 degree Celsius and minimum is 2 degree Celsius. According to the CBS 2011 population data, the population of kavre district is 381937. The density of population is 270 per sq.km. There are different ethnic groups living in this district.

##### **4.1.2 Kolanti Bhumlu Village Development Committee**

It is 54 km far from the district head Quarter and 15 km from dolatghat. It is the hill side of Sunkoshi River and occupies 81.5 sq km area. Salle bhumlu is in the east, Falate Vdc is in the west, birta deurali vdc is in the north and Sunkoshi River is in the south. The study area of this VDC is 1-9 ward of the kolanti bhumlu vdc.

Population is not equally distributed in the ward one to nine. The maximum population is ward 1 and minimum no. of population is ward no.2. Infrastructure development and socio-economical development is not also equally distributed in these wards. Most of the cast are Pahari, Majhi, and Sarki. And minimum no. of bharaman and kshetri group lives in this village. There are available transportation facilities, drinking water, electricity, communication, health services and other micro industry.

##### **4.1.3 Climate and Infrastructure Situation**

The climate of the Kolanti Bhumlu VDC is moderate type, sub tropical and hot temperature is common. The climate of these areas is very cool, tolerable and suitable for all seasons. The minimum temperature is less than 5 degree Celsius and maximum

is 39 degree Celsius in summer. Most of the land is covered by agriculture land in this village.

In the case of Infrastructure development, there are some water supply system, government schools and health posts. Most of the peoples are depends on it.

## 4.2 Level of Infrastructure Development

Infrastructure is basic physical and organizational structure needed for the operation of a society. It can be generally defined as the set of interconnected structural elements that provides framework of entire structure of development. It is also technical structure that supports the society such as water supply system, transportation, health post, school, electric grid, public building, and irrigation canals. Among them we mainly focus on transportation and electricity

### 4.2.1 Level of Transportation System.

Government of Nepal has been formulated and implemented different types of infrastructure developed and services project in developing countries. With it have budget expender power, policy maker power, decision making power and income generation power handed down from higher level of government to lower level.

Transportation system is one of the major factors of the development which is directly related to daily life of people. The present condition of road network is given below in tabular form.

**Table 4.1 Status of Transportation in study area:**

Road Name	Distance of Road	Type of Road Pavement
Dolalghat to kolati road	8	Gravel
Dolalghat to aapghat besi road	6	Earthen surface
Kolanti to aapghat besi road	7 km	Earthen surface

*Source: District Report, 2017*

Above table shows that the road is constructed since 2064 in this study areas. All road are not completed but process is going ahead. Main road with gravel pavement is about 8Km from the dolalghat to kolanti bhumlu. And other side road is dolalghat to

aapghat besi is 6 Km and kolanti to aapghat road is 7 Km. both of this road is Earthen surface. All of the roads, people get the facilities to transport in this areas.

According to the District Development committees survey report 2015, Kolanti Bhumlu VDC has total length of 5.5 km road, out of 2.3km road has graveled and 3.2 km has earthen constructed.

#### **4.2.2 Level of Electricity**

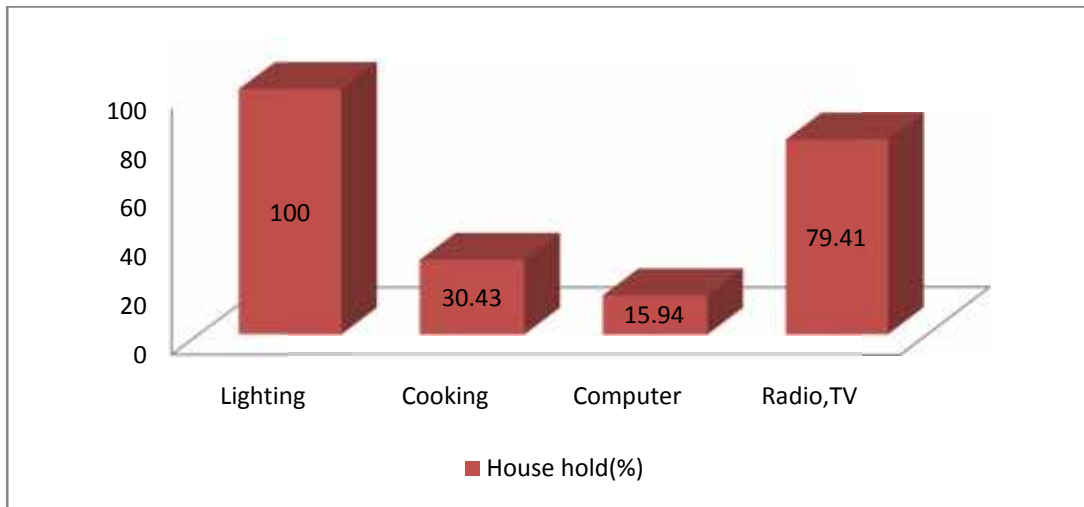
Energy is one of the prime requirements for the overall development. Electricity (basically hydroelectricity) possesses great potentiality in Nepal due to its richness in water resources. It is one of the basic energy sources for every kinds of infrastructure, industry or service development. It is not only required for industrial development, it has great potentiality to local farmer for diversification and/or intensification of agriculture. So, it is the top required infrastructure together with transportation. It can give best result for the overall development. Electricity is the main way to develop an area and people standardard. It is more beneficial to increase the participation of people in development activities. It is bringing the positives change in the society, with drawback the negative impact in the society. The following table shows that about positives changes in the society by the electricity facilities increase in the study areas. According to the respondent electricity are main tools to increase the income, status and save the environment. Electricity facilities always have positive changes in the society increase. It is easily to work night, decrease the kerosene oil; however there are some negative consequences of it in the study area:

**Table No: 4.1 Status of Elecricity Using in Study Areas:**

<b>Work of Electricity</b>	<b>Household</b>	<b>Percentage (%)</b>
Lighting only	69	100
Cooking	21	30.43
Using computer	11	15.94
Using television, radio	55	79.71

*Source: Field Survey, 2017*

**Figure No: 4.1 Status of Electricity use in Study Area**



Above table represents, all respondents were used electricity for lighting purpose. And 79.71% respondents were used electricity for operating electronic services. For the purpose of cooking and operating computer were 30.43% & 15.94% respectively.

There has been increase the different types of communication facilities day by day such as mobile phone, internet and other facilities.

### **4.3 Role of Infrastructure in Changing Socio- Economic Status of People.**

Transportation plays a great role in socio-economic development by linking that area into rest of the world. When the transportation facilities increase in any place, it takes pace of overall development. Thus, transportation is considered as a basic infrastructure for development. Transportation is backbone for such types of infrastructure development. Transportation is main instrument to move the economy in track, increase the relation and understanding about the social structure in the study area.

Energy is one of the prime requirements for the overall development. Electricity is the main way to develop an area and people standard. It is more beneficial to increase the participation of people in development activities. It is bringing the positive change in the society, with drawback the negative impact in the society.

Infrastructure is the essential component for the changing socio- economical status of the people. There are various role of the infrastructure in changing socio economic status of people.

### 4.3.1 Change in Income Level

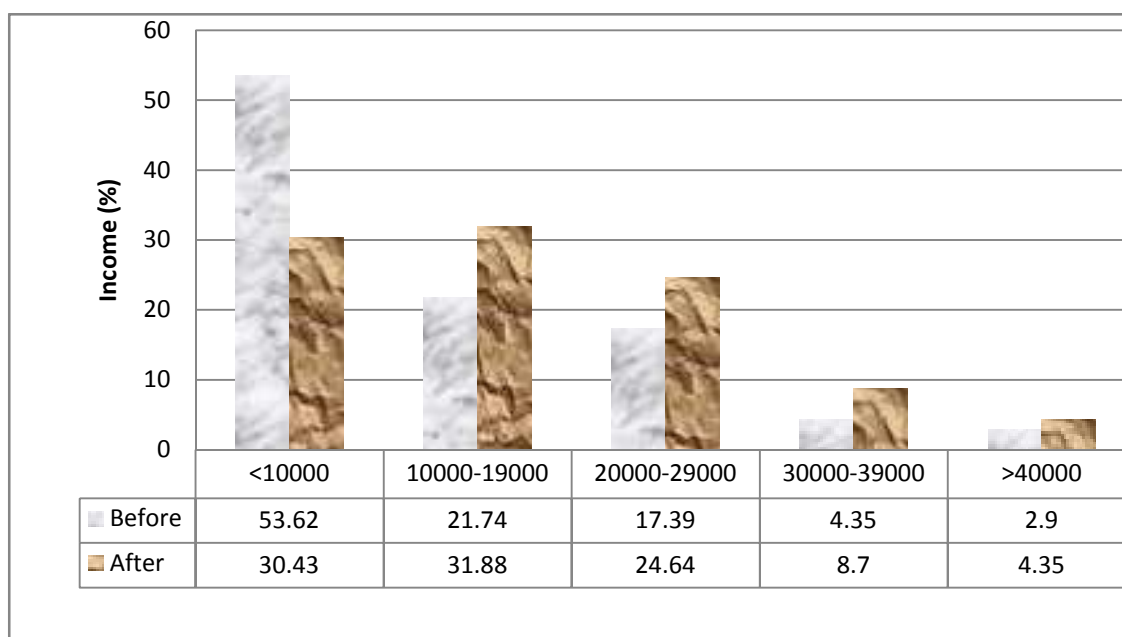
Transportation and electricity are the important factor to change the income level of people. Change income level was obtained in the research. The status of income is presented below in tabular form.

**Table No: 4.2: Status of Income Level Before and After Infrastructure Development**

Income	Before Transportation /Electricity Facilities		After Transportation /Electricity Facilities	
	HHs	HHs (%)	HHs	HHs (%)
Less than 10,000	37	53.62	21	30.43
10000 -19000	15	21.74	22	31.88
20000-29000	12	17.39	17	24.64
30000-39000	3	4.35	6	8.70
More than 40000	2	2.90	3	4.35
Total	69	100	69	100

Source: Field Survey, 2017

**Figure No 4.2 Status of Income Level Before and After Infrastructure Development**



Above table and figure shows the change in income status after the development of transportation and electricity. The figure reveals; the economic status is higher because of infrastructure development. About 54% respondents' monthly income had below ten thousands before transportation and electricity facilities, it is reduced to 30.43%. Most of the people's income have rose in the research period. It is possible to infrastructure development.in the study area.

### 4.3.2 Change in Family Structure

Transportation and electricity is important infrastructure for changing the socio-economic status. Hence, change in family structure was found in study area. The state of change in family structure before and after road and electricity service has been given below table.

**Table no: 4.3 : Status of Family Structure Before and After Infrastructure Development**

Family Structure	Before Transportation /Electricity Facilities		After Transportation /Electricity Facilities	
	HHs	HHs (%)	HHs	HHs (%)
Nuclear Family	36	52.17	51	73.91
Joint family	33	47.83	18	26.09
Total	69	100	69	100

*Source: Field Survey, 2017*

**Figure 4.3 Status of Family Structure Before and After Infrastructure Development**



Above table and figure represent the change in family structure by the development of transportation and electricity. Before the infrastructure development, 52.17% households were nuclear family. It has been increased to 73.91%. The sizes of joint family were 47.83% before the infrastructure development. It has declined to 26.09%.

Family structure is changed by the infrastructure development in the study area. Most of the joint family splits into nuclear because they seek opportunity and best facilities. Some families have moved to road side and they have started to business and microindustry. It has changed to family structure by infrastructure developments.

### 4.3.3 Change in Enterprises

Infrastructure development play vital role in changing socio economic status of the people on societies. In the study area, change in enterprises by cause of transportation and electricity occurred in this tabular form

**Table 4.4: Status of Change in Enterprises**

<b>Enterprises</b>	<b>Before Transportation /Electricity Facilities</b>	<b>After Transportation /Electricity Facilities</b>
Furniture	1	4
Rice mill	0	3
Ghatta	4	1
Radio, Television, Mobile renovation centre	0	2

*Source: Field Survey, 2017*

Above table represent the change of enterprises in the study area. According to field survey, I got the changes in micro industry after development of transportation and electricity. There was one furniture factory in to four now.

There was no rice mill and electrical renovation centre before the transportation and electricity, there are three rice mill and 2 electronic renovation centre. And four ghatta was operating in this area before. It reduced to only ghatta now because of the development of transportation and electricity.

Micro-industry is one of the key indicator for infrastructure development in the society and society people life status. It is use the local resources, local main power, local skill, and local instrument and seals in the local market. Micro-

industry creates the job opportunity for the local people and utilization the local raw material.

#### 4.3.4 Change in Job Structure

Infrastructure development is one of the important factors to change the socio-economic status of people in societies. Infrastructure i.e play significant role in changing social and economical behavior. Therefore change in job structure of the society occurred in this research. The table shows the change in job structure below.

**Table No. 4.5: Status of Change in Job Structure**

Type of Job	Before Transportation /Electricity Facilities		After Transportation /Electricity Facilities	
	HHs	HHs (%)	HHs	HHs (%)
Aggriculture/ Farming	51	73.91	41	59.42
Business	3	4.35	6	8.70
Foreign employer	10	14.49	12	17.39
Micro industry	5	7.25	10	14.49
Total	69	100	69	100

*Source: Field Survey, 2017*

Above table shows the changes in job structure due to infrastructure development in various fields. 73.91% households were depending on agriculture/farming. It has reduced to 59.42% after the development of transportation and electricity. Similarly 14.49% families were depending on foreign employer. It has increased to 17.39%. There was 4.35% household depending on business. The percentage of business oriented household is increased to 8.70% by dint of development of Transportation and electricity.

There was 7.25% of micro industry in the study area. The percentage of micro industry has increased to 14.49%.

Its changes are possible by the infrastructure development. The produced goods are easily supplied to the market in time by the help of transportation. It increased the opportunity in the rural areas. Electricity helps to run micro industry and it reduced the labour cost also. It has changed the society.



## **4.4 Problem and Prospect of Infrastructure Development in Nepal**

Prospect is higher for infrastructure development in Nepal because here is available much raw material and manpower. Nepal has been suffering so many risks such as Socio-economic, Geographical Context, National Policy, Plans and Strategies for Local Infrastructure Development. Road construction, electrification, micro-industry, household patterns, communication facilities and socio-economic are major Programs Under-implementation Institutional Arrangements Vision for Nepal. The large gap between national level and local level with different institutional arrangement. Nepal is one of the developing country natural, human activities, social and cultural program etc. Developments are always seeing the positive changes in the traditional structure in the social pattern.

### **4.4.1 Problems of Infrastructure Development**

#### **4.4.1.1 Financial problem**

Mainly problem has been occur lack of the investment of financial condition of our country for infrastructure development. Financial problem is a biggest problem for the transportation development. Nepal is facing the finance and investor problem in road construction. With the interest rate tremendously high, the rate of return becomes too low because there is not clear government policy, not a security, does not make the market network for investor attraction to invest in the transportation development.

In the hydropower sector, the major problem is the constant price offered by Nepal Electricity Authority (NEA) to independent power producers for the last ten years while the bank interest rates are going up continuously. It is weak domestic resource mobilization and heavy dependence on foreign assistance in the road sector. About 60 percent of development expenditure for roads is meeting from donors contributions.

#### **4.4.1.2 Social Problem**

Infrastructure development project has been playing the vital role to generate some problem of the nature and social pattern in the future. Specialist of the development and Policymaker is not concentrated about the local people problem as well as social structure. In this time, no one can't address the priorities for community people behaviors and did not identification problem of climate change. It is not measures and mitigation of the impact in the society and people life status by the infrastructure development.

#### **4.4.1.3 Operational and Maintenance**

Inadequate and irregular road is maintenance resulting in the rapid deterioration of road conditions and quality. There is Poor accessibility in the remote hill and mountainous districts of the country, and insufficient connectivity in district headquarters, which are not connected by road. Institutions are Poor maintenance systems for motor vehicles which lead to an increasing number of polluting vehicles and road accidents. High transportation costs for Nepalese exports due to transit and high vehicle operating costs. Unreliability of freight transit services, as the average transit time through India varies from 3 to 8 days. The backlog of road maintenance is ever increasing, rendering the present local road network unserviceable.

#### **4.4.2 Prospects of the Infrastructure Development**

Infrastructure development is make estimated the cost for backwardness area and geographically remote area to develop. It is make the planning for developed the area and continuous available the various facilities to manage the human settlements, modern transportation and communication network, hospital, hotel, departmental store, food court and environmental amenities. Infrastructures are a hybrid model to develop the anyplace. Which bodies is together participation in the infrastructure development: government and semi-government bodies, local residents, local authorities, developers, individuals and financial institutions. Government has helped to develop roads, telecommunication and other

infrastructures where indicate the feather of infrastructure development and solving the future problem in the areas.

Nepal has more than 6,000 rivers and rivulets with an overall average annual run of 225 billion cubic meters of water flowing to the south. The gradient of Nepal, which varies from 200m above sea level in south to 8,848m in the north, hydropower potential. We have hydropower generation capacity of above 43 GW, which is economically available. The actual capacity however, is much higher than this. Currently, we are facing load shedding, which shows that the electricity supply is not enough to meet demand. Furthermore, the annual country demand is increasing at about 50 MW per person, which future increases the demand in market.

In addition to current demand, there is every possibility that huge industries like cement, steel rod manufacturing, trolley bus and cable cars, etc. Each of which needs high energy input, may develop once peace prevails in the country. This will further increase the demand of electricity. In addition, we have a power hungry two neighbor India and China, where there is also a high demand. India's and China is huge market place for our electricity supplier. We have been only Lack of suitable policy and lack of the co-operation relation. Government can't includes international company, local resources user people, National stakeholder who need invest the hydro-power sector and used of remittance for infrastructure development sector.

Nepal is a geographically beautiful country. it is a enumerable obstrical for developed the transportation facilities, irrigation facilities, access out of health facilities, not receive the pure drinking water and out of self development. Government self can't do successful activities for develop without help of the Public Private Partnership. The PPP would be the best model for infrastructure development. Such partnership is already in practice in sectors like electricity and education. Governments are also interested to for partnerships with private companies in build large scale for infrastructures in the major cities of Nepal.

The private sectors are participating for basic infrastructure development. It has been taken initiative in some physical infrastructure projects. Poultry farm and

shoe center and food and vegetable related industry. In fact, Nepal's private sector can develop infrastructure projects into profitable ventures. Experts believe there are large possibilities where private sector investors can take infrastructure as an investment opportunity. Small projects in rural areas related to parking space, waste management and drinking water are attractive for this sector and identified as easy to develop.

Kolanti Bhumlu VDC is a one of the remote sector of Koshi pari in Kavrepalanchowk district; it is situated in the east region in the district. In this District infrastructure development movement increase recent age since the declaration of the federal republic Nepal. Infrastructure development helps to better life in societies. It helps to the crucial linkages of infrastructure to economic growth, poverty alleviation, education increase, skill developed and human activities the little availability of infrastructure.

Second infrastructure development of the transportation is prospect developed in the study areas people and their skills. Due to improve in road network, income generation increase the GDP, increase the facility to provide the linking other people that provide the good knowledge as well as skill. Transportation has multidimensional prospects that bring the positive change in society.

Third infrastructure development of the electrification is prospect developed in the study areas people skill and facilities. It can include high connection costs, limited or no access to credit or loan terms that the poor from borrowing. Limited skills may prevent people from maximizing the benefits of electrification, pointing to the value of relevant skills. Cottage industries or small business initiatives may have limited benefits for the poor, particularly if goods produced face low demand or a started market. Micro- enterprise advisory services and pro-poor credit Opportunities can promote off-farm employment and the diversification of production into more profitable areas. Next we examine the aggregate impact of the stocks of infrastructure in society.

## **CHAPTER: FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter deals with many major ideas and message with summary, conclusion and recommendation of the findings of the study. The recommendation put forward the board ideas with appropriate approaches, methods and techniques to stop much and less infrastructure impact in the Country.

#### **5.1 Summary**

Infrastructure development has covered many fields like transportations, education, communication, electrification, industrialization, drinking water, housing, to build the many hydro-power, modern scientific instrument and various types of human development activities with direct related the socio-economic activities in the country.

Infrastructure situations of the village lie in the corner and highly centering the infrastructure distribution. Infrastructure distributions are not equal core side developed more then the periphery. Core side people involve with the modern types of occupation and periphery areas people involve with the agricultural and labor works.

Cast/ethnic groups are living with kindly, co-operation and collaboration in study areas. They have equal and friendly distribution system of opportunities and facilities. Most of the people in the study area are Janajati and Dalit. Most of the selected respondent believe on Hinduism and speaks Nepali language.

Among the 69 household the total population was found 345. Out of them 213 were male and 252 were female. The data shows that the average family size of the study area is 6.5 persons per household.

According to the district survey report 2016, situation of the infrastructure development in the Kolanti Bhumlu VDC total length of road is 21 km, 8 km road is graveled and 13 km is earthen constructed respectively.

Out of 345 household were using the electricity for lighting purpose. 79.71% households were using electricity for information purpose. Electricity used for cooking and computer purpose was 30.43% and 15.94% respectively. Transportation and electricity helped to information and communication sector, which is play a crucial role for infrastructure development. It is play a vital role in overall development in the society. The task of bring positive changes on day-to-day lives of citizen by providing continuity to development program in a sustainable manner depends on the effectiveness of communication. It is play the role reduce the poverty, as its development can lead to the development of social sector especially in the society.

Economic status was better after the development of transportation and electricity. About 54% households' monthly income had below ten thousands before transportation and electricity facilities, it is reduced to 30.43%. Most of the people's incomes have risen in the research period. It is possible to infrastructure development.in the study area.

73.91% households were depending on aggriculture/farming. It has reduced to 59.42% after the development of transportation and electricity. Similarly 14.49% families were depending on foreign employer. It has increased to 17.39%. There was 4.35% household depending on business. The percentage of business oriented household is increased to 8.70% by dint of development of Transportation and electricity. There was 7.25% of micro industry in the study area. The percentage of micro industry has increased to 14.49%.

Before the infrastructure development, 52.17% households were nuclear family. It has been increased to 73.91%. The size of joint family was 47.83% before the infrastructure development. It has declined to 26.09%.

There was no rice mill and electrical renovation centre before the transportation and electricity, there are three rice mill and 2 electronic renovation centre. And four ghatta was operating in this area before. It reduced to only ghatta now because of the development of transportation and electricity.

Infrastructures are a hybrid model to develop the anyplace. Which bodies is together participation in the infrastructure development: government and semi-government bodies, local residents, local authorities, developers, individuals and

financial institutions. Government has helped to develop roads, telecommunication and other infrastructures where indicate the feather of infrastructure development and solving the future problem in the areas.

The private sector is participation in the development for basic infrastructure in the study area. It has been taken initiative in sizeable physical infrastructure projects.

Infrastructure development has created different types of problem in the society. Such as Increase the flood and soil erosion, drought the water resources, impact the environmental situations, increase the road accident and exploited the cultural program. Respondent report is one of the problem increase expenditure, exploited the resources, reduce the agricultural production and increase the dependence rate in the study area. And it is increase sound pollution, increase the disease, conflict increase in the society and increase the human bad habits etc.

Most of the respondents said that about the transportation facilities saving the time because before the transportation facilities; we were walking long distances for daily used thing. Increase the economic status before the transportation facilities; we had produced only for house use not for sales.

When build the electricity facilities any areas can be outcome best result for the overall development. Electricity is the main way to develop the area and people standard. We have hydropower generation capacity of above 43 GW, which is economically available. The actual capacity however, is much higher than this. Currently, we are facing load shedding, which shows that the electricity supply is not enough to meet demand. Furthermore, the annual country demand is increasing at about 50 MW per person, which future increases the demand in market. In addition to current demand, there is every possibility that huge industries like cement, steel rod manufacturing, trolley bus and cable cars, etc. Each of which needs high energy input, may develop once peace prevails in the country. This will further increase the demand of electricity. In addition, we have a power hungry two neighbor India and Chain, where there is also a high demand. India's and chain is huge market place for our electricity supplier. We have been only Lack of suitable policy and lack of the co-operation relation. Government can't includes

international company, local resources user people, National stakeholder who need invest the hydro- power sector and used of remittance for infrastructure development sector. Electricity is main tools to increase the income, status and clean the ecology. An electricity facility is always taken positive view in the society increase. It is easily to work night, decrease the kerosene oil.

## **5.2 Conclusion**

This study was conducted as an investigation on socio- economic impacts of the infrastructure development in the study area with problem and prospect of infrastructure development. It has also made a comprehensive analysis with reference to the functional establishment of core centers and infrastructure pattern estimated in Kolanti Bhumlu Village development committee in Kavrepalanchowk.

With the help of different literatures and field study, we come to the conclusion that infrastructure development can bring change in socio- economic scenario of any social and economic condition. For the least developed, landlocked and mountainous economy like Nepal infrastructure development plays a major role in attaining the development goals. Local people's participation and initiation are seen as a significant agent for development.

Infrastructure development have been depend under the human activities and it has change the land pattern in the study area, measure the social status of people is certainly impact by communication facilities but this is not the total fact that each and every person access. Road network has bought different places, relation developed the other place and it is closer with socio- economic activities. Moreover Nepal is landlocked nature and hilly topographic setting in the world. More specific hilly district and its remote and distant places connect from transportation network and can be included with the road system.

Finally, though the impact of infrastructure development in the society. It has been found very significant; it has revealed the very fact that Nepal should adopt a critical attitude on it. Infrastructure developments is move the society and plays the vital role for the socio-economic upliftment with show the problem and indicate the prospect of the resent age change the status of the respondent.



### **5.3 Recommendations**

Local available natural resources and manpower should be mobilized and utilized more efficiently and effectively that are available in community area. Environment should be protected and a better microclimate situation should be created within the study area. Rule and regulation should be well implement for construction of road construction by the local body. The width of the road should be converted to the double lane paved road. A forestation, reforestation and compensation program along the road catchments should be addressed by GOs and NGOs authorities.

Government should be maximum utilization the local resources and manpower in the infrastructure development sector. Weakness and threats should be reduced and the electricity development should be one of the development policies of a Social economy. Prepare village profile address with the problems and prospects.

## REFERENCES

- Chalise, H. R. (2006). Rural Development and Brain Drain in Nepal. *Thesis* . Kathamandu: Central Department of Rural Development.
- NTNC (2011). *Annual Report*. Lalitpur: Sigma General offset press sanepa, Latipur-2 Nepal.
- OECD (2006). *Impact of Infrastructure development 2030*. Retrieved June 2012, from Online publication: SourceOECD@oecd.org.
- Encyclopida, W. F. (2011). *Impact of infrastructure development online artical*. Retrieved on July 2012, from [www.Wikipedia.infrastructure.development.com](http://www.Wikipedia.infrastructure.development.com)
- MOF ( 2011). *Economic Survey*. Kathmandu: Ministry of Finance, Government of Nepal.
- Hammond, A. (1990). *Building and Road Research Instisue Kumasi, Ghana. Online* . Retrieved 2012, from Online: [www.building.roadresearch.com](http://www.building.roadresearch.com)
- Hayes, B. (2005). *Infrastructure a field Guide to the Industrial landslid*. Washington's: Infrasturcture a field guide to the industrial landslid in washingtons.
- Hornby, A. (2005). *Oxford Advanced Learner's Dictionary of Current English*. London: Oxford University Press.
- KC, Y. B. (2005). Role of Foreign AID in Rural Development in Nepal. Kathamandu: Central Department of Rural Development Tribhuvan University.
- Ministry, L. D. (2010). *Rural Road Record (LLR)*. Kathamandu,Nepal: Local Development of Ministry Planning Department .
- GON (2011). *climate changes policy* . Kathamandu: Government of Nepal climat change publication.
- MOF (2011). *Economic Survey*. Kathamandu: Department of Printing, Singhdurbar, Kathamandu.
- office, D. D. (2011). *Economic and information yearly planning*. Kathamandu: Megha press pvt. Ltd. .
- Office, D. D. (2010). *Economic and informtion Yearly Planning Kavrepalanchowk District*. Kathamandu: Prime Press Pvt. Ltd.
- Pardhan, P. K. (2007). *Thesis Writing Guidelines*, . Kathamandu: Central Department of Rural Development Tribhuvan University Faculte of Humanities and social Science.

- Paudel, D. M. ( 2012). Urban Development in Nepal. *online Business age group* , Cover story 754.
- Plummer, J. (2003). *Focusing Partnerships*. London: A sourcebook for Municipal Capacity Building in Pulic- Private Partnerships.
- Pokhrel, K. (2068). *Natural Research Management*. Kathamandu: Kshitiz prakshan Kirtipur Nepal.
- Ray, S. (2008). The problem and Prospect in Afric. *Online paper of infrastructure development* , cover page.
- Roads, M. O. (2010). *Statistics of States Road Network*. Kathamandu: HMIS Unit, Department of Roads.
- Sharma, P. (2007). *Social science Research Methodology*. Kathamandu: Kriti Prakashan Kirtipur Nepal.
- Statisticas, C. B. (2010). *pocket book of Nepal*. Kathamandu: Upalabdh Prakashan Sewa P. Ltd. Garidhara, Kathamandu.
- statistics, C. B. (2011). *Preliminary Result of National Population Census*. Kathamandu: National Planning Commission Secretariat Central Bureau of Statistics.
- Stein, J. M. (1988). *Infrastructure planning and Management*,. London: Professional social science , Newbury park, Bererly hill.
- Upadhayaya, B. (2011). *Rural infrastructure development in Nepal prospect and opportunity*, bhimupadhyaya@gmail.com



e) More than 40,000

5. How did change your family income because of development of Transportation and Electricity?

.....  
.....

6. What type of problem do you face absence of electricity and Transportation?

.....  
.....

7. Do you feel the infrastructure development changes to your capacity building?

- a) Yes
- b) No

8. If yes, what do you learnt by the transportation and Electricity?

.....  
.....

9. Do you have any changes in family structure due to transportation and electricity?

- a) Yes
- b) No

10. What type of family do you have?

- a) Nuclear
- b) Joint

11. How do you have changed in your family structure?

.....  
.....

## **Checklist Used for Observation and Interview**

1. Main Road in study area
2. Connected Road in study area
3. Drainage system of Road
4. Electric pole for electricity
5. Electric wire for electricity
6. Transformer for electrification
7. Lifestyles of people
8. Infrastructure development
9. Economic status of local people
10. Family structure
11. Change in enterprises
12. Job Structure
13. Lifestyles of people

Map of Study Area

