

CHAPTER I

INTRODUCTION

1.1 Background

According to the census 2001 only 14% population is living in urban area and now the rate of urbanization accelerating by 6.6% compare to the national growth rate 2.2% per year. Total urban populations grew from 4% of national population in 1971 to 13.9% in 2001 and are expected to reach 26.7% by 2021. Urbanization is increasing around three times the national population growth rate (CBS 2003). Rapid urbanization and industrialization present new dimension to the urban infrastructure problems and the development of urban infrastructure has always been considered as the responsibility of the government. It is being realized that government finance is focused on social sector and the objective of the central government is to reduce burden throughout decentralize policy. Therefore the local governments are faced with new and far more complex developmental challenges. Due to the rapid population growth, the demand of basic urban infrastructure such as water supply, sanitation, drainage, sewage, solid waste management, and electricity distribution are increasing. This situation leads to the degradation of rapid urban environment and quality of life.

Access of safe drinking water and sanitation services are fundamental thing to improve public health. As is now widely recognized, lack of access these basic services contributes substantially to the high burden of disease, Around 80% of all diseases may be attributed to water and sanitation related causes and account for around 13,000 child deaths each year from diarrheal diseases such as dysentery, jaundice, typhoid and cholera. The economic costs of ill health, medical treatment, lost time and opportunities are caused by lack of access to these basic services (UNDP 2006). Globally, this burden falls most heavily on the poorest 20% of whom only around 25% have access to improved water supplies compared with 85% of the richest 20% (UNDP 2006). By contrast, economic returns on water and sanitation investments in South Asia are around 3.5 for water supply, 6.9 for sanitation and 6.6 for fully integrated projects (UNDP 2007). For the above reasons, the Government of

Nepal remains fully committed to the provision of safe drinking water and sanitation services for all of its citizens as a fundamental human need and a basic human right.

Partnership is an age old phenomenon for development and cooperation. It has been practice in local, national and international level as the need of partnering arises. It is critical that successful partnership overcomes the barriers and reaps the benefits envisaged. The dynamics of public private partnerships entails inclusive, innovation, flexibility and adjustment while working together. Given the present level of resources and service, need to fulfill the public private partnerships are highly relevant to addressing the national agenda for development of the country. In recent years, the government seems to have realized the importance of private sector involvement in infrastructure development and service delivery process which is apparent throughout the government's try to motivate private entrepreneurs as development partners. The concept of public private partnership is one of the examples towards the development of infrastructure and service delivery in urban areas. The local self governance act 1999 provides some guidance to local bodies to use partnerships for local development. It helps to the local leaders and managers to their skill and expertise for partnerships with private sector in a range and to some extent. Due to the lack of both financial resource and experience in the decentralized administration the level of public services remain low and quality of urban environment degraded. The municipalities are facing more difficulties to address these demands of basic services and Infrastructure development due to the lack of funds and capabilities. Alternatives means should be sought to increase the level of services especially the poor inhabitants.

Government is showing interest in involving the private sector in upgrading the level of services locally. For the promotion of private sector involvement in the development of the country, the government of Nepal has prepared various policy statements. Nepal has very limited previous experiences with public private partnership and there exist a wide of skepticism among the various stakeholders preventing the effective use of this developing modality. To create the conducive environment and to introduce

public private partnership as a viable development alternatives, to improve urban environment has launched public private partnership for urban environment (PPPUE) with the aim of especial focus on public private partnership that contributes in alleviating poverty, create healthy environment to improve the living condition of urban people.

1.2 Statement of the Problems

Due to the various exogenous and endogenous factors, the rate of urbanization has been increasing at an alarming rate. The urbanization rate is 6.6% against the national population growth rate of 2.24%. The demand of the need of basic urban services is also increasing which demands more capital investment and efficient and effective management in service delivery. The wide gap between the demand and the alleviation of the infrastructure facility has led to the degradation of urban environment and quality of life. Public sector has certain strengths such as political power, immense risk bearing capacity, legal power, existing bureaucracy, but public sector lacks creative skill, diligence, willingness, motivation, flexible technology and management. On the other hand private sector has the various strengths such as capital creative skill diligence, willingness, motivation, and flexible management. But the private sector has lacks of political power, legal power and existing bureaucracy. So PPP would be the best tool for the sustainable infrastructure development and quality services deliver in economic way which would improve the quality of people's life. Due to the rapid urbanization and lack of financial resources, there is wide gap between high demand and slow development of the urban infrastructure facility and services such as solid waste management, sanitation, public toilets, sewage drainage, water supply and distribution, road and transportation services. There is lack of proper construction and maintenance of urban facility so it seems that the urban area as dumping sites. There is more probability of spreading epidemic and pandemic disease because of the low quality of urban services delivery. Lack of access sanitation services contributes substantially to the high burden of disease. Around 80% of all diseases may be attributed to water and sanitation related causes and account for around 13,000 child deaths each year from diarrheal diseases such as dysentery, jaundice, typhoid and cholera. The

economic costs of ill health, medical treatment, lost time and opportunities are caused by lack of access to these basic services. The public sector lacks the monitoring and regulation of these services quality. So improvement of urban sanitation is one of the most important sectors for the civilized and planned urban development. So some questions can be raised for the improvement of urban sanitation from public private partnership approach.

How does PPP function to improve urban sanitation in urban area? What is the level of people's participation in PPP?

Which are the different sectors of urban sanitation development in municipality in which PPP approach can be applied?

What are the measures that can be undertaken for making successful PPP project of urban sanitation in urban area?

What do the local entrepreneurs and local government think about PPP approach to municipal infrastructure development?

1.3 Objectives of the Study

The general objectives of this study are to find out how the urban sanitation can improve throughout PPP. The specific objectives are;

- To examine the Existing state of public toilet facility in municipality,
- To examine the investment environment among the investors and motivation towards PPP approach,
- To identify potential development areas and locations throughout PPP to urban sanitation infrastructure development and
- To examine the role, responsibility, strength and potentiality of PPP in infrastructure development in urban area.

1.4 Justification of the Study

Due to the lack of financial resources, government is not able to provide adequate sanitation facilities at required level. Public sector is unable to provide effective and efficient deliver basic services because of limited

fund, motivation and lack of innovation skill. PPP is not only increasing the investment opportunity to private sector, but it also helps to reduce price and time with the increasing competition between entrepreneurs. This research will be focused on the key characteristic of public private partnership being practiced to urban sanitation infrastructure development and its service delivery and how PPP can be further strengthens for urban infrastructure development and service delivery process in urban area as well as other sector of the development activities. This study will be helpful for further study on application of PPP approach Development activities.

1.5 Limitations of the Study

This study focuses on the urban sanitation in Butwal municipality especially in public toilet. The research method, in this study, is key informant checklist so the result of this study is based on the existing key informant information. Thus the study may not coincide with the other study. In this study the researcher has tried the best application of PPP approach in the field of urban sanitation. Limited time and budget are other major limitations, which hinders the study to find result in depth so this study may not be more reliable.

CHAPTER II

LITERATURE REVIEW

2.1 Urban Area

Urban refers to a metropolitan city, sub-metropolitan city, municipality or town. The **Local Self Governance Act (1999)** has classified municipalities on the basis of existing infrastructure, population and potential to generate revenues as follows:

- a. Metropolitan city: Settlement with a minimum population of 3,00,000 and with at least Rs. 100 million in annual revenue. It should have public utilities including electricity, roads, drinking water, telecommunications and similar services.
- b. Sub-Metropolitan city: Settlement with a minimum population of 1,00,000 and with at least Rs. 50 million in annual revenue. It should have public utilities including electricity, roads, drinking water, telecommunications and similar services.
- c. Municipality: Settlement with a minimum population of 20,000 and with at least Rs. 2 million in annual revenue. It should have public utilities including electricity, roads, drinking water, telecommunications and other basic services. In mountain and hill areas, a settlement with a population of 10,000 and annual revenue of Rs. 1 million with limited infrastructure can also be declared a municipality depending on the situation.

National Urban Policy (2007) expands the definition of urban to include settlements with a minimum population of 5 thousand and a population density of a least 10 persons per hectare. Further criteria include at least 50% of the population above 10 years of age dependent on non-agricultural economic activities and access to basic infrastructure including grid electricity, telecommunications, and high school and health services. Within this framework two further urban categories are established. These are:

Intermediate Town: having population of between 10 thousand and 50 thousand.

Small Town: having population of between 5 thousand and 10 thousand.

CBS (2003) According to the census 2001 only 14% population is living in urban area and now the rate of urbanization accelerating by 6.6% compare to the national growth rate 2.2% per year. Total urban populations grew from 4% of national population in 1971 to 13.9% in 2001 and are expected to reach 26.7% by 2021.

In 1950 some 73 million people or 29% of the world population lived in urban areas. By 2005 the urban population had grown to an estimated 3.172 billion or 49% of the population. By 2030, it estimated that 4.945 billion people almost 61% of the world population will be in urban. The urban population is set to increase by more than 55% or 1.77 billion in next 25 years while the rural population of the world will change from about 70% rural to 60% urban. The developed countries are already highly urbanized. Their rapid population growth took place over a century ago. Population and economic dynamics in developing countries and particularly in Asia is now deriving the process of urbanization.

ADB (2006) In Asia in 1910 some 232 million people or 17% of the population lived in urban area. Over the following 55 years to 2005, the urban population grew nearly seven fold to an estimated 1.562 billion, 40% of the population. By 2030, it is estimated that 2.604 billion, almost 55% of the population in the Asia will be in urban representing an increase of over 70% or 1.1 billion in next 25 years. Over this same period the rural population is expected to decline by 6% or 133 million. Almost all future population growth in Asia will be in town and cities while the urbanization process is occurring in virtually all developing countries. It is centered on Asia less developed regions of the world area projected to account for 1.664 billion or over 90% of the world population growth in the next 25 years. Some 60% of this urban population growth is less developed region will occur in Asia.

ADB (2006) Urban environment provides high density, spatial proximity which leads to growing market, access to information, capital and development, high value added productivity, low per unit cost in production,

increased competition and paradoxically reduce risk and so on. The combination of economic growth and spatial concentration of people and economic activities in urban area and inability of governance to provide the necessary regulatory environment and infrastructure services have resulted the deterioration of the environment. Public health is the leading indicator of the urban environment. The incidence of water born diseases pneumonia chronic respiratory diseases, lungs cancer and heart attack are directly related to the success of urban governance improvising to the infrastructure and regulatory framework for the successful environmental management.

2.2 Sanitation

Sanitation is defined as the safe management of human excreta, including the hardware (latrines, etc.) and software (regulation, hygiene promotion, etc.) needed to reduce faecal-oral disease transmission. Environmental Sanitation refers to the wider concept of controlling all factors in the physical environment that may have a deleterious impact on human health and well-being. It normally includes drainage, solid waste management, and vector control, in addition to the activities covered by sanitation.

MPPW/DWSS (2008) In Nepal, 46 per cent of the population has access to toilets and 78 per cent has access to water supply. In public and community schools, 41 per cent have toilet facilities. However, only two-thirds of schools have sufficient facilities and only one-fourth has separate facilities for girls and boys. Solid waste and wastewater problems are growing rapidly, as there has been a vast population influx into urban areas in recent years. The rate of growth of per capita waste coupled with poor drainage affecting safe water. Most households in urban areas either have drinking water piped into the house (40 per cent) or collect it from tube well/borehole (31 per cent). Major sources of drinking water in rural areas are public tap/standpipe (29 per cent) and tube well/borehole (39 per cent).The government has endorsed a water quality standard to maintain the standard of water supply facilities.

Lumanti (2003) In Butwal municipality 25% of the population is under poverty line which is conducted in July and December 2003 by Lumanti. The survey provides a comprehensive picture of poverty in the municipality. In the survey considered income as fewer Rs 3500 per month per household taken as poverty. It was found that 25% of the population is poor in among 22 squatter settlement 57% household have water supplied by stand post, 72% of household have no proper toilets among them 43% use the river, 7% the forest while 17% can't state where they defecate, 85% dispose their solid waste in an in proper manner, 47% threw it directly into river and 34% in other places 51% have no electricity, 36% are illiterate, 39% have no citizenship. The main occupation appears to be that 19% labor, 13% are engaged in services only 7% are farmers and 7% have their own business.

UN-HABITAT (2006) The knowledge of Water and sanitation is a process by which individual gain awareness of their living environment and acquire knowledge, skill experience and values that will enable them to act individually and collectively to solve present and future water, sanitation and hygiene problems. It is a learning process that increases about water, sanitation and hygiene and associated challenges. It develops the necessary skill to address the challenge and commitment to make informed decisions. Properly understood, it should constitute a comprehensive lifelong education, or responsive to change a rapidly changing world. it should prepare the individual for life through understanding the major problems of the contemporary world vis-à-vis water, sanitation and hygiene, and the provision of skills and attitudes needed to play a productive role towards improving living conditions and protecting the living environment with due regard given to ethical values.

WHO/UNICEF (2000) National budgets for sanitation provision are currently limited to around 20% of national investments in the water and sanitation sector As the political focus towards sanitation grows, resources need to increase to enable demand to be satisfied. The contribution made by households in the provision and maintenance of household-level infrastructure is not in general captured through estimates of sector resources. These

contributions need to be recognized and incorporated into the planning of resource allocations by national and local government.

ENPHO (2009) The caretakers charge Rs. 3 per person, but they hardly ever clean the toilet and its surroundings. There are 36 public restrooms to cater to Kathmandu district's over 2.5 million-strong population. A recent study by Environment and Public Health Organization (ENPHO) shows that 45-140 males and 12-30 females use a public latrine in a day. But 18 percent of these latrines have no water supply, 65 percent have no hand-washing facility, while 10 percent are cleaned just once a day. Most of them have no proper ventilation and lack special provisions for the disabled and children.

NUWSS (2008) the goal of the National Urban Water Supply and Sanitation Policy is to ensure the socio-economic development and improved health status of urban populations, especially the poor and marginalized, through the provision of sustainable water supply and sanitation services and protection of the environment. In this regard policy specifically endorses six core principles, public health, economic growth, and social inclusion, protecting and optimizing investments, Environmental protection, and efficient, effective and accountable urban water supply and sanitation sector.

Water Aid Nepal (2006) Nepal appears to be on track to meet MDG goal targeted in water supply but it is long way off track to meet MDG goal for sanitation. As per the government estimates the coverage in water supply is 72%. Sanitation coverage has also inconsistency coverage figure. However WAN estimate is close to that of government estimation. The government of Nepal admits that its long way to meet sanitation coverage was only 27% in 2001. In this strategy paper Water Aid Nepal also estimated the per capita toilet cost by technology type. Per capita sanitation cost of sanitation by technology type also varies by technology type and geographical. Per capita cost in Tarai is higher than in the Hills which may be one of the reasons for low sanitation coverage in Tarai in comparison to the hills. Sanitation cost in urban areas is comparatively high, which needs serious consideration if WAN drives for addressing sanitation access to urban poor (Appendix - 4)

NPC (2007) Water supply coverage levels began to increase towards target levels as shown by 10th Plan 2007 data even if sector definitions of “coverage” continued to vary widely. It had target percentage of population with access of improved drinking water would be 85 but it achieved level was 76.5% and in sanitation the target level was 50 but it achieved just 46% with access to basic sanitation services at the end of this plan. In response, government introduced targets for basic, medium and high service levels. Sanitation received generally a lower priority than water supplies despite its central role in determining public health. Indicative of progress made in service provision since 2001, Child mortality declined from 91 per 1000 live births in 2002 to 61 in 2006 (NDHS). It is estimated that around \$8.5 billion is required between 2001 and 2011 to meet new urban water and sanitation infrastructure needs.

NPC (2008) Regarding Goal 7, of Millennium Development Goals 2005-2015 for environmental sustainability, the target to halve by 2015 the proportion of people without access to drinking water and sanitation from the level of 1990, Nepal is likely to reach near universal access to basic drinking water which was 46 in 1990 and 81.2 in 2006. However, safe drinking water and sanitation coverage would fall far short of the target which was 6 %population with the access of sanitation in 1990 and 39% have such facility in 2006. But more than 60 % population has no sanitation facility. Similarly, regarding the goal on ensuring environmental sustainability, the trend shows that it is achievable.

Government’s 3 Year Interim Plan (2007- 2010) provides the most recent guidance on urban sector priorities highlighting, in particular, the need to address the effects of rapid urbanization on service levels, water quality and scheme maintenance. It proposes the full integration of sewerage, on-site sanitation and solid waste management in all urban schemes and specifically endorses cost recovery from consumers. Local authorities are responsible for overseeing project implementation but with private sector organizations playing increasing roles.

Crook & Ayee (2006) this is an empirical case study in Ghana, where privatization and contracting-out of sanitary services have imposed new ways of working on environmental health officers. Both internal and external organizational relationships are analyzed to explain the extent to which these officers have adapted to more "client-oriented" ways of working. Their positive organizational culture is credited with much of the positive results achieved, but was not sufficient to cope with the negative impact of politically protected privatizations on the officials' ability to enforce standards. Nor could it entirely overcome the deficiencies in training and incentive structures which should have accompanied the changes in service delivery.

Grotheer, Mike and Paul (2007) Residuals management is a major component of domestic wastewater treatment. Costs associated with residuals management can be a substantial part of a publicly owned treatment works (POTW) of overall budget. The vast majority of the residuals generated from POTWs in the state of Colorado are managed as bio-solids and beneficially reused in compliance with 40CFR part 503. Because of increasing conversion of farm land to residential uses and increasing distances to suitable ground for beneficial reuse of bio-solids, the Centennial Water & Sanitation District, the Plum Creek Wastewater Authority and Parker formed a partnership to purchase agricultural property to preserve their ability to beneficially reuse bio-solids in an environmentally sound and cost effective manner.

Satyal (2005) where there are toilets for name's sake, in some pathological clinics, medical clinics, hospitals, they are so poorly maintained that people find hard to use. It is worth knowing what to do in Kathmandu, if you feel like peeing in the middle of the road, you will have the following options. 1) To show your macho character and pee around the trunk of tree or on any wall on the street while other passerby pretend not to see. 2) To return home or wherever you live to pee in your own bathroom.Sometimes, it is hard to believe how urban Kathmandu, with all its fashionable inhabitants, beauty contestants, fashion designers, fashionable pediatrician, affluent and civilized people, intellectuals, Harvard- and Oxford-educated elites and people

like us have been ignoring the very basic of civilization of having toilet facilities in our city. Sometimes it sounds useless to talk about democracy and human rights when citizens do not have even a toilet to pee. Kathmandu can have at least more than 100 pay toilets in strategic places, which can fetch good profit and many employments for the unemployed. Marketing toilet would be a profitable business both for public or private entrepreneurs. Instead of going home all way long, people would pay some good amount for getting a clean toilet with water. The government should make it mandatory for any public and private commercial outlets to provide toilet facilities.

2.3 Public Private Partnership

Public-private partnerships makes the effective administration of such contracts more problematic identifies some of the advantages enjoyed by private contractors, including greater flexibility, and economies of scale and scope among contractors who praise service in numerous communities. All those benefits would be especially pronounced in smaller communities, which face high unit costs when producing a service themselves. Indeed, Kodrzycki's empirical results confirm a negative correlation between population and a tendency to privatize. However, Kodrzycki (1994) also points out that a move to public-private partnership introduces new contracting and monitoring costs. Municipal administrators need to deal with tasks like doing audits, maintaining quality standards, and responding to cost overruns. While these added responsibilities may be well within the capabilities of professional administrators in large cities.

Brown and Potoski (2003) argue that contract management is “a highly complex process requiring multiple types of expertise from public managers”. The very small municipalities, studied here, might be unable to provide such expertise for contract administration. Therefore, correlations between privatization or other forms of contracting and population might be very different for the smallest communities. Because a lack of managerial capacity may make it difficult for the smallest municipalities to benefit fully from privatization, our work also considers the degree to which such

municipalities avail themselves of a second option providing services through cooperative agreements among governments.

The government has also emphasized on the adoption of PPP approach to development, in Policy and Program of the Government of Nepal for Fiscal Year 2065/066, Presented by Right Honorable President Dr. Ram Baran Yadav addressing at the Legislature-Parliament Meeting of the Constituent Assembly, arguing the efforts of the Government are concentrated on making the country prosperous and self-reliant thus ending the unemployment, hunger, illiteracy, dependency and inequality. This will be closely linked with the Common Minimum Program prepared on the basis of the new transitional economic policy consistent with the concept of public-private partnership at the time of the formulation of the policy and the program of the current fiscal year. Like this Prime Minister Pushpa Kamal Dahal said that public-private partnership is the best model for economic development in the country. "We want to create a new model for economic development," the prime minister said while addressing the inaugural ceremony of a two-day National Symposium Public Private Partnership 2008". In the context of Nepal, public-private partnership will go ahead on the basis of our own needs and values. Public-private partnership is an arrangement between the government and the private sector by which services that are traditionally the responsibility of government are provided by the private sector under terms and conditions agreed upon beforehand (Kathmandu Post 2008).

K.C (2005) Public private partnership is about the public sector and private sector joining resources with both financial as well as knowledge with the objectives to lower cost to provide higher quality services and to improve the delivery mechanism through efficiency, equity and economy. Functioning of the public private partnership need to be built on apparent partner who have a clear vision of their role and objectives trust exists between them. Public private partnership is collaborating among business, government, non profit organization and civil society through which resources risk and skill can be pooled. Public Private Partnership is characterized by the sharing of investment risk, responsibility and reward between the partner. To achieve the

objectives of efficiency and effectiveness in operation of an entity, PPP can also work out to rising the investment capital improve efficiency and effectiveness in services.

Panta (2003) Delivery of the urban services is one of the major function that the municipality undertakes PPP approaches to service delivery in municipalities change their policy and behavior to creating effective participatory process with all associated stakeholder requires municipality consider themselves as a facilitator and regulator than as a provider in urban function.

Baral (2008) The case study in Kapan VDC is an urban fringe area near the Kathamandu boundary having the wide gap between the demand and allocation of the infrastructure facilities. That research has done with objectives of examining the role of PPP in the sustainable local infrastructure development comparing PPP and public approach in sustainable urban infrastructure development. The case study area in Gongabu is an urban area and Godavari is an urban fringed area near the Lalitpur sub-metropolitan city having the wide gap between demand and allocation of infrastructure facility. Comparison of key characteristics of PPP in the development of local infrastructure has been done between the case study areas. The study findings were that they are less transparency, no public, auditing less women participation and poor maintenance.

Mohr, Halstead and Deller (2008) Using data from approximately 1,000 small and mostly rural municipalities from Illinois, New Hampshire, and Wisconsin, we study choices in production arrangements over a wide range of services, and examine a variety of contracting options available to local governments. The data reveal that municipalities often rely on contracts to provide an extensive list of services. The use of for-profit contractors and cooperative agreements with other governments correlates negatively with population. Nonetheless, small municipalities are less likely to use competitive bidding processes, compare costs between production options, and report that privatization produces savings. Other factors, such as median income, rural geography, and ideology, show statistically significant associations with

contracting choices. Respondents generally consider themselves “satisfied” with services provided by contract, although satisfaction levels are lower than those associated with self-provision. Satisfaction with services provided by other governments is lower than satisfaction with services provided by private contractors. This suggests that small municipalities encounter no tradeoff in service quality directly attributable to for-profit contractors.

Lackey, Freshwater and Rupasingha (2002), argue that such public private partnership agreements offer a number of advantages, including “increased local decision-making capacity, retention of local identity, increased access to external resources, economies of scale, cost-effectiveness, protection for resource-dependent economies, and greater political influence through strength in numbers”. Despite these benefits, however, much of the literature perceives intergovernmental cooperation as a relatively rare event (Cigler 1994). Neither intergovernmental cooperation nor privatization has been studied extensively. Prior studies have typically examined privatization decisions for a small number of services, or cooperation between municipalities for unusual events, such as the creation of an industrial park. The bulk of the large and interdisciplinary literature on alternative options for service delivery focuses narrowly on privatization. The consensus, although not universal, view is that when municipalities privatize services, they benefit through lower costs and greater efficiency.

The Ninth Plan (1997-2002) also promotes macroeconomic policy for Government Expenditure and management has adopted a strategy in which the private sector will be enhanced further by providing necessary incentives in the sectors where private sector is deemed to be promoted effectively and in such sectors government participation will be gradually reduced and public sector enterprises will be privatized and the activities to promote their efficiency will be promoted. A strategic PPP approach has initiated in formulating the macroeconomic and sectoral policies. The major consultative bodies to this end are board of investment, environmental council, Industrial Promotion Board, Revenue Consultative Committee and, expert Promotion

Broad. Among other agencies, Nepal Tourism broad is the one in which the private sector participation is on the majority.

In the above context, present study has been an attempt to examining the role, responsibility, strength and potentiality of public private partnership in promoting the quality of urban sanitation facility and public toilets development. On the other hand this is tried to find out what are the measures to promote public toilet development through PPP approach.

2.4 Prevailing Rules Related to PPP

Nepal has been rapidly adopting open competitive market economy form 1999 AD. Different efforts are being made with various policies and laws toward free market, privatization, and deregulation. But PPP hasn't been successful in attracting attention. Recently enacted act "private Investment for Development of public Infrastructure Structures" could be considered as one important breakthrough since there is no major legal obstacle. But as there is no particular law to ease problems that may arise in PPP, many different laws have to be referred.

A comprehensive national policy on public private partnerships is still underdeveloped in Nepal. However, this does not restrict local bodies to formulate their own policy, While PPP policy is provided basis for involving private sector in public service delivery. Its success depends on maintaining the interest of the private sector in a range of partnership initiatives. PPPs have the qualities of relationships, which grow stronger by mutually benefiting the partners from the partnership initiative. Therefore, PPP policy should be based on the partnership for prosperity and fairness. The following fundamental considerations are critical for effective PPP approach to service delivery. Different acts and their relevant sections useful in financing, construction, operation, and maintenance of infrastructure and service projects could be listed. Some Nepal government's rule and regulation are mentioned here.

2.3.1 Local Self Governance Act, 2055 and Regulation, 2056

The primary act of relevance to PPP in Solid waste management and other municipal services is the Local Self-Governance Act of 1999 (accompanied by the Local Self –Government Rules and Local Government Financial Rules 2000). The Act is intended to develop municipalities as self-governing autonomous urban local bodies enabling them to play an effective role in the context of overall urban development in general and the improvement of environmental conditions for urban dwellers. The Act specifies that municipalities must ensure the delivery of urban services as the Local Self Governance Act 1999 has clearly set out the importance of “encouraging the private sector to participate on local self-governance in the task of providing basic services for sustainable development” as one of the basic principles and policies of local self-governance.

Similarly, Section 96 of part 3 of the Act provides for local government “to encourage to carry out cooperative, industrial and commercial activities generating income to the municipality with the investment of private sector as well. Section 96 highlights the role “Consumer groups and other non-government organizations shall have to be encouraged the development and construction works to be done in the municipality area and such works shall have to go done through such groups or organization as far as possible”. Furthermore, Section 121 says “the municipality shall have to encourage the non-government organizations [the definition of which includes the private sector] for the acts of identification, formulation, operation, evaluation, repair and maintenance of the town development programmes within the area of each municipality. The procurement and construction arrangements under the local Self-Governance Regulations empower municipalities to procure well but do not say anything on the procurement of services, development of infrastructure and the operation and management of them by private sector. There are no restrictions on municipalities with regard to tariff rates or procedures’ for tariff setting although tariffs must be adopted by a special resolution of the Municipal Board.

2.3.2 Contract act, 2056

This describes provision of directing regulation and managing the contracts and agreements between two or more parties. It describes about investment and other liabilities and its benefits, risks conditions, methods of dispute resolution and compensation etc. Arrangements between the parties

of partnership, as this Act states that parties can together freely decide the mode of partnership arrangement benefit sharing, setting conditions of contracts, decide ways to solve disputes if it arises or if some party breaks provisions set in the contract, This act could be very useful in designing and implementing pop. On its basis government and private parties with mutual agreement can provide urban environmental infrastructures in partnership.

2.3.3 Company Act, 2052

This Act makes provision of liquidation or closer of bankrupt company. It also makes provision of indefinite closure of company which faces serious financial crisis. This may cause trouble to the consumers, where as it protects the service providers.

2.3.4 Mediation Act, 2055

This Act has made the possibility to select to mediators and develop the systems and procedures partnering parties themselves to resolve disputes instead of time consuming, cumbersome and expensive legal court procedure.

2.3.5 Foreign Investment and Technology Transfer Act, 2049

This Act deals with attracting foreign investment and ensuring benefit on investment in industrial sector and does not talk particularly on infrastructures and services. But as the industrial institution Act defines roads, bridges, tunnel way, trolley bus, tram airport, solid waste processing works as industrial work, this Foreign Investment and Technology Transfer Act could be used in PPP in such in infrastructures and services.

2.3.6 Foreign Investment and Technology Transfer Act, 2049

This has various types of tax rebates for various industries. It includes roads, bridge, tunnel way, trolleybus, tram, air pollution reducing activities and solid waste management etc. as the industrial institutions. Such institutions get 50% rebates on its income tax for seven to ten years. So this act could be useful in development of above mentioned infrastructures and service through public private partnership.

The national policy on PPP for service delivery developing in Nepal by "Public Infrastructure Build operate and Transfer Policy 2000" as a revision to "Public Roads build Operate and Transfer policy 1998" is formulated to integrate all infrastructural sectors within one policy. An encouraging involvement of the private sector in the telecommunication, power and, aviation sector since the last one decade is still in the form of 'private participation rather than public private partnership.

CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with methodological approaches applied and description on how researcher collects information and analyzed the collected data. It is also clarifying review of what was done before and what could have been done differently to grab the reliability and validity of the study. The research design of the study has included both qualitative as well as quantitative approaches to analysis of the data.

3.1 Study Area

The study area of this research will be conducted in Butwal municipality. The location of the municipality is 27⁰ 42' N latitude and 83⁰ 28' E longitudes. Its average elevation is 205 meter from the sea level. The municipality occupies 69.28 sq.km. It has divided into 15 wards. According to the census 2001 it has 75,384 populations. Among them male population is 38,712 and female population is 36,672.

3.3 Sources of Data

Both primary and secondary data has used to collection and analysis of collected data.

Primary data: For the purpose of primary data collection following tools has employed.

Observation Checklist: It will be used to identify suitable area and location to construct urban sanitation infrastructure such as construction of public toilets.

Focus Group Discussion Checklist: It has used for potential PPP stakeholder BCCI and municipality authorized person for potential investment, potential investment amount and partnerships sharing among the partners of PPP project. Two focus group discussions have conducted with BCCI and Municipality authorize person.

Key Informant Check list: It has used with the stakeholder of the study area to identify present activity for PPP project on public toilets management and the investment environment, problems related with PPP approach and the future policy of celebration among the Partners.

Secondary data: Secondary data for the research were collected from the previous research report, related books and journals, government and non-government organization's report and profile etc. PPPUE's reports and data were consulted for further information about PPP approach.

3.3 Sample Size

3.3.1 Field Survey

This survey has been used to record data of each and every public toilet in Butwal municipality areas. First of all I had recorded the number of public toilet then fill the observation checklist sheet which was prepared.

3.3.2 Key Informant Survey (KIS)

For this research, key informant survey (KIS) method has been used to get information with the stakeholders. The through key informant checklist to I has collect data with municipality authority as a public sector and FNCCI and other business entrepreneurs as private partner who are the potential investment partner of the urban sanitation facility, epically development process through PPP approach.

3.4 Data Collection Methods/Tools

The data collection was started with studies of the literature related with PPP and sanitation. Both primary and secondary information has collected to fulfill the objectives of the study. Primary data were collected in March 2009. The data was mainly collected through field observation checklist, field note, focus group discussion checklist and key informant checklist.

Field Visit: With the objective of collecting the information, there were frequent site visits. Site visits were done at Butwal municipality where the public toilets are located. These site visits were fruitful to conduct focus group discussion and key informant interview.

Observation checklist: In order to study the existing condition observation checklist were used in research activity which was developed before field visit. It was fill information what the researcher own observation had found at the time of observation without asking to the other respondent. The purpose of this method was to check if the answers given by the respondents were true during their personal interview and focus group discussions. Likewise, it was beneficial to remove the bias of information. This method was employed during the field visit in order to obtain the information on existing condition, environmental situation, sanitation status, behavior of the users. This method was also used to cross-check and to ensure validity and reliability of the information gathered from respondents through other source. (Appendix 1)

Key informant interview: It was conducted on the basis of key informant checklist. The key informant interview was conducted with 14 respondents. These were Municipality and BCCI authorizes person Public toilet employ and private entrepreneur. It has used with the stakeholder of the study area to know present condition of the public toilets, assessment of PPP project on public toilets management and the investment environment, problems related with PPP approach and the future policy of celebration among the Partners. (Appendix 2)

Focus group discussion: The focus group discussion was conducted in the basis of focus group discussion checklist. It has conducted with BCCI and municipality authorized person to identify potential investor, potential investment amount and partnerships sharing among the partners of PPP project. Two focus group discussions have conducted with BCCI and Municipality authorize person. (Appendix 3)

Field note: Field note was an important tool to record necessary information during the field survey. Details of important information such as important incidences events and discussions which were not included in the checklist

were included in the field note. It has helped to researcher with collect every minor but most important issue which has not been possible to collect in a systematic way. Researcher collects those information and issues, people activities, their environment and unique matter in the diary.

Secondary data: Secondary data for the research were collected from the previous research report, related books and journals, government and non-government organization's report and profile etc. PPPUE's reports and data were consulted for further information about PPP approach. The major sources of secondary data are included:

-) Publications of different organizations
-) Official publications of HMG
-) Central bureau of statistics
-) Reports of committees
-) Publication of the research centers and universities thesis
-) Newspapers, journals, periodicals
-) Internet materials and online journals

3.5 Data Processing

All the collected information is present in table and charts and photographs as per the need of report. The nature and the scope of study is focus on qualitative assessment and the data analysis tools are more qualitative in nature. For this research quantitative analysis is use as far as possible.

CHAPTER IV

DATA ANALYSIS

4.1 Existing Condition of Public Toilets

In Butwal municipality there are 10 public toilets in different location. Two public toilets have been totally closed condition which is Old Bus Park and Sothi. Three toilets are very good conditions in the terms of fee collection. They are Lumbini Bus Park public toilet, Chauraha and Haat bazaar public toilets. These toilets fee collection ratio is more than Rs 800 - 1200 per day. Remaining five public toilets are in usable condition. Durga Mandir public toilet and hospital line public toilet are being used only those who visited temple and hospital. Most of the toilets have no water availability in the cabin. Users take water in bucket while they go in long toilet. None of the toilet has the facility of soap for washing hand which may discourage user to go for long toilet so the existing condition of public toilet is poor in Butwal municipality.

4.1.1 Space /Location

From the observation, the space of the public toilets seems adequate but the location of some public toilets is not suitable such as those toilets are not direct appearance of the user. They are either at the corner of the located area if they are in the junction that would be more effective to keep the public area more neat and clean condition. Among the 10 public toilets only 3 toilets have no adequate space.

4.1.2 Conditions of Door, Ventilation and Existing Fan

The condition of door in public toilet in Butwal municipality is not satisfactory only 4 public toilets door are in good condition and three toilets doors are in poor and Janaki Nagar public toilet door and soothe public toilet door condition is very poor condition. On the other hand the ventilation condition of in 4 toilets ventilation is very good but 3 toilets ventilation condition is in good condition and 3 toilet door conditions is poor ventilation. Most of all, there is no an existing fan in public toilets. In only 6 toilets have

electricity facility for night toilets but there is no electric blue in separate room. Remaining toilets have no electricity facility. (Table 4.1)

Table No 4.1 Condition of Door and Ventilation

Name	Very good	Good	Poor	Very poor
Ventilation	2	3	3	2
	20	30	30	20
Door	2	2	3	3
	20	30	30	30

4.1.3 Water Availability

Water is main source for cleaning toilet. Butwal municipality is not able to supply drinking water adequately. Most of the public toilets are facing lack of adequate water. The main source of water is piped water which is provided by municipality. Other sources of water are underground water from tube well, ring well and boring water rain water harvesting but it is not in practices in public toilets. In Butwal municipality, pipe water is the main source of water for public toilet which is provided by municipality.

Among the 10 public toilets, 8 toilets are using pipe water as the source water. Among them 6 toilet are absolutely depended on pipe water and two toilet are depended on ground water these two toilets also use pipe water as source of water. Lacks of municipality monitoring and priority, most of public toilets have not sustainable water sources and one public toilet in Ganesthan, ward no 2 in Khasyauli Bazaar has not source of water. Consumers take water themselves for long toilet. It has tap but lack of tanks. It faces lack of water.

4.1.4 Surrounding Environment

Environmental sanitation is most important to keep environment neat and clean. Environment is the indicator of good civilization as for healthy and hygiene. There should be proper defecate, urine disposal, proper waste management, and proper sewerage drainage around public toilet. There is

poor environment condition. Almost all toilets surrounding environment is very poor except one or two toilet. In some toilet there is bad odor because of improper defecates disposal and waste around the public toilet.

The old bus park public toilet is converted into the waste collection center of local people. We can see waste collector vehicle parking around the public toilet compound which affect all people. In Janaki Nagar public toilet, there is the odorous environment because of pile of waste beside the Tinahu channel and inside the toilet we can see human defecate and urine fills the pan. Lack of proper sanitation the public toilet becomes the shelter of mosquito and flies and other diseases which cause health hazard. We can also see human defecate here and there. Among 10 public toilets, only 2 toilets have friendlier environment and other 8 toilets surrounding area is insanitary. So it is more challenging to maintain friendly environment surround the public toilet.

4.1.5 Maintenance

Maintenance and up keeping of the public toilet keep toilet update, usable and beauty. In the study time most of the researcher feels that there have no maintenance of public toilets. It seems that the maintenance of toilet is in minimum level. Among the 10 toilets, 4 toilets are up keeping (cleaned) condition. Most of the entire fee collector collect fee from user but they do not maintenance the toilet at minimal level. The responsibility of the maintenance of public toilets is of municipality administration but municipality is indifferent to maintenance public toilets regularly. Expensive maintenance expenditure is beared from municipality such as maintenance of tank basin tap and sewerage pipe.

4.1.6 Frequency of Cleaning

The public toilet cleaning make toilet usable and attract user to use toilet and keeps environment healthy and sanitary. The common toilet cleaning utensil is phenol with water. According to the fee collector in front of toilet argue that they clean toilet 3 to 4 times in a day but in most of all toilet, we can find stain of cough, urine and defecates stain on walls. These toilets

condition is very critical; they are becoming source of bad odor and source of disease. It creates internal environment as well as to the external. People are obliged to close their mouth and nose to protect them from bad smelling.

Most of the time the floor of toilet is muddy and covered with stain because of improper cleaning and leakage of water. In the observation 3 toilet floor are wet among the seven toilets. The observer has found that 4 toilets have regular cleaning. This critical condition of cleaning and maintenance is due to inadequate water supply and lack of regular monitoring from the municipality administration.

4.1.7 Facilities

Toilet facility means facility of fecal disposal, urine disposal, washing facility, bathing facility, facility of drinking water, facility of wiper etc. In some toilet compound there may be facility of small tea shop. Among the 10 observation the researcher got 8 toilets provide toilet facilities. Other two toilets are totally closed or they are not in usable condition. Even these two toilets are unable to provide any facility. Among 8 toilets 6 toilet are use for defecates and for urinary (long and short toilet) disposal. Only two toilet Chauraha and Bus park toilet have toilet facility as well as bathing and washing facility. On the other hand there is no wiper facility on any toilet. There is no pure drinking water facility in any toilet. In Bus Park Chauraha toilets user may get chance to take tea and coffee and get rest for a while around toilet compound. In some toilet there is water tap but there is no water. Users are compelled to take collected toilet water for long toilet which may be the source of bacterial and viral infections. So that there is maximum probability of health hazard of communicable disease such as hook worm, diarrheal and flue etc.

4.1.8 Number of Toilet Cabins

Among the 8 toilets there are 94 cabins. In Butwal municipality there are 8 public toilets which are in useable. Two toilets are in about closed condition. Among 8 toilets the average toilet room are 11.75 including latrine, urine and bath room. Like this average toilet, urine and bath room number is

.37, 4.63 and 0.75 respectively. In two toilets the fee collectors lives in toilet compound. The residency in toilet room helps them to maximize their profit. In that Bazaar public toilet fee collector use toilet compound for other activities such as chicken husbandry for their family purpose which make the toilet compound ugly. Their rough cloths are hanged here and there, that compound get really disturb to its beauty.

Table No 4.2 Number of Toilet Cabins

	Male	Female	total
Number of urine cabin	28	23	51
Number of toilet cabin	24	13	37
Number of both cabin	3	3	6
Total	55	39	94

Among 34 cabin 58.51% cabin contains male cabin and 44.49% cabin contains with female. Male urine cabin are in about double than female urine cabin it is because of female are use same cabin for urine and toilet. It because of low use of women on toilet. Bathing and washing room are same in number but there are six bathrooms are not in used.

4.1.9 Management of Public Toilet

Among ten public toilets only 4 toilets are in lease contract with the stakeholders. Bus Park toilet is included with the Bus terminal contract, other two toilet are in of Hart Bazaar toilet and Chauraha public toilet stakeholder pay monthly Rs. 1500 to the municipality and Deep Nagar public toilet has semi contract where fee collector collects fee to itself and to get maintenance and charges monthly Rs. 500 from municipality. Other 4 toilets have no any fee collection where user does not have to pay any cost. So these 4 toilets condition is very critical.

4.1.10 Number of Employees

In present condition only 4 toilets are in proper condition where fee collector collects certain amount of money from user. If we regard 8 hour duty

for a working hour in three toilets fee collector work from morning to evening. New Bus park toilet, there are two employees who are working from morning 6 am to 7pm evening which means there are 4 employee. On the other two toilets Chauraha and Haat Bazaar toilet have one employee working from 6 am to 7 pm evening . It means these two toilets have 2 employees in each toilet. In Deep Nagar toilet is open only in business hour, there is only one employee. Directly in 4 toilets there are 5 employees who work in toilet. But indirectly there are nine employees working in public toilet in Butwal municipality.

4.1.11 Number and Type of Users

According to the field observation only 3 toilets have high flow of user in Bus Park, Chauraha and Haat Bazaar. In two toilets Janaki Nagar toilet and Deep Nagar public toilet have high flow in Haat Bazaar day. If we categorize these toilet according to the flow of user in three category, only one toilet have more than 400 user in a day, other two toilets have more than 200 users per day, other remaining toilet there is less than 200 users. If we manage proper facility, all toilets get more user than of present flow. Most potential toilet is Deep Nagar and Janaki Nagar public toilet. Deep Nagar toilet is open only two days in a week and Janaki Nagar toilet is open ever.

Public toilet are constructing in the principle of emergency use. Butwal municipality is most emerging municipality. Its urbanization rate is very high more than 6% per year. The population flow and market is very expanding. So their public toilet users are mainly passengers, bus staffs, business persons, consumers and local people. Two toilets of Bus Park and Chauraha public toilet user are passengers, pedestrians and bus staffs so these toilets gets more daily income is higher than other toilets. Other 3 toilets Haat Bazaar, Deep Nagar and Janaki Nagar public toilet mainly focuses on business person and its consumer, other remaining toilet users are local people. Municipality government focus to pedestrians and business person, there is so much potential area where new public toilets are necessary. It will keep municipality more beautiful and healthy environment.

4.1.12 Wage of Employee and Working Schedule

However there are 5 employees which are working in public toilets. But 2 employees get monthly salary, these two employee work in Bus Park public toilet. These two employees get Rs.2500/ monthly wages from boss. In Deep Nagar toilet employee get Rs.500 monthly from municipality as maintenance charge. In Chauraha toilet and Haat Bazaar toilet employee get money from users collected fee, so low salary and insecurity of income make their life more vulnerability. If they do not get job as toilet user they may be in crisis for their livelihood. They bear all short of risk on themselves.

4.1.13 Income and Fee Structure

The fee structure is homogeneous in all toilets. They get 2, 3 and 10 Rs. from user for urine, latrine and bathing respectively. If one consumer washes his /her cloth on public toilet or bathroom s/he pays extra Rs.10. Only two public toilets provide bathing and washing facility. Three toilets Chauraha, Bus Park and Haat Bazaar toilet earn more income. They earn more than Rs. 800 per day but Deep Nagar toilet earns about Rs.250 to 300 per day because of unsuitable location of the toilet. Other remaining 4 toilets do not collect fee. These are freely used. They have no good mechanism to collect fee from user. So these toilets face many problem such as maintenance, up keeping and environmental problem. If these toilets does not manage properly these may be closed of unusable by near future, so local government should be take care and develop such a mechanism to conduct their remaining toilet.

4.1.14 Tap

Beside the toilet cabin in 8 toilets there are 30 taps. Almost all of taps are not in use. As a reference, Bus Park toilet is much too describe the miserable condition of taps in public toilet. There are 17 taps. Among them 4 taps are in use but other remaining taps lack of water availability. It clearly presents picture of how public toilets are facing water problem. No more examples are necessary to present the condition of water. The photo is also present the existing condition how the public toilet facing the water problem. Figure...

4.2 Spatial Analysis of Accessibility

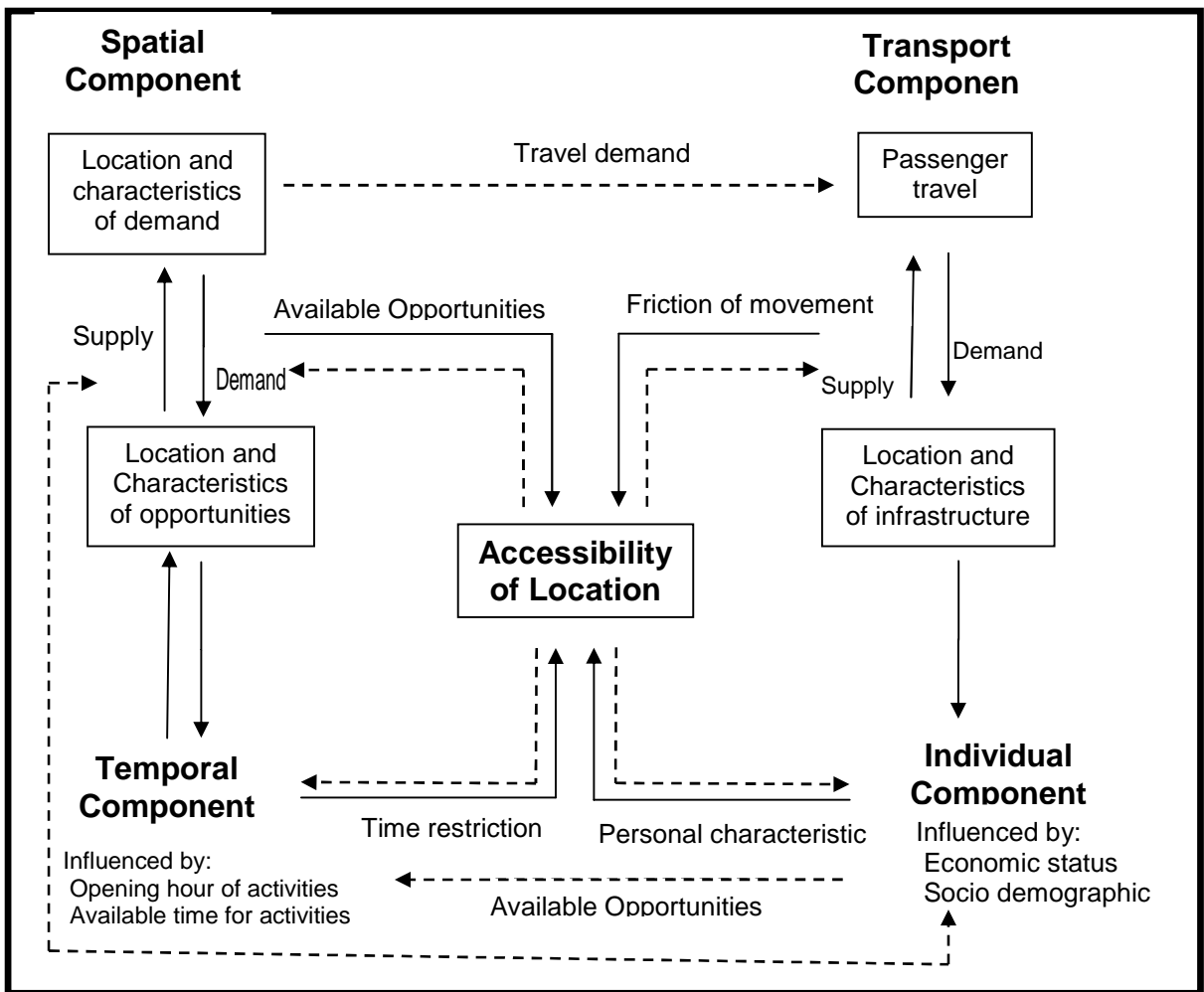
Spatial planning of urban sanitation in an area is concerned with the identification of suitable locations for health facilities, slaughterhouse construction, drinking water supply, sewerage management, waste management in a defined territory in such a way that these facilities need to be served in an optimal way which is spatially dispersed population. Basis of this type of location planning is the concept of accessibility. Accessibility is related to the ability of people to overcome a fraction of fixed points in space. Accesses to sources are ensured to all human wellbeing and accessibility can be viewed upon as a scarce resource which is dependent on distribution and redistribution through the planning process. Accessibility is used as a mechanism through which we can approximate the degree of needs satisfaction and predict the expected number of users for potential locations (Sherif 2007).

A very useful framework that introduces the notion of accessibility in the context of service provision is provided by Moseley (1979). Moseley systematizes accessibility as consisting of three components.

1. People
2. The activities or opportunities that they secure and
3. The transport or communication link between the two.

The strength of this framework is that it makes explicit that accessibility varies according to the characteristics of people, their activity or opportunity and of the communication and transportation facility. Accessibility is the outcome of the combined characteristics of the three components mentioned above. A comparable but more elaborate framework for understanding accessibility is described by Geurs and Ritseman (2001) which presents accessibility of four interrelated components: a spatial component, a transport component, a temporal component, and an individual component (figure 4.1).

Figure 4.1 Components of accessibility and their relationship.



Source: Geurs and Ritsene 2001, cited sheriff 2007 pp.32)

The spatial component of accessibility describes two elements (1) the spatial distribution of opportunities, it refers to consumption on space and production in space or space utility. In term of urban sanitation it reflects the spatial arrangement of public toilet in relation to the spatial variation of public need. In public toilet the attuning mechanism has effective demand and need of people and availability of these facilities. The spatial arrangement of opportunity is normally represented by point of location. Attractiveness is measured in terms of variation in size and functional of public toilets. Another important consideration concerns the representation of the spatial variation in demand or need. This requires some form of spatial desegregations, the breaking down of a bounded region in to small zones. Thus grouping people by proximity for analysis is in the intra urban scale. The definition of spatial

units for demand or need which is estimated is based upon the boundaries of administrative unit that can be used to approximate demand or need.

The temporal component consists of three elements (1) the location and its characteristics of transport infrastructure (2) demand for travel (3) objects infrastructure use (mobility). Transport itself is not the desire product but a means to demand. The purpose of the transport component is to describe how people overcome the friction of distance that separates the point of demand from the point of supply (pacione1989). The temporal component of accessibility describes the (1) availability of activities at different moments in time and (2) the time at which individual is able to participate in activities. An example of the first is accessibility services depend with the working time of an individual. The component shows that accessibility is not merely about making connection in physical space but also needs to take availability time into account.

The individual component of accessibility refers to the characteristics of the individuals that impact on accessibility. Approaches that incorporate individual characteristics and preference to exist and touched upon is following but their practical application is relatively scare. By for the most approach is that the individual component of accessibility is incorporated in to accessibility measures by disaggregation of the population under study using economic and socio demographic characteristic.

Obviously, the four components of accessibility are interrelated. The spatial component is an important factor determining travel pattern. It may also introduce time restriction and influence people's opportunities. In terms of the individual component individual travel demand, the available time for activities and demand need for opportunity. Accessibility also influences the contributing component which influences travel demand the available time for activities and demand for opportunity. Accessibility also influences the contributing components through feedback relationships. Accessibility is a location factor for people and activities and influences travel demand peoples opportunity and the time needed to participate in activities (Genus and Ritsene, 2001).

4.3 Accessibilities Measures

The accessibility measure provides operational form to the concept of accessibility. It shortly describes and evaluates the following measure.

- 1) Container measures
- 2) Simple distance measure
- 3) Cumulative opportunity measure
- 4) Composite measure
- 5) Time space approaches and
- 6) Utility based approaches.

4.3.1 Container measure

The simplest and crudest measure of accessibility is mainly used in the political science literature is the container approach. Access is determined on the basis of simple count of facilities or services in an administrative unit. There is no consideration for the structures of the transportation network, the frictional efforts of distance or properties of the supply side. It is suitable for high level of spatial aggregation when resources are allocated.

4.3.2 Simple distance measure

The simple distance measures operationalized accessibility as the straight line distance between two locations in geographic space. This type of measure is after used in situation where standards exist in terms of maximum travel time or distance to an opportunity location to a single opportunity. This type of approach is based upon the notions of neo-classical location theory. It is very commonly used and mostly operationalized on basis of standard GIS functionality. An advantage of simple distance measures is that the data requirements are modest and that results can be interpreted easily but disadvantages is that it is deterministic manner and it is not very suited for forecasting and scenario building.

4.3.3 Cumulative opportunity measure

Cumulative opportunity measure indicates the number of opportunities or number of potential customers that can be reached within a given travel time or distance (Breching, 1978). All potential opportunity within the given distance and time are weighted equally accessibility increases; if more opportunities can be reached within a given travel time or distance. This distance can be the resulted of either a changed in the lease of reaching estimations or a change in the number of available opportunities. They incorporate both time and the transport component of accessibility but do not evaluate component can be effect. The individual component can be approached through socio-economic disaggregation of the population under the study. The threshold distance is the shortest distance to a give number of opportunities. The main advantage of cumulative opportunity measure is that their results are straightforward and easily to interpret by non specialist's other advantages are that alternative scenarios can easily be generated. It has also some disadvantages. It is the lack of differentiation between opportunities that are near to the demand origin and those just within the specified cut off distance second all of opportunities are equally desirable despite potential differences in their characteristics. It is somewhat subjective matter. It is based upon deterministic behavioral assumption it is assumed that all customers will always visit the nearest opportunity.

4.3.4 Composite measure

The basis of this accessibility measures lays the gravity model which utilizes the principles of Newtonians physics to explain social phenomena. Briefly the gravity model stipulates that two places which interacts with each other in proportion to the product of their size and inversely relation according to some function of the distance between them. The accessibility measure is termed composite as it captures two parameters (the spatial and transport component) to a single index. (1) Scale impacts which operates in terms of the utility of the destination location and (2) distance impacts operate in terms of separation units of some kind. Composite measures are mostly used to explain why some localized activities impact on the surrounding area in terms

of customer flow (Haymes and Fotheringham, 1984). Generally speaking the more accessible a location becomes composite accessibility measures describe aggregate human behavior not individual behavior. The main advantage of composite approaches is that they offer a probabilistic view of human spatial behavior and their data requirements are found modest. It denotes the range of choice offered by the land use and transport components in the form of some of potential distraction

The most disadvantages of gravity based measure are that they have only limited theoretical justification other than the analogy to law of physics. Despite numerous efforts a link to a theory of human spatial behavior was never sufficiently established it only argue about aggregate behavior of people rather than individual. The composite measures are extremely sensitive to short distances composite measure require the estimation of a distance decay function to describe the friction of distance.

4.3.5 Time space opportunity

Time space approaches were developed in part as a reaction to the shortcomings of gravity based, desires and are related to the work (Hagerstrand (1970). At the heart of the time geography is the notion that all of the actions and events that sequentially make up an individual's level temporal and spatial attributes time space at the individual level and to identify the main factors that constrain the individual freedom to occupy certain space and time location movement of individuals in the spatial temporal environment is restricted by three categories of constraints. (1) Authority constraint (2) capability constraint (3) coupling constraint (Johnston et al 1998) by identifying these constraints it would become possible to deduce reason why a particular individual follows one space time path rather than another. The opportunity that can be changed given time and space constraints can see as a measure of accessibility.

Accessibility that can be reached given time and space constraints can see as a measure of accessibility. Accessibility can be improved either by expanding the action space of the individual or by placing more opportunities within its bounds. The main difference with cumulative opportunity and

composite measures is their explicit link to the individual and the temporal component of accessibility. Time space accessibility measures are able to reveal differences in individual accessibility.

4.3.6 Utility Based Approaches

The utility based accessibility approaches as utility based accessibility approaches assign particular importance to conceptualizing the decision process to explain and model individual spatial choices behavior. This type of approaches is mostly operationalized using discrete choice models. These model are generally rooted in random utility theory (Thurston, 1927) in which the probability of an individual making a particular choices depends on the utility of that choices relative to the utility of all choices. The expected choices behavior is captured using utility function that reflects the characteristic of the individual and their tastes and preferences (Burgers and Timmermans 1993). Direct choice models sometime take a form similar to that of gravity based measure bur given their solid theoretical foundation. They have an advantage over gravity based measure.

The main advantage of utility based approaches is theoretical and that they encompass all components of accessibility. The disaggregate approach again is also an individual one needs to record what his/her perception is of all the available alternatives and how they are weighted. The conceptualization of the decision making process requires considerable interaction with respondents because of the large data requirement utility based application are often restricted the smaller study area.

In the case of public toilet utility based model is more suitable to spatial analysis of accessibility. The individual behavior is determined the utility of the public toilet. It affects the supply and the location of the resources. If the public toilet is established in the suitable location that will serve the large mass and its facility also determine the consumer. So the public toilet should be in available in public location such as road junction, bus stop, shopping areas and public places where people gathered at most of the time. In the case of the Butwal municipality, most of the public toilet serves more users

which are in the core of the public interaction area like bus park road junction and Haat Bazaar area.

Now, there are four payable public toilets. The numbers of public toilets users are more than 1200 per day and if the management and facility increases there are other two toilets are feasible which increase the user's numbers more than this. One the other hand there are so many locations to construct public toilet which increase the number as well help to keep city more cleanly.

4.5 Suitability Index

The suitability index is being built on the basis of hierarchical value for the facility available on the public toilet in term of weight. This method also assigns weightage of each parameter under the consideration. In this study each parameter has weighted with 3 value for highest, 2 value for medium and 1 value for low facility available. For the calculation of the suitability index total value is divided by the total weighted value.

Table No4.3 Weight Basis

S.N.	Criteria	High(3)	Medium (2)	Low (1)
1	Road	Cross road, Bus Terminal, Bus Stoop	Main road , bus Stoop	Auxiliary road
2	Market area	Core city, shopping complex,	Periodic market, temporal shopping center	Settlement area,
3	Services	School, campus, hospital ,	Other administrative facility areas	No such facility areas
4	Felicity	All the facility on the basis of Observation checklist	Medium condition on the basis of observation checklist	Lo facility on the basis of observation checklist

Table 4.4 Suitability Index

S.N.	Station	Road	Market area	Service	Facility	Total	Index
1	Janaki Nagar	2	2	1	1	6	0.5
2	Lumbini Bus park	3	3	2	3	11	0.92
3	Sothi	1	1	1	1	4	0.33
4	Dip Nagar	1	2	2	2	7	0.58
5	Ganesthan	1	1	1	1	4	0.33
6	Old Bus Park	3	3	2	0	8	0.66
7	Haat Bazaar	2	3	3	3	11	0.92
8	Chauraha	3	3	3	3	12	1.00
9	Hispital Line	2	3	3	2	10	0.83
10	Trafic Chok	3	3	2	1	9	0.75
	total	20	24	20	17	81	0.68

So for suitability,

The total weight = $4 \times 3 = 12$

Here this index has calculated using this equation

Composite Index = Total Value / Total Weighted

Average suitability index = $81/120 = 0.68$

1. Total value of Janaki Nagar Public Toilet = 6
Suitability = $6/12 = 0.5$
2. Total value of Lumbini Bus park Public Toilet = 11
Suitability = $11/12 = 0.92$
3. Total value for Sothi Public Toilet = 4
Suitability = $4/12 = 0.33$
4. Total value of Dip Nagar Public Toilet = 7
Suitability = $7/12 = 0.58$
5. Total value of Ganesthan Public Toilet = 4

- Suitability = $4/12 = 0.33$
6. Total value of Old Bus Park Public Toilet = 8
Suitability = $8/12 = 0.66$
 7. Total value of Hospital Line Public Toilet = 11
Suitability = $11/12 = 0.92$
 8. Total value of Chauraha Public toilet = 12
Suitability = $12/12 = 1.00$
 9. Total value of Haat Bazaar Public Toilet = 10
Suitability = $10/12 = 0.83$
 10. Total value of Traffic Chok Public Toilet = 9
Suitability = $9/12 = 0.75$

To calculate the Suitability index four components are included. These are road type, available facilities in the existing public toilet, market area such as Commercial area, Haat Bazaar, and other market and public services such as campus, school, and administrative area. The index score ranges from 0.33 to 1.00. By the average weight value is 0.68, which means that the provision of suitability six public toilet are suitable which are Lumbini, Bus Park, Chauraha, Old Bus Park, Traffic Chok, Hospital Line and Haat Bazaar, and remaining four public toilet are unsuitable which are Sothi, Ganesthan, Janaki Nagar and Dip Nagar. It is feasible to launch PPP approach in those public toilets which get index value more than average value 0.68.

4.6 Sustainability of Urban Sanitation Development

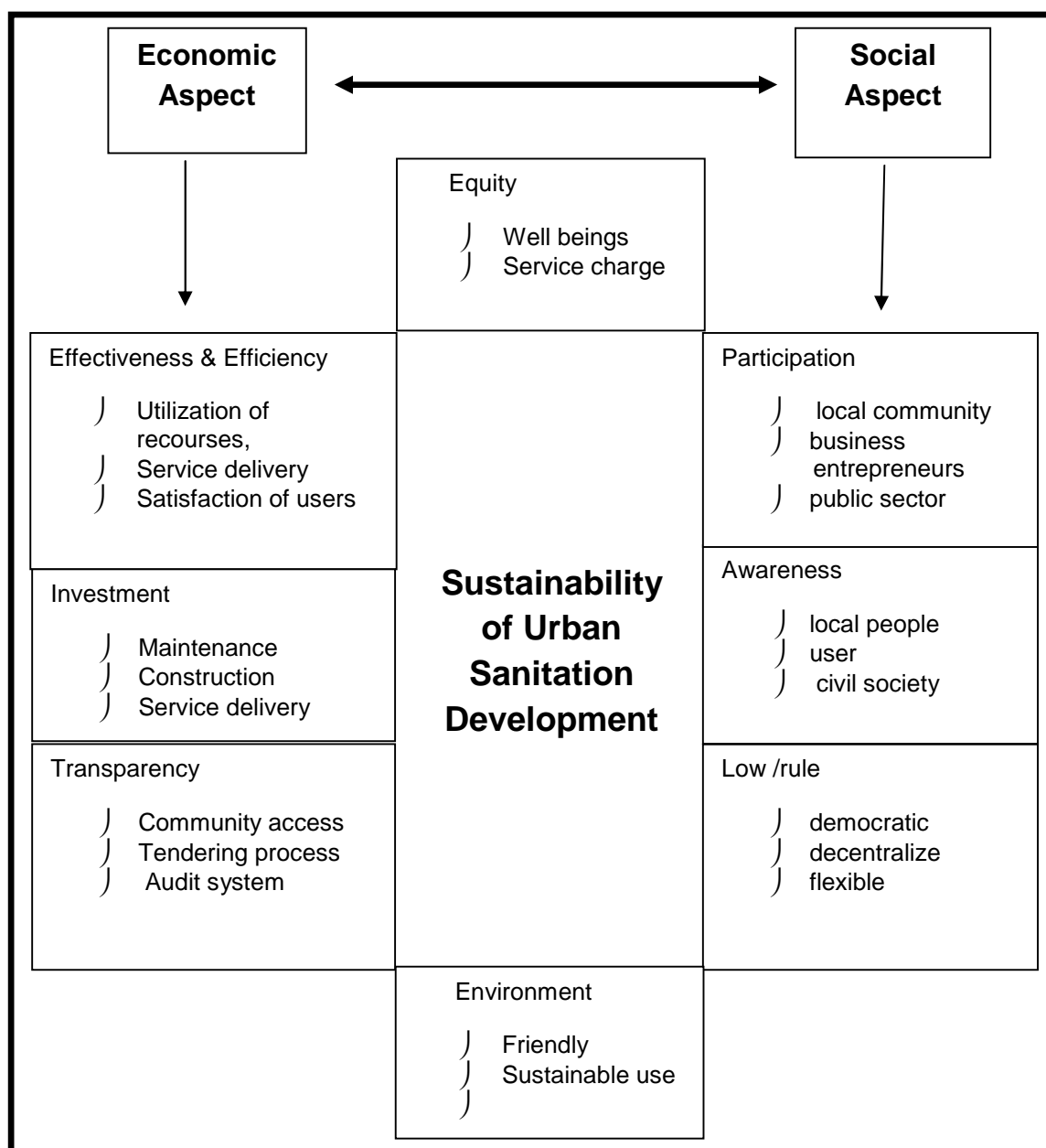
The PPP is a paradigm shift. The PPP promotes innovation and encourages use of state-of-art technology. PPP has been widely adopted all over the world; especially in the dynamic and fast progressing economics as a tool for achieving greater efficiency and effectiveness in the infrastructure development and service delivery. It helps to transfer commercial risks, promotes market at the local level and mobilization. The private sector through developing their entrepreneurship and enterprising skills, however, a sound PPP should ensure competition. It should emphasis on promoting accountability and equity. The selection process in the PPP should be established. The regulatory role of the local bodies should be enhanced. At

present, the emphasis is on the participatory bottom up planning which is need based. The ownership created through participation is the key to the sustainability.

Sustainability is the key to success of any program. For sustainability of PPP, with paramount importance the communities itself feels the responsibility to sustain the infrastructure and services of the urban sanitation. By adopting public private partnership programs we could improve the health and sanitation condition in urban area, which helps to raise their social status. Sustainable behavioral change brought by improvement in social status due to access of safe drinking water, proper waste management and other health and hygiene facilities which are the key component of urban sanitation. Sustainability of the PPP is found in public toilet programs with equal people participation to increase investment, to create responsible management towards the effective service delivery to the users, and committed members. Transparency, accountability, monitoring, cooperation and positive attitude of the public organization and local community are the step to maintain sustainability. Through PPP, there is collaboration with different stakeholders for public toilet construction and management but is a good demonstration of the dynamic and innovative working approach to develop other developmental activities. The Sustainable urban sanitation development framework more clarifies for the sustainable development through PPP (figure4.2).

In this study, for the sustainability measure some parameters are developed and ask with key informant for the sustainability of the PPP project. They are; location of public toilet, facility available in the public toilet, investment, transparency, monitoring, and participation. All respondents are agreed that there should be sustainability of the PPP project on public toilet. All private and public organizational key informants feel that there should be effective monitoring and public awareness as well increase the facilities, suitable location and public awareness.

Figure 4.2 Sustainability Urban Sanitation Development Framework



Source: Self Constructed

Location, transparency, monitoring and public awareness are most significant component for sustainability of the PPP program and people participation and toilet facility play less effective role for sustainability of the public toilet through public private partnership. Most of the public sector key informant believes that the partnership on public toilet management is more sustainable but private sector respondent do not think so because present public rule and regulation bound to conduct in sustainable way. For the

sustainable public toilet management that should be long term partnership should be enhance.

Table 4.6 Sustainability Parameters

Sustainability Factor	Yes	Percentage	No	Percentage
Location	6	100	0	0.00
Facility	4	66.6	2	33.33
Investment	2	33.33	4	66.66
Transparency	6	100	0	0.00
Monitoring	6	100	0	0.00
Public awareness	6	100	0	0.00
Participation	4	66.66	2	33.33

4.7 PPP in Butwal Municipality

4.7.1 Share of Partnership

Most of the respondent prefer to the PPP approach for the development activities. In the time of data collection majority of the respondent preferred negotiation as the main criteria for partnership. Majority of the municipality respondent (67%) and all Private respondents prefer negotiation as main tool to determine share of partnership. It is conclude that negotiation between partners is the source of partnership. (Table4.7) .for the private sector profit is the main criteria for partnership (100%) but municipality respondents (100%) are in favor of service delivery should be main criteria for partnership.

Table No 4.7 Share of Partnership

S.N.	Partners	Negotiation	As possible as	other
1	Public	4	1	1
	%	67	16.6	16.6
2	Private	6	0	0
	%	100	00	00

4.7.2 Potential Partners

Among 12 respondent 41.66 % preferred local community as the best partners for public toilet management and 33.33% preferred that NGOs are the best partners for it. Private may not be the best partners to management public toilet and for the construction of the public toilet, municipality must but more responsible than private sector. (Table4.8)

Table 4.8 Potential Partners

S.N.	Potential partners	Public	Private	total	Percentage
1	Community	3	2	5	41.66
2	NGOs	1	3	4	33.33
3	private	2	1	3	25

4.7.3 Level of Participation and Risk Management

Among the respondent majority (66.66%) of the respondent prefer high level public participation in construction and management on the public toilet. All respondent agree that there should be minimize the risk factor in both context construction and management. To minimize the risk factor public, private and community should effort equally participation is necessary.

4.7.4 Problems for Partnership on Public Toilets

There are so many obstacles that reduce the efficiency and effectiveness on the public toilets so they do not conduct service delivery to the public in proper capacity. These are public awareness, conflict, management, risk/security, maintenance, non paying users, perception on public toilet, thieves of public properties, location problems, present public rule and regulation, municipality policy on public toilets and location on public toilets. Among them management, thieves, conflict and investment are more significant problems so all of the respondents think that such kind of problems should be addressed by all stakeholders.

Table No. 4.7.4. Problems for Partnership on Public Toilet

S.N.	Problems	Yes	No
1	Investment	10	3
2	Risk	6	6
3	Policy	7	5
4	Maintenance	12	0
5	Conflict	10	2
6	Awareness of public /users	10	2
7	Non Payers	7	5
8	Perception	10	2
9	Thieves	11	1
10	Management	12	0
11	Space	0	12
12	location	9	3
13	Attitude	9	3

4.8 Prospect of PPP in Sanitation in Butwal Municipality

A comprehensive national policy on public private partnership is still underdeveloped in Nepal. However, this does not restrict local bodies to formulate their own policy. While PPP policy is that policy to develop activities and provide basic services delivery with the direct involvement of private sector as well as civil society including public sector. Its success depends on maintaining the interest of the private sector in a range of partnership initiatives. PPPs have the qualities of relationships, which grow stronger by mutually benefiting the partners from the partnership initiative. Therefore, PPP policy should be based on the partnership for prosperity and fairness. Delivery of the urban services is one of the major functions that the municipality undertakes PPP approaches. To service delivery, municipalities change their policy and behavior creating effective participatory approach with all associated stakeholder. Municipality considers itself as a facilitator and regulator than as a provider in urban function. Gaining access to private capital through public private partnership arrangement would lead to supplement capital/ financial resource. Moreover, private sectors' involvement in public service delivery helps to improve the cost effectiveness of service delivery. However, there are needs to create a market friendly policy environment by formulating appropriate policy framework, allocating clearly defined roles, right and responsibilities to each of the stakeholders. (e.g. local bodies as facilitators, private sector as service provider and the civil society as service recipient).

In Butwal municipality there are four ongoing project works through PPP approach. They are Haat Bazaar Shopping Complex, Maina Bagar Auto Village, Lumbini projects, Bus Terminal and Solid Waste Management. The projects, Lumbini Bus Terminal and Solid Waste Management are ongoing according to the management of PPP modality, Maina Bagar Auto Village is running as lease PPP modality and Haat Bazaar Shopping Complex is running in BOT modality. Beside these there are more than 20 feasible areas identified, and those areas are in the dissection, where the PPP modality can be implemented. Butwal municipality, PPPUE and BCCI are working together in accordance with the PPP approach to develop infrastructure and service delivery.

Table 4.8 Selected Projects

A. Selected Projects				
S. N.	Name of Project	Present Situation	PPP modality	Remarks
1	Solid Waste Management	On going	Management	ward no 1 to 4
2	Haat Bazaar Shopping Complex	On going	BOT	Ward no. 7
3	Maina Bagar Auto Village	On going	Lease	Ward no. 4
4	Lumbini Bus Terminal	On going	Management	Traditional approach
5	Pay Parking	Feasibility Study on Progress	Management	Expected PPP modality
6	Greenery and Advertisement Project	Feasibility Study on Progress	Management	Expected PPP modality
7	Birendra Udhyan Management Project	Feasibility Study on Progress	BOT/ Management	Expected PPP modality
8	Public Toilet	Ready for private sector calling	BOT/ Management	Expected PPP modality
9	Overhead Bridge	Corresponding with the Concerned Authorities	BOT	Expected PPP modality
10	Vegetable and	Focus Group		Ward no. 8

	Fruit Market	Discussion		
11	Drinking Water	Focus Group Discussion	Management	Expected PPP modality
12	AMDA Hospital Canteen Project	Feasibility Study Completed	BOT	Expected PPP modality
13	Slaughter House	Feasibility Study(completed by Rupp 7 years ago)		Ward no. 8
14	Butwal Mandap (Industrial Trade Fair Area)	Focus Group Discussion	lease	No identified
15	City Hall	Laid the Foundation Stone		Butwal- 10
B Future Projects				
1	Eclectic Bus	Planning Phase	BOT	Expected PPP modality (Butwal to Bhairahawa)
2	Mani Mukunda Sen Park Development	Planning Phase	management	Expected PPP modality
3	Hill Park Electric Tram	Includes in Master Plan of Hill Park Development	BOT	Expected PPP modality
4	Maina Bagar Parking Management	Planning Phase	BOT	Expected PPP modality
5	Beautification	Planning Phase	management	Expected PPP

	and Utilization of Parks	Planning Phase		modality
6	Tinau Corridor Development	Planning Phase	BOT	Expected PPP modality
7	Plantation Preservation and Utilization	Planning Phase	management	Expected PPP modality
8	Solid Waste Management with Compost and Treatment (Recycling) Plant	Planning Phase	BOT	Ward no. 14/Expected PPP modality
9	Land Development Project	Planning Phase	BOT/management	Ward no.4 &13/Expected PPP modality

Source: BCCI (2009),

There is a great opportunity to launch PPP approach in these identified areas that will help to develop the municipality in right way. So that Butwal municipality is the most prospectus area for the PPP.

4.9 Urbanization, Development and PPP

Urbanization refers to the process of growth in the proportion of population living in urban area. Historically, the concept of urbanization has been related to specialization, industrialization and consensus among scholars that a fundamental form of this relationship has remained contested; there is a general consensus among scholars that a fundamental characteristic of urbanization is the structural shift in employment from agriculture to non-agriculture pursuits. In other words, urbanization is a territorial response to structural changes in the economy. A distinctive division of labor, technology based production of goods, trade of a variety of goods

and service, high level of spatial and economic interaction, and relatively high density and diversity of population are basic tenets associated with urbanization. The distinction between town and country is not merely a distinction based on the nature of settlements, it is a distinction based on the nature of settlements, it is a distinction rooted in the economic structure and social relations of production and reproduction, and in the processes of social and political consciousness and its articulation. Therefore, urbanization is often taken as a proxy for the level of development, in general. Nepal remains one of the least urbanized countries in the world and also in south Asia. While this low level of urbanization is a matter of considerable concern for the economic development of the country, the present state of urbanization and the consequent process of economic, social and even political changes that it entails has to be very much part of Nepal's development vision because a large proportion of population live in far-flung settlements without adequate infrastructure, facilities and services, and depend on traditional agriculture as a source of livelihood. Diversification of agriculture, creation of off farm employment opportunity, creation of conditions where the comparative resource advantages of particular regions can be fruitfully realized, and dealing with issues of gender and ethnicity, among others, is facilitated in the process of urbanization. While the nature and form of urban development may be debated, the fact that urbanization has to be an integral part of Nepal's development agenda can hardly be contested (CBS 2003).

Urbanization and development have been synonymous concepts to the extent that higher level of urbanization lead to higher levels of development. The structural changes in the economy that accompany the process of urbanization, and the demand and sustainability of higher levels of services and facilities that is possible with higher levels of income contribute to make urban areas locations with better levels of living. All human development and economic development indicators tend to be higher in urban than in rural areas.

Public Private Partnerships bring public sector (Central Government, District Development Committee, Municipality, and Village Development Committee) and private sectors (Formal and Informal Enterprises and entrepreneurs) together to achieve some compatible objectives through

sharing authority and responsibility, investing time and resources and sharing risks and benefits. In such partnership, there is also third party i.e. Civil Society (Communities, User group, NGOs) involved with important roles and responsibility of monitoring and advising for quality urban services to create the need of the people including the poor sections of the community. In this approach, the public sector plays the role of a facilitator and private sector carries the service providing role with reasonable profit. The required investment, management and technology will be offered from the private sector and the civil society has the vital role of monitoring and advising for the better services to the people. Active involvement of civil society is crucial to ensure that the benefits of PPP arrangements will reach the users especially urban poor. Despite the fact PPP is a highly feasible and alternative development modality in Nepal.

In recent years, the government seems to have realized the importance of private sector involvement in infrastructure development process which is apparent through the government's try to motivate private entrepreneurs as development partners. The concept of public private partnership is one of the examples towards the development of infrastructure in urban areas. The local self governance act 1999 delicate the responsibility of managing the urban area to municipalities but due to the lack of financial resource and experience, infrastructure and basic service delivery remain low and it degrades the quality of urban environment and quality of living. So the municipalities are facing increasing difficulties to addressing these demands due to the lack of funds and capabilities. Alternatives means should be enhanced to increase infrastructure development.

4.10 Why Public Private Partnership

To address high demand of infrastructure development, effective and efficient public service delivery is necessary because of rapid urbanization. The Public private partnership (PPP) is being one of the alternative developments that could address this demand to some extent with collaboration between public sector and private sector. PPP modality of development may become a bridge between both public and private sector. In addition, PPP offers an alternative modality of development that it combines

to the social responsibility, investment friendly environment, public accountability and risk minimization of the public sector; with the financial, technological and managerial efficiency.

Direct participation of the community also plays role for sustainable development of the project. It is also possible in PPP approach because it is bottom up approach. It may also address social norms and values which would pay an acceptable positive role to development activities in local level.

The emergence of this concept relates to the fact that rising demands with regard to the services that local citizens wish to be delivered are beyond the financial resources of the municipalities. So in the context of sustainable urban sanitation development PPP will be a suitable modality to sustainable development and efficient service delivery of public toilet.

CHAPTER V

CONCLUSOIN AND RECOMMENDATION

5.1 Conclusion

Public toilet is the key component of urban sanitation. It controls open defecate and helps to make city neat and clean. It helps to safe management of human excreta and urine. There is less public toilet facility in Butwal municipality. The existing condition of the public toilet is very poor. In Butwal municipality there are just 10 public toilets in different location of the municipality. Among them two public toilets are totally in closed condition which are in old bus park and Sothi (ward no-3), these are not in public use. Three toilets are in very good conditions in the sense of fee collection; they are Lumbini Bus Park public toilet, Chauraha and haat bazaar public toilet. These public toilets' fee collection ratio is more than Rs 800 to 1200 per day. Remaining public toilets are poor in toilet management Durga Mandir public toilet and hospital line public toilets are far from general people. Most of the toilets have no water availability in the cabin. Users are obliged to take water in bucket while they go to long toilet.

The space of the public seems adequate but the locations of some public toilets are not suitable which are far from public eyes. The condition of door in public toilet is not satisfactory, only 4 public toilets' door are in good condition. Remaining public toilets' door condition is very poor. On the other hand the ventilation condition of 4 toilets is very good and 3 toilets door is poor. Most of all, there is no an existing fan in public toilets. Only 6 toilets have electricity facility for night toilet and there is no electric bulb in separate room. Most of the public toilets are facing lack of adequate water. Among the 10 public toilets, 8 toilets are using pipe water as the source water.

Almost all toilets' surrounding environment condition is very poor except one or two toilet. In some toilet there is bad odor because of improper defecates disposal and waste around the public toilet. There is lack of maintenance of public toilets. It seems that the maintenance of toilet is not in minimum level. The common toilet cleaning utensil is phenol with water. In

most of all toilet, we can see stain of cough, urine and defecates stain on walls and pan. Most of the time the toilet floor is muddy and stain because of improper cleaning and leakage of water. Only two toilets are providing all toilet facility including bathing and washing facility. There are 5 employees working in public toilets But two employees get Rs.2500/ as monthly wages. So, low salary and insecurity of income make their life more vulnerable. The fee structure is homogeneous in all toilets. They get 2, 3 and 10 Rs from user for urine, latrine and bathing respectively. Only two public toilets provide bathing and washing facility. Beside the toilet cabin, 8 toilets have 30 taps. Most of the taps are not in use.

Most of the respondent prefer to the PPP approach for the development activities. Majority of the respondent prefer negation to the main criteria of partnership. For the private sector profit is the main criteria for partnership but municipality respondents are in favor of service delivery as main criteria for partnership.

Local community may be the best partner for public toilet management. Among the respondent majority of the respondent prefer high level public participation in construction and management of the public toilet. All respondent agree that there should be minimize of the risk factor in both context construction and management. To minimize the risk factor public, private and community should effort equal participation. There are so many obstacles that reduce the efficiency and effectiveness of the public toilets so they do no conduct service delivery to the public in proper capacity. These are public awareness, conflict, management, risk/security, maintenance, non paying users and perception on public toilet, thieves of public properties, location problems, present public rule and regulation, municipality policy on public toilets and location of public toilets. All of the respondent think that such kind of problems should be addressed.

5.2 Recommendation

The research was limited to Butwal municipality only. Although the dissertation has an innovative issue in the field of development and service delivery mechanism, there are still many more issues to be explored and

uncovered. Due to many limitations, this study has not been able to cover many areas. The researcher hopes the recommended areas will be helpful for the forthcoming researchers interested in urban sanitation and public private partnership in Nepal.

Followings are some of the recommendations for further study:

Although this study deals with the existing condition of the public toilet, suitability parameters for the location of the public toilet, potential PPP partners, potential investors but there is lack to deal with the phase of PPP implementation which would be included in further study.

During the phase of data collection the researcher used key informant checklist (KIS) with three: party municipality, businesses entrepreneur and BCCI. There are so many influential partners such as political parties, local representatives, community and NGOs which are not included because of various factors. So in the further study researcher may include them using other research techniques.

In this study the researcher includes objective study of the public toilets and PPP approach but in further study they may include behavioural and socio-economic aspects of those people who are directly involved (They may include livelihood vulnerability issue of the people).

During the course of this research, the researcher found that the PPP modality is most suitable in other sector such as water supply and distribution, road and transportation which are more feasible areas. The researcher recommends further study to be conducted in those sectors.

Followings are the some of the recommendations for Municipality and other PPP stakeholders

Municipality should create effective monitoring and evaluation mechanism to improve the urban sanitation.

Increase budget allocation for public toilet so that it helps to improve the quality of public toilets.

It should develop clear contract policy which helps sustainable management of public toilets.

Encourage private sector NGOs and community participation to manage public toilets.

To launch public awareness programs about urban sanitation, municipality should take initiation with other partners such as media, business entrepreneur, schools and campus students to keep city neat and clean.

References

- Baral, 2008, *Urban Infrastructure Development through Public Private Partnership: A Case Study of Kathmandu and Lalitpur*, M. Sc. Thesis, Department of Urban Planning, Tribhuwan University, Nepal.
- Brown, T.L, and M. Potoski, 2003, *Contract-Management Capacity in Municipal and Country Governments*. Public Administration Review.
- Cigler, Jansen, Ryan and Stabler eds, 1994, *Pre-Conditions for Multicommunity Collaboration; Towards an Understanding of Multicommunity Collaboration*, Department of Agriculture Washington, DC, U.S.
- Crook and Ayee, 2006, Urban Service Partnerships, 'Street-Level Bureaucrats' and Environmental Sanitation in Kumasi and Accra, Ghana: Coping with Organizational Change in the Public Bureaucracy, Development Policy Review, University of London, Institute of Commonwealth Studies, London.
- ENPHO, 2009, *Kathmandu: Public Toilets Few and Fetid*, Environment and Public Health Organization, Kathmandu , Nepal.
- HMG, 1999, *Local Self Governance Act 2055*, His Majesty Government of Nepal.
- K.C, 2005, *Public Private Partnership for sustainable Infrastructure Development: A Case Study of Kapan VDC*, M.Sc. thesis, department of Urban Planning, Tribhuwan University, Nepal.
- Kodrzycki, 1994, *Privatization of Local Public Services: Lessons for New England*, New England Economic Review.
- Lumanti 2003, *Poverty Profile: Butwal*, Lumanti Support Group for Shelter, Kathmandu, Nepal.
- Mohr, Halstead and Deller 2008, *Public-Private Partnerships, Cooperative Agreements, and the Production of Public Services in Small and Rural Municipalities*, New England Public Policy Center, Boston.

- MPPW/DWSS 2008, *Nepal Country Paper Sanitation*, Ministry of Physical Planning and Works, Department of Water Supply and Sewerage, Kathmandu, Nepal .
- Moss. J.M 2006, *Megacity Management: Development of Privation Sector*, City Alliance, City Without Slum & ADB. pp 277 – 303.
- NPC 1998, *The Ninth Plan (1997-2002)*, HMGN, National Planning Commission, Nepal.
- NPC 2002, *The Tenth Plan (2002-2007)*, HMGN, National Planning Commission, Nepal.
- NPC 2002, *Government's 3 Year Interim Plan (2007- 2010)*, GoN, National Planning Commission, Nepal.
- NPC 2007, National Urban Policy 2007*, GoN, National Planning Commission, Nepal.
- NPC 2008, *Social Capital Formation in Nepal: MDGs and Social Inclusion*, National Planning Commission, Nepal, pp 5-6.
- NPC 1996, *Nepal Living Standard Survey Report 1995-1996*, Central Bureau of Statistics/National Planning Commission Secretariat, Thapathali, Kathmandu, Vol. 2.
- Pantan 2003, *Public Private Partnership approach to Municipal Services in Nepal: A Case Study of Kathmandu Metropolitan City*, Master Degree thesis, Pokhara University, Nepal.
- Robert D. Mohr, John Halstead and Steven Deller 2008, *Public-Private Partnerships, Cooperative Agreements, and the Production of Public Services in Small and Rural Municipalities*, New England Public Policy Center , Boston.
- Robert and Kanaley 2006, *Urbanization and Sustainability in Asia*, City Alliance, City Without Slum & ADB, pp 13 - 14.
- Sapakota 2002, *The Good Governance through Public Private Partnership*, M. Sc. Thesis, Department of Urban Planning, Tribhuwan University, Nepal.

- Sharif 2007, *Toward the Spatial Justice in Urban Health Services Planning: A Spatial Analytic GIS-Based Approach Using Dar es Salam Tanzania as a Case Study*, International Institute For Geo- Information Science and earth Observation, Netherland, pp31 – 39.
- Satyal, Rajeev 2005, *In Quest of a Toilet in Kathmandu*, The Telegraph Weekly, Kathmandu, Nepal,
- Scott, R. E, 2005, *Achieving Sanitation at Scale: Innovative Approaches to Rural and Urban Sanitation* Well Resource Centre Network for Water, Sanitation and Environmental Health, London School of Hygiene and Tropical Medicine, London.
- UN-HABITAT 2006, *Human Values in Water, Sanitation and Hygiene Education Initiative Water for African and Asian Cities Programs: Towards a New Water Use and Sanitation Friendly Ethic in Society*, UN-HABITAT.
- UNDP 2006, *Human Development Report*, United Nation Development Programme, New York, Oxford University Press.
- UNDP 2000, *Human Development Report*, United Nation Development Programme, New York, Oxford University Press, 2006 ,p42.
- Water Aid Nepal 2006, *Water Aid Nepal Country Strategy 2005 – 2010*, Water Aid Nepal, Kathmandu, Nepal.



Some Photos about the Condition of Public Toilet.



Photo No. 1: Public Toilet in Haat Bazar

Photo No. 2: Public Toilet in Lumbini Bus Park



P
hoto No. 3: Condition of Door in Chauraha Public Toilet.



Photo No. 4: Condition of Taps In Lumbini Bus Park Public toilet.



Photo No. 5: Surrounding Area of Haat Bazar Public Toilet.



Photo No. 6: Surrounding Area of Haat Bazar Public Toilet.



Photo No. 7: Condition of Urine Pane and Sleet Janaki Nagar and Lumbini Bus Park Public Toilet



Photo No. 8: Line of Pots to fill water in front of Lumbini Bus Park Public Toilet.



Photo No. 9: Fee collector' Wife is Resting beside the Counter in Lumbili Bus park Public Toilet.



Photo No. 10: Fee Collector in Devi nagar Public Toilet.



Photo No. 11: Surrounding Area in Bus Park Public Toilet.



Photo No. 12: Waste Collection Station Around Old Bus Park Public Toilet.



Photo No.13: Users of Public Toilet in Janaki Nagar Public Toilet.



Photo No. 14: Pee in public place Nearby Chauraha Public Toilet.