LOCAL GOVERNANCE, FINANCIAL RESOURCES, AND SERVICE DELIVERY IN NEPAL

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in

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LETTER OF RECOMMENDATION

We certify that this dissertation entitled "**LOCAL GOVERNANCE, FINANCIAL RESOURCES, AND SERVICE DELIVERY IN NEPAL"** was prepared by Mr. Hem Raj Lamichhane under our supervision and guidance. We hereby recommend this dissertation for the final examinations by the Research Committee of the Faculty of Humanities and Social Science, Tribhuvan University, in fulfillment of the requirements for the Degree of **DOCTOR OF PHILOSOPHY** in ECONOMICS.

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APPROVAL LETTER

This dissertation entitled **Local Governance, Financial Resources, and Service Delivery in Nepal** was submitted by ***Mr. Hem Raj Lamichhane*** for the final examination by the Research Committee of the Faculty of Humanities and Social Sciences, Tribhuvan University, in fulfillment of the requirements for the Degree of DOCTOR OF PHILOSOPHY in Economics. I hereby certify that the Research Committee of the Faculty has found this dissertation satisfactory in scope and quality and has, therefore, accepted it for the degree.

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Date: July, 2021

DECLARATION

I hereby declare that this Ph.D. dissertation entitled **'Local Governance, Financial Resources, and Service Delivery in Nepal'** submitted by me to the Office of Dean, Faculty of Humanities and Social Sciences, Tribhuvan University, is an entirely original work prepared under the supervision of my supervisor, co-supervisor, and experts. I have made due acknowledgments to all ideas and information borrowed from different sources in writing this dissertation. The results presented in the dissertation have not ever been given and submitted anywhere else for the award of any degree or any other purpose. I have incorporated and addressed all the suggestions and feedback provided for the improvement in this dissertation by Internal Evaluators, Viva Experts, and External Experts/Evaluators and Research Committee members. The researcher has not published any part of the contents of this dissertation in the form of a portion of any book. I am solely responsible if any evidence is found against my declaration.

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ADDCN	Association of District Development Committees of Nepal
AF	After Election, 2017
APM	All-Party Mechanism
BCC	Banker, Charnes and Cooper
BF	Before Election, 2017
CACs	Citizen Awareness Centers
CBOs	Community Based Organizations
CBS	Central Bureau of Statistics
CCR	Charnes, Cooper and Rhodes
CDO	Chief District Officer
CEO	Chief Executive Officer
CEDECON	Central Department of Economics
CIAA	Commission for the Investigation of Abuse of Authority
CLGF	Commonwealth Local Government Forum
COLS	Corrected Ordinary Least Squares
CPI	Consumer Price Index
CRS	Constant Returns to Scale
CSOs	Civil Society Organizations
DAG	Disadvantaged Group
DDCs	District Development Committees
DEA	Data Envelopment Analysis
DW	Durbin-Watson
DMUs	Decision Making Units
FCGO	Financial Comptroller General Office
FDH	Free Disposable Hull
FGT	First Generation Theory
FY	Fiscal Year
GDP	Gross Domestic Product
GNI	Gross National Income
GoN	Government of Nepal

GOs	Government Organizations
GTE	Global Technical Efficiency
HDI	Human Development Index
HH Index	Herfindahl Index
HMG	His Majesty's Government
HPI	Human Poverty Index
IGFT	Inter Governmental Fiscal Transfer
KMO Test	Kaiser-Meyer-Olkin
LBFC	Local Body Fiscal Commission
LDF	Local Development Fee
LDTA	Local Development Training Academy
LGAs	Local Government Associations
LGCDP	Local Government and Community Development Programme
LGOs	Local Government Organizations
LGs	Local Governments
LPTE	Local Pure Technical Efficiency
LSGA	Local Self Governance Act
LSGAR	Local Self Governance (Administration Regulation)
MC	Minimum Condition
MoF	Ministry of Finance
MoFAGA	Ministry of Federal Affairs and General Administration
MoFALD	Ministry of Federal Affairs and Local Development
MoLD	Ministry of Local Development
MI	Malmquist Index
MPI	Malmquist Productivity Index
MuAN	Municipal Association of Nepal
Muns	Municipalities
NAVIN	National Association of VDCs in Nepal
NGOs	Non-Governmental Organizations
NLSS	Nepal Living Standard Survey
NPC	National Planning Commission
NRB	Nepal Rastra Bank
NRs.	Nepalese Rupees

OAG	Office of Auditor General
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
OSR	Own Source Revenue
PBF	Performance Based Funding
PCII	Per Capita Income Index
PIM	Performance Improvement Management
PM	Performance Measurement
PRAN	Program for Accountability in Nepal
PPP	Purchasing Power Parity
SE	Scale Efficiency
SFA	Stochastic frontier analysis
SGT	Second Generation Theory
SNGs	Sub-National Governments
SURVQUAL	Service Quality
TFP	Total Factor Productivity
TU	Tribhuvan University
UCLG	United Cities and Local Government
UNCDF	United Nation Capacity Development Funds
UNDP	United Nations Development Programme
VDCs	Village Development Committees
VIF	Variance Inflation Factor
VRS	Variable Returns to Scale
WB	The World Bank
WCFs	Ward Citizen Forums

ABSTRACT

The key objectives of the research are: to examine the functional assignment and budget provisions of local government, to analyze the influence of local levels expenditure on HDI and service delivery performance of municipalities and District Development Committees (DDCs), to explore relative efficiency of service delivery of DDCs and municipalities, to compare the perception and expectation of citizens about the service quality of local governments in Nepal. The researcher has used the secondary data of 75 Districts/DDCs and 58 municipalities in the study. The theoretical perspective of local governance, public service delivery, fiscal decentralization (Chapter Two), and constitutional and legal provisions, practice of functional assignment and budget provision of Local Governments (Chapter Four) have been reviewed to address the first objective of the study .

The average district expenditure of the last five fiscal years from FY 2009/10 to 2013/14, per capita income index (PCII) at PPP$ and human poverty index (HPI) have been used as the independent variable, and the district level Human Development Index (HDI) of 2014 has been used as the dependent variable as a proxy of public service delivery output of local governments. Moreover, five years' total capital expenditure, recurrent expenditure, Local Government and Community Development Program (LGCDP) Expenditure of DDCs from 2011/12 to 2015/16 have been used as predictor variables and HDI, 2014 has been used as a dependent variable to address objective two of the study. The three ecological regions (Mountain, Hill, and Terai) and Seven Provinces have been represented by the use of Dummy variables. The ordinary least square (OLS) method has been used for regression analysis. Maximum likelihood estimation in the ordinal logistic regression (often just called 'ordinal regression) model has also been tested to examine the association between score of performance measurement and capital, recurrent, LGCDP expenditure and OSR of DDCs. Similarly, to address objective two, panel regression model has been estimated to observe the relationship between score of performance measurement and per capita LGCDP, recurrent, LDF expenditure and OSR of municipalities.

The Data Envelopment Analysis (DEA) technique has been used to measure the relative efficiency of the 75 DDCs and 58 municipalities. The Score of Performance Measurement and Own Source revenue of DDCs and Municipalities have been used as output variables and the various expenditures have been used as input variables to measure the relative efficiency of DDCs and municipalities, respectively. This model has been estimated to address the third objective of the study.

Citizen's satisfaction level of service delivery of local governments and expectation and perception of service delivery quality has been estimated using primary data collected from the field survey. The service quality (SURVQUAL) approach was designed to capture the citizen expectation and perception has been used. Purposively, three districts, namely Rasuwa, Lamjung, and Parsa, had been selected for the field survey. The researcher met 282 respondents and were interviewed during the field survey. The field survey was conducted to address the fourth objective of the study.

There is a significant positive relation of per capita income index and average district expenditure on HDI. However, there is a negative relation of human poverty index on HDI (Table 5.6). The capital expenditure of DDCs found significant to explain HDI. The LGCDP expenditure was found significant with negative coefficient. It means higher the LGCDP expenditure lowers the HDI. But own source revenue was not found significant to explain HDI (Table 5.9). The insignificant contribution of own source revenue to HDI might be the cause that the own source revenue was generally used for recurrent expenditure (administrative expenditure) rather than capital and development expenditure by most of the DDCs. Therefore, the result of regression analysis is rational and normal.

The ordinary regression model shows that own source revenue (OSR) and recurrent expenditure of DDCs and Hill are found statistically significant, but capital expenditure, LGCDP expenditure, and Mountain region were found statistically insignificant. (Table 5.13). The own-source revenue and recurrent expenditure were used for administrative expenses. This type of expenditure is supported to enhance the performance of DDCs.

The result of the panel regression model for Municipalities shows that the fixed effect model was found appropriate. The probability value shows per capita LDF expenditure and the per capita capital expenditure were found statistically significant at a

5 percent significance level under fixed effect model. However, the per capita LGCDP and per capita recurrent expenditure were found insignificant to explain the performance of municipalities. (Table 5.15).

The five fiscal years' average technical efficiency score is found to be 79.66 percent. In FY 2015/16, only 15 percent (11) DDCs were found to be 100 percent efficient, and the remaining 85 percent were found inefficient (Annex 13). From FY 2011/12 to 2012/13, 40 percent DDCs were found having MPI>1 (Annex 14). The result of the measurement of the relative efficiency of DDCs shows that Parbat DDC has the pure efficiency change value of 1.71, the highest in the sampled 75 DDCs from FY 2014/15 to 2015/16. It means that efficiency had increased by approximately 71 percent in FY 2015/16 relative to FY 2014/15 (Annex 15).

The three-dimensional (i.e., responsiveness, basic service, and tax policy) service quality (SURVQUAL) estimation in a 5-point Likert scale has been conducted. The estimation result shows that the responsiveness (for before, mean =3.48, and for after, mean =3.61) seems positive due to a local election held in 2017. The basic service (for before, mean = 2.79, after, mean 2.89) is also tending towards the improvement due to the same cause though the people do not seem not very satisfactory. However, tax policy (before mean=3.56 and after mean=2.87) has seen some different scenario. Them mean value of after election is less than the mean value of before election. The new tax policy of local government has negative impact on tax payers' perception. It is because the new tax policy has focused on increasing tax rate rather to expanding tax base and coverage (Table 6.5).

CHAPTER I: INTRODUCTION

1.1 Background

The history of democracy is not so long in Nepal. It was started after the enactment of the Interim Constitution in 1950. Nevertheless, a decentralized local governance system was initiated in Nepal after the restoration of Democracy in 1990 (Khanal, 2006). The Local Self Governance Act (LSGA), 1999, had explicitly stated the two levels of local government viz. Village Development Committees in rural areas and Municipalities in urban areas and District Development Committees (DDCs) at district level (GoN, 1999). As there were many implications in the implementation of LSGA, it was considered as the breakthrough in favor of decentralization in Nepal's history. However, after the termination of the five years' tenure of the elected representatives in local governments from July 2002, there was no existence of representation of elected representatives in local governments bodies in Nepal.

Local governance is a service delivery system and instrument that is a set of institutions, mechanisms, and processes through which general people and their interest groups can express their interests, share their opinion and claim their needs. The citizen also puts their differences, and exercise their fundamental rights and responsibilities at the local level. The fundamental characteristics of good local governance mainly are citizen participation in the decision-making process, partnerships among major actors and stakeholders at the local level. It also helps to enhance the capacity of local actors across all sectors, and it ensures multiple flows of information. Moreover, it helps to institutionalize the accountability system and promote some pro-poor oriented activities for the advancement of communities (UNDP, 2004).

Primarily, local governance emphasizes establishing a legal foundation and ensures local government entities are more responsible and accountable. It promotes both formal and informal relationships between different development stakeholders such as local government, the private sector, NGOs, associations, de-concentrated agencies, CSOs, and It helps to shape and influence the output and effectiveness of political and administrative systems at a sub-national level. There is a large degree of cooperation and consistency

between national governance processes and local governance, as many of the aspects are, in fact, the same. Therefore, it is very necessary to institutionalize the local governance system to ensure citizen participation in the decision-making process through strengthening local governance processes at the grass-root level (UNDP, 2004).

The financial resource or resource mobilization refers to the collection and utilization of own-source revenue and transfer from the higher level of the government ,especially, from the central government. The financial resource is one of the prerequisites to achieve the desired goals of the society. The resources are the input that the organization can either convert into product or service or increasing its capacities (Axin, 1978). The theory of fiscal federalism says that fiscal decentralization is one of the mechanisms within the theory of fiscal federalism (Musgrave, 1959). The fiscal decentralization helps to ensure the allocation and assignment of different tasks to different tiers and spheres of government (Oates, 1972). Fiscal decentralization ensures to give full authority to the local governments to implement economic activities in their jurisdiction and locality. It ensures defining the fiscal responsibilities of the different levels of governments. It also involves fiscal instruments and procedures that have the aim of helping in the delivery of public goods to the citizen (Bird, Ebel, and Wallich, 1995). Fiscal decentralization is the process of devolution of the power and authority that is associated with the decision-making process to a lower-level government (Akai & Sakata, 2002). Moreover, in the recent decade, fiscal decentralization has become a major instrument and mechanism for promoting economic growth (United Nations, 1991; Oates, 1994). Fiscal federalism is the important concept of good governance. The basic precondition of fiscal federalism is a clear-cut assignment of revenue and expenditure responsibilities among different tiers of governments i.e., central, and sub-national (state and local) governments (Sharma, 2009).

Decentralization is the assignment of public functions to the local governments for promoting local wellbeing at the local level. Decentralization is conventionally understood as the assignment of public functions to sub-national governments to meet specific goals along with necessary structures, systems, mechanism, resources, and procedures. However, there is an emerging broader view about decentralization that focuses on empowering autonomous local governments to meet the overall responsibility of the welfare of their constituencies. It helps and ensures improving the development results at the local level.

However, the results of the local governments are influenced by the various factors such as ways, extent, mechanism, service delivery, poverty reduction, fiscal improvement, participation, inclusion, voice, transparency, peace, and political stability accountability and responsibility and so on (UKAID, 2014).

The primary outcomes of the decentralization are to improve service delivery (effectiveness, efficiency, and equity) and improve governance (deepen and more inclusive). Its intermediate outcomes are the new legal and fiscal framework, capacity building of local government and civil societies, better accountability (top to downward and horizontal) through the election and other means, and enhancing citizen's capacity. System development outputs and processes are local control over human resources, budget and financial management, fiscal reform, and revenue power to local governments (UKAID, 2014).

The decisions in government reached quite differently from those in the private economy. Supply and demand in markets determine the spending and production decision in the private sector. In contrast, the decisions in the public sector are made through the political processes which involve an element of compulsion. In the market economy, an individual is free to purchase or not to purchase. Still, once the government decides to supply some service, all individuals are compelled to share in paying for it through taxation.

"Service delivery" is a commonly used phrase that defines the allocation of available resources to the citizens for the basic service delivery sectors such as education, health, water supply, sewerage collection and disposal, street lighting, electricity, sanitation, infrastructure (road, building, bridge etc.), irrigation, land, and housing, etc. A principle and policies are basic sets of the service delivery framework (SDF) that is used to guide the design, development, and operation of services delivered by a service provider with a view to offer a consistent service experience to a specific user community in a specific context. Principally, the governments are responsible for ensuring that all citizens are provided services to satisfy their basic needs.

Some previously conducted studies have justified that central governments have failed to adequately provide the expected levels of economic growth, income distribution,

poverty alleviation, and provision of public goods and services (Oates, 1972). Poverty is a multidimensional issue caused by various factors such as low income, illiteracy, ill health, gender inequality, and environmental degradation. One of the major responsibilities of a nation is to provide basic services to the poor people such as health and education, but many local governments are failing short of their obligation, especially to the poor (The World Bank, 2004). Irrespective of nationality or territorial legislation, every person in the world has some basic right ,which others should respect that is a human right. It is very important instrument for fighting against torture, suffering and distress, and arbitrary imprisonment or sentence to demanding the end of hungry and medical neglect (Sen, 2004).

To promote economic growth and provide public services, the local governments require a lot of funds through taxation to invest in their economic growth. However, the problem of taxation is that it could ultimately lead to a decrease in economic growth. When the government levies taxes to the people, the disposable personal income will start to decrease, and people start to spend less since their purchasing power also decreases, and it leads to reduced economic growth. Both the Central governments and other local governments should focus on their annual program and budget to increase their economic growth. The main responsibility of the local governments is to search for the necessary resources to sustain their local economies. There are several means in which local governments can promote economic growth in their local communities. However, the efforts of local governments in Nepal to generate additional own source revenue through tax and non-tax revenue is not satisfactory (LBFC, 2015).

The Ministry of Federal Affairs and General Administration (MoFAGA), formerly known as Ministry of Federal Affairs and Local Development (MoFALD), is responsible for strengthening local democracy and promoting the economic activities through various programs and projects including local governments' activities at the grass-root levels. The prior Village Development Committees, District Development Committees, and Municipalities had been used as service delivery units at the local level. Moreover, the Ward Citizen Forums (WCFs), Citizen Awareness Centers (CACs), NGOs, and civil society organizations (CSOs) used to engage as oversight agents for ensuring effective and transparent service delivery at the local level in Nepal.

Some key institutions were established to facilitate and implement the various activities to promote inclusive and participatory local governance. Mainly, National Dalit Commission, Muslim Commission, Baudha Darsan Promotion and Buddhist Monastery Development, Dalit Community Promotion Development Committee, Backward Community Promotion Development Committee, Marginalized, and Dalit Promotion Development Committee, Endogenous/Janajati Promotion National Academy, Local Body Fiscal Commission (LBFC) and Local Development Training Academy (LDTA) were functional under MoFAGA.

MoFAGA had implemented various programs and projects such as vital registration, senior citizen, single woman, disabled and marginalized community promotion programs, local infrastructure development and agriculture road program, food crisis addressing program, and rural drinking water and sanitation program. Similarly, the ministry had carried out other programs such as rural water resource management project, rural reconstruction and rehabilitation program, rural community infrastructure development program, local transport infrastructure sectoral program, suspension bridge sectoral program, district road support program, people participation development program, rural access improvement decentralized program, decentralized rural infrastructure livelihood improvement program, remote and particular area development program. Moreover, it had conducted a child-friendly local governance program, environment-friendly local governance program, Karnali employment program, western Nepal rural drinking water and sanitation program, new knowledge and skill through local initiatives program, local infrastructure program for livelihood improvement, community irrigation project, Karlali and Karnali adjacent special program, marginalized Tarai-Madesh particular program. Other programs such as small irrigation, river control, and other infrastructure programs, golden thousand-day program, eastern Chitwan river management, and livelihood program, inclusive economic development program, national rural transport improvement program, local road improvement program, Bishesor with the poor program, multi-sectoral nutrition program, and constituent development program had been conducted through the ministry (MoF, 2015a).

As per the provision of LSGA, 1999, the local bodies had the right to collect and utilize their own source revenue (OSR). However, local bodies used to receive both

conditional and unconditional capital and recurrent grants to perform and execute their annual program approved by their respective council annually. The local bodies (DDCs and municipalities) used to receive grants (authorization) directly from the Ministry of Federal Affairs and Local Development (MoFALD). However, VDCs used to receive grants (authorization) from respective DDCs. In addition to the own-source revenue and a government grant, local governments used to receive grants/funds from development partners and other institutions to implement various development programs and projects.

1.2 Statement of the Problem

It was said that the proclamation of the Local Self-Governance Act (LSGA) in 1999 was a significant step towards the establishment and promotion of the decentralization system in Nepal. According to the fundamental principles of the Local Self Governance Act, 1999, power was devolved to the local level to make the local bodies more responsible and accountable for effective service delivery in Nepal. Moreover, various programs had been implemented to strengthen the institutional mechanism of local bodies to make them capable in terms of service delivery at the local level (GoN,1999). The Local Governance and Community Development Programme (LGCDP) was designed and implemented to improve people's standards of living through citizen-centric governance and effective service delivery and to maintain the macroeconomic stability through the continued high growth.

However, because of the continued political instability in the country and the absence of elected representatives in local government bodies such as Village Development District Development Committees (DDCs) and Municipalities from mid-July 2002 to the Local Election in 2017, the process of decentralization in Nepal was severely disrupted. During that period, there was a slow pace and step in proper utilization of available funds for service delivery (MoFALD and ADDCN, 2012).

Despite the provisions and institutional mechanisms of service delivery, time-relevant qualitative services could not be delivered as expected due to the lack of solid security measures at the local level, lack of employees in conflict areas, and absence of elected representatives in local governments (MoF, 2015b).

Despite the Government's effort to enhance service delivery capacity and level compliance of DDCs and municipalities, their performance in MCPM results was not satisfactory. Some of them failed to secure minimum pass marks. Also, there was a vast gap in the Human Development Index among the districts (LBFC, 2015). Moreover, the satisfaction level of the citizens about the performance of the DDCs and municipalities were not found to have improved.

With the promulgation of Nepal's New Constitution 2015, a three-tier governance system, namely federal, provincial, and local levels, was introduced in Nepal. Based on the recommendation of the Local Body Restructuring Commission, the Government of Nepal declared and determined 753 local governments in Nepal. The new Local Levels (Local Governments) were formed by replacing the existing cities and Village Development Committees and came into existence on 10 March 2017. After the restructuring of local government, the local election was held in three phases on 14 May, 28 June, and 18 September 2017 in Nepal. It happened after a long gap in the local election, and it was about 20 years from 1997. It was the first local-level election since the promulgation of the New Constitution of Nepal in 2015. That is why people had more expectations of quality service delivery from the local government after the election. But it seems that due to the lack of sufficient human resources and lack of necessary federal, provincial, and local laws, the local governments have not been able to fulfill the demand of citizens. Therefore, this study tries to compare the level of citizens' satisfaction with service quality before and after the local election and to examine the gap between the citizens' expectations and perceptions about the service quality of sampled local governments.

1.3 Research Questions

This study aims to seek the answers to the following research questions. The research questions are formulated based on the explanatory, descriptive, correlational, comparative, and causal types.

1. What are the legal provisions of functional assignment and budgetary provisions of local governments in Nepal?
2. How does the local governments' expenditure contribute to HDI and service delivery performance in Nepal?
3. To what extent are the local governments relatively efficient in maximizing output for a given input level in Nepal?
4. Why is public service delivery not effective at the local level?

1.4 Objectives of the Study

The general objective of the study is to review and analyze the governance system and service delivery mechanism of the local government of Nepal, while the specific objectives of the study are as follows:

i. To examine the functional assignment and budget provisions of local governments in Nepal,
ii. To analyze the influence of local levels expenditure on HDI and service delivery performance of local governments in Nepal,
iii. To explore the relative efficiency of service delivery of local governments in Nepal,
iv. To compare the perception and expectation of citizens about the service quality of local governments in Nepal.

1.5 Hypotheses of the Study

The hypothesis is a tentative answer of the research question. The following conceptual hypotheses have been developed and tested to predict the research finding.

The conceptual hypotheses of the study are as follows:

(a) **Hypothesis One:** The average district expenditure has a significant influence on HDI.
(b) **Hypothesis Two:** The total capital expenditure, LGCDP expenditure, and Own Source Revenue of DDCs significantly influence HDI.
(c) **Hypothesis Three:** The total capital expenditure, LGCDP expenditure, recurrent expenditure, and Own Source Revenue of DDCs, have a significant influence on the DDCs' performance.

(d) **Hypothesis Four:** The total capital expenditure, LGCDP expenditure, recurrent expenditure, Own Source Revenue, and LDF expenditure of municipalities have a significant influence on the municipal performance.

1.6 Significance of the Study

The political setup of Nepal has radically transformed from a unitary system to a federal democratic republic. The Constitution of Nepal has guaranteed the expenditure assignment and revenue power of all three levels of government, namely the Federal, State, and local level. There is a new experience of implementation of federalism in Nepal. The existence of the State governments is the new arrangement in Nepal under federalism. The restructured local governments such as rural municipalities and municipalities have specific expenditure assignments and revenue responsibility by Constitution. However, there are many ambiguities regarding the proper execution of shared responsibilities between the province and the local government. In this circumstance, there is a vast knowledge gap for handling the federal system in Nepal. Thus, this study can explore the fundamentals of local governance and fiscal federalism that would be useful for the policymakers and elected representatives for the smooth execution of the federal system and service delivery with the principle of subsidiarity.

The relative efficiency of DDCs and municipalities have been measured using the Data Envelopment Analysis technique. It indicates a relative performance level of a decision-making unit (DMU) based on its inputs and outputs with others in the collection. The Malmquist Productivity Index has been calculated to examine the changes in the total productive of DDCs and municipalities over time. The results show the production technologies of the two economies and tell the areas of efficiency improvement. It also helps to implement the capacity development program to improve the efficiency of the less efficient local governments. Therefore, this study would be helpful for researchers interested in studying the relative efficiency of any sector, i.e., banking and financing, local and provincial governments, hospitals, education, etc.

Although the sample size of the field survey is not so large, the findings reflect the scenario of the satisfaction level of right holder citizens about the service quality of local government. Moreover, the survey finding mirrors the mean difference between

expectation and perception of the citizen towards local government service delivery before and after the local election in 2017. This finding would support the newly restructured local government to improve their service quantity and quality to address the aspiration and desires of the grassroots residents.

Finally, this research has produced a particular knowledge about local governance, fiscal federalism, and the service quality tool of local government. So, the study results might have implications for policy and future project implementation in the area of the improvement of good governance mechanisms and capacity development of local and provincial governments in Nepal.

1.7 Limitations of the Study

The scope of the study is limited to the mobilization of financial resources and service delivery status of local governments (former DDCs and municipalities) of Nepal. Although I/NGOs, CSOs, and COs are also active players in the provision of service delivery and their involvement is vital in delivering services, the present study has not attempted to underscore ways and means to synergize their efforts towards expanding public services.

The researcher has limited the study to available data and information of the municipalities and DDCs before the restructuring of local government in 2017. However, after the restructuring of the local bodies, there are now 77 districts and 293 municipalities (6 Metropolitan cities, 11 Sub-metropolitan cities, and 276 municipalities) and 460 rural municipalities in Nepal. But the data of 75 districts and 58 old municipalities have been used to analyze the models and relative efficiencies of local government in Nepal. Because of the unavailability of data, the recently formed and restructured District Coordination Committees (DCCs), Municipalities, and Rural Municipalities have been excluded from the study.

Due to the lack of data, this study has not been able to capture the sectoral output such as basic health, education, road construction, drinking water, waste collection and sanitation and so on through the investment or expenditure of the local governments. So, district-level HDI and score of performance measurement are used as a proxy of service delivery output of local governments in Nepal. Due to the time and resource constraint, the researcher limited the sample size for field survey in two rural municipalities and one

municipality representing different ecological zones, i.e., mountain, terai and hill districts, respectively. This study has assessed the association between dependent and independent variables using secondary data. The study has explored the significant inefficiency causes of service delivery at the local level using primary data collected through personal and group interviews with experts and community people with both open and close-ended questionnaires.

1.8 Chapter Plan

This study has been divided into Seven Chapters. The First Chapter has covered the general introduction, statement of the problem, the significance of the study, research questions, objectives, hypotheses, and limitations.

The Second Chapter is devoted to the review of relevant literature. The theoretical perspective of fiscal decentralization (first-generation and second-generation theory), the relationship between service delivery and local governance, decentralization, federalism, fiscal decentralization, public expenditure, revenue assignment, inter-government fiscal transfer, and sub-national borrowing have been reviewed. Moreover, crucial components of service delivery such as service delivery for development and social well-being, transparency and accountability, performance-based grant system, representation and participation, effectiveness perspective have also been reviewed. Furthermore, empirical studies carried out by various scholars and institutions have also been examined.

The Third Chapter describes the research methodology of the study. The research methodology includes the selection of sample DDCs and municipalities, methods of primary data collection, sources of secondary data, period of study, a brief description of dependent, independent, and dummy variables, measurement of fiscal decentralization (such as revenue and expenditure decentralization), autonomy and accountability decentralization. In addition, it also includes the use of data set, analysis of various models such as OLS, fixed and random effects model, and the Hausman's specification model, the VRS model, and Malmquist Index have also been estimated.

The Fourth Chapter deals with the practice of local governance and budgetary provision of local government in Nepal. More specifically, the evolution of the local governance system and service delivery mechanism from 1950 to 2015 has been presented.

Legal foundations and bases of local service delivery in Nepal have been reviewed. This chapter covers the service delivery mechanism, provision of local governments as service delivery units at the local level, and fund flow system. Moreover, personnel management, local planning, social mobilization, and citizen participation, the practice of fiscal decentralization, expenditure, and revenue assignment to local governments have been covered in this chapter. This chapter also covers the inter-governmental fiscal transfer, total national budget, and local bodies' grant, mechanism to maintain good governance and service delivery, performance-based grant system, transparency and accountability in service delivery, the status of public service delivery have been reviewed and analyzed.

The Fifth Chapter presents the results and discussion of the secondary data analysis. The empirical analysis and results of different models have been presented in this Chapter. The basic regression models, robustness checks, and the measurements of fiscal decentralization, the relative efficiency of service delivery of DDCs and municipalities have been estimated and explained briefly.

The Sixth Chapter is related to the results and discussion of the field-level survey data. To capture the opinions of demand and supply sides of the service delivery, the satisfaction level and expectation and perception of the citizen, before and after local election, 2017, using 5-points Likert scale, has been analyzed which was collected by using checklist and questionnaires in the sampled local levels. The opinions of the supply side of service delivery, such as Mayor/Chairperson, Deputy Mayor/Vice-Chairperson, Chief Administrative Officers, and Ward Chairs, have also been presented. Moreover, the expectation and perception of the service delivery of local governments have also been analyzed, and results have briefly been presented in Chapter Six.

Finally, the Seventh Chapter includes key findings, conclusions, recommendations, policy implications, and areas of future study. The necessary supporting information, i.e., financial data related to the used variables, checklists, questionnaires used for the field survey, and detailed analysis results of the relative efficiency of DDCs and municipalities, have been presented in the Annexes.

CHAPTER II: REVIEW OF LITERATURE

Reviewing the literature, to the extent possible, essential and significant legal documents, books, previous studies, and research articles related to the topic have been reviewed. This chapter has captured several areas related to fiscal decentralization, local governments' finance, and public service delivery. The theoretical, empirical, and practical parts of performance-based grant systems, fiscal decentralization, and service delivery are broadly reviewed. The processes and conclusions of the documents are taken as the guiding principle of the study and tried to identify the research gap. In an attempt to do so, processes, findings, and recommendations of the previous works/researches undertaken by the scholars, government reports, and other materials have been presented systematically and analytically.

2.1 Theoretical Perspective

The theoretical perspectives have been reviewed as follows:

2.1.1 Local Governance and Service Delivery

If there is no form of government or law in place, no one's life, liberty or property would be safe and protected. Therefore, people agree to form a government to protect their life, liberty or property in the right way. He further says that there will be no government exist until people create them (Locke, 2008). In political theory, John Locke refuted the theory of the divine right of kings, and he put his argument that all persons are gifted with natural rights to life, liberty, and property. If the rulers are not able to protect the natural rights of persons may be removed by the people by force if necessary (Mijuskovic, 2016). According to Plato and Aristotle, democracy is a lousy form of government, and aristocracy is the best form of government. It is because the aristocracy can provide capable leadership and prepares people for this task (Aliu, 2018).

Governance is a system and process by which public policy decisions such as laws, regulations, and programs, and budgets are made and implemented for the betterment of citizens. It is the result of interactions, relationships, and networks between/among the different stakeholders such as government, public sector, private sector, and civil societies.

It involves decisions, negotiations, and other power relations between/among stakeholders to determine who gets what, when, and how. The relationships between the government and different sectors of society determine the provision of service delivery. It is, therefore, governance is much more than government or 'good government.' It helps shape the way or set of planned, managed, and regulated services within a group of political, social, and economic systems. The concept of 'good governance' at local levels denotes the quality, effectiveness, and efficiency of local administration and public service delivery. It also includes the quality of local public policy and decision-making procedures, inclusiveness, transparency, and accountability, and how power and authority are exercised at the local level (UNDP, nd.).

In many pieces of literature, the concept and perception of local governance and decentralization are generally used interchangeably. The decentralization is primarily determined by law that includes a national political, legislative, institutional, and fiscal process and decision. The local governance can be affected by decentralization processes. The local governments are expected to provide services formerly at the grassroots level. The decentralization, representative or participatory democratic processes, transparency, and accountability are the essential characteristics of 'good' local governance are or (UNDP, nd.). The capability, resources, and the motivation of frontline service providers are the key factors that help determine the effectiveness of public service delivery of local government (The World Bank, 2014).

The government is a representative body of citizens by law that manages, administers, takes care and maintains the rule of law in the community and provides public goods and services for the sake of citizens' benefit. It prepares and administers public policies and exercises constitutional and legal power, i.e., executive, political, and sovereign, through customs, institutions, and laws within a state (www.businessdictioonary.com). The local governments are the closest to the citizen and lower levels of government. They are responsible for the matters related to the communities and society (www.goodgovernance.org.au). The local government is defined as a specific institution or an entity provisioned in a national constitution like in Brazil, Denmark, France, India, Italy, Japan, and Sweden. There is also a provision of local government in state constitutions in Australia and the United States. It is also provisioned in ordinary

legislation of a higher level of the central government in New Zealand and the United Kingdom. In Canada and Pakistan, provincial or state legislation has made provisions about the local government. In China, through executive order, local governments are functional. The local governments have to deliver a variety of quantified services to a relatively small geographic area. However, local governance is a broader concept and is defined as the formulation and execution of collective action at the local level (Shah & Shah, 2006).

The concept of good governance can be institutionalized through public sector reform. Several studies say that good governance can be sustained only by a democratic government. The legitimacy and transparent nature of government will determine the degree of good governance (Singh, 2007).

Service delivery at the local levels is the function of two factors – the demand and supply. Demand for services emerges from the awareness of the service receivers to place their demand and pressurize the providers for the same. However, the supply side, on the other hand, is largely determined by the organizational capacity and the resources of the responsible institutions for the service delivery. Local governance plays a pivotal role in both generating demands from citizens as well as in influencing supply factors at the local level. Hence, the relationship between the participatory, transparent, and accountable local governance and the status of service delivery and its quality is widely recognized (Perry, 1997).

The governance is, as a government's capability, to promulgate and bring into force rules and carry our service delivery, regardless of whether that government is democratic or not. The quality of states can be assessed through the executive branches and their bureaucracies. The quality of state is broadly based on bureaucratic modernity, capacity measures, which include both resources and degree of professionalization, and measures of bureaucratic autonomy. It is fundamentally used capacity and autonomy as a measure of executive branch quality. This framework is a description of the conundrum of why low-income countries are advised to lessen bureaucratic autonomy while high-income ones seek to intensify it (Fukuyama, 2013).

The sequential theory describes decentralization as a means of a process of policy reform that aims at transferring responsibility, resources, and authority from the higher

level to the lower level of government. It addresses the territorial interests of the citizen, and it promotes the self-motivated justification of institutional development (Falleti, 2004). Fiscal decentralization theory says that decentralization leads to a higher level of political participation (inclusive participation of all communities), and helps to increase accountability and administrative and fiscal efficiency (Oates, 1972, 1977; Weingast, 1995; Wiesner, 1992). However, the criticism of fiscal decentralization is that decentralization leads to soft-budget constraints, macro-economic instability, clientelism, and extension of bureaucracies (Cornelius and Hindley, 1999; Fox and Aranda, 1996; Rodden, 2000; Rodden and Wibbels, 2002). However, both approaches assume an increase of sub-national officials' power as its outcomes, whether good or bad (Falleti, 2004).

According to the theory of public value, public services are distinctive because they are characterized by claims of rights by citizens to services that have been authorized and funded through some democratic process. In simple terms, public value poses three major concerns about public services. They are the role of the organization, accountability of service providers, and the measuring rod of effective service delivery. Moreover, the theory says that the managers and staff should have a clear view of the broad objectives of public organizations for which they work. The public managers, as well as politicians, have to obligate, explain and justify what they do for the citizen (Coats and Passmore, 2008).

Successful public service delivery depends on a continuous dialogue with citizens, who should be thought of as stakeholders on a par with government, experts, industry representatives, the media, the judiciary and service users. In the language of public value, organizations must, therefore, seek democratic legitimacy for their actions by engaging with their ‘authorizing environment’ Public service reform theory says that ‘reform’ is usually needed to eliminate abuses, reduce inefficiencies or address other sources of inadequate performance. Simply expressed, public value is the analog/equivalent of the desire to maximize shareholder value in the private sector (Coats and Passmore, 2008). The service result is oversupply and inefficiency if public officials monopolize service delivery. By contrast, if the public services are contracted out, it leads to improved performance for service delivery because of the pressures of a competitive market. The empirical studies also have justified that there will be a higher efficiency of service delivery if services are contracting out. (Boyne, 1998).

The biggest challenge of the world is to improve the service delivery to the citizen. Public services are a key determinant of quality of life that is not measured in per capita income. The private sector can provide private goods efficiently, and the public sector can provide public goods and services. For that, the public sector uses taxes or subsidies to correct externalities. The public sector alone can't intervene in all the areas of service delivery, so numerous organizational alternatives such as public-private partnership and contracting out have been considered very important. Moreover, NGOs are playing important roles in filling up the vacuum created by the twin problems of government and market failure (Besley and Ghatak, 2007).

The public service delivery, particularly to poor people in a rural or urban area, has never been good, and part of the problem is undoubtedly one of rising expectations. But by being a citizen of any country, people are entitled to receive services from the state. Therefore, the crucial responsibility of the government is to provide public services. However, privatization is the solution to the crisis of public services. Generally, it is argued that private enterprises are necessarily more efficient than government-owned enterprises (Harper, 2000).

The working environment, the nature of informal relationships, and the incentive system are the workplace characteristics that may also determine the relationships between employees' public service motivation and performance. Formal and informal organizational practices and experiences shape employees' beliefs about the terms of the relationships between the employees and the organization (Rousseau and Greller, 1994) and how employees perceive those organizational practices are supportive of their values.

2.2 Different Perspective of Local Government

There are five different perspectives on models of government and the roles and responsibilities of local government (Shah and Shah, 2006).

(1) Traditional Fiscal Federalism

The traditional concept of fiscal federalism says that the local governments are treated as a subordinate tier in a multi-tiered system and outlines principles for defining the roles and responsibilities of government orders.

(2) New Public Management (NPM)

The NPM viewpoint has given significant emphasis to the government as an agent of the people for serving the public interest and creating public value. This concept is also valid to the local level service delivery.

(3) Public Choice

According to the public choice approach, the local government is like an institution to advance self-interest. Bailey (1999) has conceptualized four models of local government as follows:

- The *benevolent despot* model assumes that a local government knows best and acts to maximize the welfare of its residents.
- The *fiscal exchange* model is related to the concept that a local government provides services consistent with residents' willingness to pay.
- The *fiscal transfer* model conforms that a local government focuses on public service provision to advance social objectives.
- The *leviathan* model is concerned with the assumption that a local government is captured by self-interested bureaucrats and politicians, which is consistent with the public choice perspectives.

(4) New Institutional Economics (NIE)

The NIE perspective has an assumption that the government is a runaway train, and it is concerned with the institutions of public governance. It offers a valuable outline for analyzing fiscal systems and local empowerment and for comparing mechanisms for local governance. This framework is important for designing and clarifying local government responsibilities in a broader framework of local governance. The framework purposes for creating various orders of governments (as agents) to serve the interests of the citizens as principle. It is assumed that it helps ensure these agents do the public interest while minimizing transaction costs for the principals.

(5) Network Forms of Local Governance

Considering the high transaction costs and perceived infeasibility of the market, local governments are an appropriate agent for a possible mode of governance for partnerships with different stakeholders. The network among various partners relies on

trust, loyalty, and reciprocity between them with no formal institutional safeguards. The commitment and leadership of the authorities play a crucial role in the stability of such networks to achieve a common goal (Shah and Shah, 2006).

2.3 Theory and Concept of Decentralization

Various forms of decentralization are found in practice. More specifically, the following theoretical and conceptual aspects of decentralization have briefly been reviewed and presented chronologically.

2.3.1 Decentralization

Decentralization is generally defined as a concept without strict definitions. The term "decentralization" means a description of a broad range of public sector reorganizations (Litvack and Seddon, 1999).

Decentralization is such a complex, multifaceted concept that is related to the transfer of authority and responsibility for public services from the national government to sub-national and local government or semi-independent government organizations and the private sector.

Mostly, decentralization is considered both means and ends for responsive public sectors. It is neither good nor bad. The efficiency and responsiveness of the public sector are possible once successful decentralization is in place. Therefore, the proper use and design of decentralization determine its success. Decentralization is simply transferring political, fiscal, and administrative power to the lower-level governments from the central government by law (Becker, 2001). Decentralization aims at deepening democracy, enhancing local participation, ownership, and autonomy, and promoting partnership between state and society.

Moreover, the main objective of the ideal decentralization is to democratize lower levels of government. Furthermore, it helps the sub-national government obtain local resources exploited by party bosses or please donor agencies (OECD, 2004). Likewise, decentralization transfers authority and responsibility to the sub-national government to empower citizens and get services from the lower level of government units (Boex, Heredia-Ortiz, Martinez-Vazquez, Timofeev and Yao, 2005). Decentralization is the

devolution of power to the local level that encourages the development and utilization of local knowledge (Hayek, 1988).

The decentralization and development outcomes focus on local public service delivery that examines the effectiveness, efficiency, and equity. It is assumed that empowered local governments are able to provide more and better-quality services to their constituency. It is the effectiveness of local government in the service delivery part.

The 'efficiency' is defined as a level of performance that characterizes a process that gives the most significant number of outputs by using the lowest number of inputs. Efficiency is the use of available resources as inputs in producing any given output. It also includes personal time and energy. Generally, local governments are considered to be able to use the available resources in a manner resulting in services providing a greater amount of welfare gain for their constituency than the central government is to provide them.

The equity is another aspect of service delivery that deals with the fairness and impartiality towards all concerned sectors/groups of the population in the society while providing opportunity by the state in access to participate in decision-making processes and use of resources.

2.3.2 First Generation Theory (FGT) of Fiscal Federalism

Fiscal centralization and fiscal decentralization are two opposite concepts regarding the decision-making process. In the context of the public sector evolution, fiscal federalism means the various levels of the structure and working of multi-level government like federal, provincial, and local. Samuelson (1954, 1995) explains and conceptualizes the service delivery roles of the private and public sectors (Arrow, 1969), and Musgrave (1959) describes an active and positive role for the government sector in terms of improving various forms of good governance such as market failure, establishing an equitable distribution of income, and stabilizing the macro-economy at high levels of employment with stable prices (in a Keynesian framework). An overarching element in this perspective was a largely implicit view of the workings of the public sector.

As “custodians of the public interest,” government agencies would try to maximize social welfare, either because of some compassion or, perhaps more realistically, because

of public pressures due to the election in a democratic system. There was a continuous market failure, there was a need for public intervention (Oates, 2005). Each level of government is responsible to seek the maximum social benefit and welfare of its respective jurisdiction. Thus, a local government is expected to support the interests of the citizens who are living within its jurisdiction. Decentralization of revenue authority creates some potentially important opportunities to achieve better social welfare. Local public goods are provided by the local governments according to the demands of the residents of their respective jurisdictions. The local governments provide a higher level of social welfare in their own limited jurisdiction compared to a central government's single and uniform level of public output in all jurisdictions.

The first-generation theory (FGT) of fiscal decentralization addresses the issue related to a simple application of the traditional Pigouvian theory of subsidies. According to the theory, the central government should provide matching grants to local governments to maximize the benefit and internalize the local responsibilities. To maximize the local welfare, marginal social benefits provided to the society as a whole are equal to the marginal cost. It also focuses on the *assignment of functions* to the different levels of government. The fundamental role of decentralized local government is to provide "local" public goods efficiently. Their consumption is limited primarily to their constituencies (Oates, 2005).

The decentralized local governments heavily rely on benefit taxes such as property taxes and user fees; indeed, in the Tiebout model, taxes are found as the "price" that people pay for their consumption of local public goods (Oates, 2005). The free-rider problem only can be resolved through the political guarantee. However, there is, in fact, a non-political solution to the free-rider problem in local governance. The local governments know the needs of the local population in a more detailed and better way, thus making them more readily able to accurately tax the people on the goods and services it provides to the local public (Tiebout, 1956). The central government has a greater scope for using things like progressive income taxes as part of a broader program for the redistribution of income. But more decentralized tiers of government are better advised to rely on taxes, like the property tax, which under certain conditions, functions as benefit taxes (Gordon, 1983; Inman and Rubinfeld, 1996). The FGT addressed the issue of equalizing lump-sum grants from the

central government to provincial/state/regional or local governments on both equity and efficiency grounds (Flatters, Henderson and Mieszkowski, 1974). The FGT of taxation suitably shows that the central government can tax more efficiently than sub-national governments and the central government has both greater fiscal power than sub-national governments as well as the ability to buy out sub-national government officials in support of centralization (Diaz-Cayeros, 2006).

2.3.3 Second Generation Theory (SGT) of Fiscal Federalism

"Economic federalism" is represented by the first-generation theory of fiscal federalism. However, the second-generation theory (SGT) explicitly favors political processes and their impact on service delivery outcomes. It focuses on related topics involving "political decentralization"(Inman and Rubinfeld, 1996). The SGT addresses the issue related to the political economy of federalism. The effective self-enforcement of federalism depends upon the incentives for political officials to comply with the rules of federalism (Weingast, 2014). In the federal system, generally, the central government tries to capture the powers of the lower levels of government. The free-riding and common pool problems faced in the lower jurisdiction led to failing federalism (Riker, 1964). A new "second-generation theory of fiscal federalism" provides new insights into the structure and working of federal systems (Oates, 2005).

The functional assignment to different levels of government is a critical practical issue in a federal system. Alone elections and democracy are not the magic solutions to the development problem. Decentralization helps to mitigate the political weaknesses for development. Nevertheless, the central governments are seen as a problem throughout the developing world. The federal government tends to obstruct the smooth functioning and operation of a well-designed federal system (Dixit, 2004; Andrei and Vishny, 1998). A key problem in development involves creating perpetuity, the idea that organizations and institutions are stable beyond the lives of those who make them. The SGT highlights the role of political parties and coordination by sub-national governments against the center when the center encroaches on their powers (Weingast, 2014).

Democracy is an essential foundation of governance and political accountability. Periodic elections possibly let citizens to influence their own destiny by choosing one set

of officials instead of another. Citizens get the opportunity to formulate their policy through using voting right (Riker, 1964). Nonetheless, elections are not a panacea; they do not automatically police elected officials, preserve civil rights, and promote economic growth (Besley, 2006; Persson and Tabellini, 2002).

2.3.4 Fiscal Decentralization, Economic Growth, and Human Development

Fiscal decentralization is a process of devolution of budgetary responsibilities to lower levels of government. Fiscal decentralization enhances or improves the efficiency of government and promotes economic development (Oates, 1993). The fiscal decentralization allows the sub-national government more independent in decision making (Vaillancourt and Bird, 1998). However, the researchers feel difficulties while measuring the efficiency of fiscal decentralization (Bird, 2000). Nevertheless, several studies about the effect of fiscal decentralization on economic growth in both conventional theoretical and recent empirical studies in economics (Akai and Sakata, 2002).

The fiscal decentralization argues that the expenditure policies must be implemented by the local level government, but the expenditure should be financed by the national-level government. Efficient allocation of resources is an important function of sub-national governments because the local governments have better information about the demands, expectations, and needs of people (Sewell, 1996). Good governance is not a new concept. It primarily deals with the proper 'exercise' of economic, political, and administrative authority to manage a country's affairs at all levels of government (UNDP, 1997). In addition to raising revenues, local revenue mobilization has the potential to foster political and administrative accountability through community empowerment (Oates, 1999). However, prescriptions deriving from the theory and good international practice impose huge constraints on the choice of revenue instruments for local government.

A positive change in the level of production of goods and services by a country over a certain period is known as Economic growth. Economic growth is measured in both nominal and real terms. In the theoretical end, inflation includes economic growth, while real economic growth is the amount minus inflation. The driving forces of growth and development are known as the increment in the quality and quantity of resources of all

kinds. The economic growth is possible by improving quality of education, research, and development, and investment in infrastructure (Thirlwall, 2003).

Production is the ratio of investment to GDP and productivity of investments. The slow growth is the product of a low investment ratio and or low productivity of capital and labor force. For the fast growth of the economy; it requires improvements in the quality of labor, and capital, economies of scale, advance in knowledge, a better organization of capital and labor in the production function. Adam Smith introduced the notion of increasing returns based on the division of labor (gain from specialization) for the economic process. It means rising labor productivity and per capita income as output and employment expands. The increasing returns lie at the heart of the new endogenous growth theory (Thirlwall, 2003). The growth of the Gross National Product is needed to translate growth into human development. Human development broadly depends on social indicators such as life expectancy, education, literacy, and health provisions (UNDP, 2001).

The impact of fiscal decentralization varies by the government unit and by the economic indicator. The single-purpose governments per square mile have a positive impact on the metropolitan population and employment growth, but there was no significant impact on non-metropolitan counties. On the contrary, the fragmentation of general-purpose governments per capita has a negative impact on employment and population growth in nonmetropolitan counties. Fiscal decentralization may modestly reduce long-run population growth in both metropolitan and nonmetropolitan counties, revenue centralization was positively correlated with long-run income growth in metropolitan counties, but there was no correlation between decentralization and nonmetropolitan income growth positive and significant correlation between initial educational attainment, the unemployment rate for population and employment growth and income growth (Hammond and Tosun, 2011).

Brennan and Buchman (1980) express the view that fiscal decentralization promotes competition among various levels of government. Woller and Phillips (1998) argued that there was no significant and robust relationship between fiscal decentralization and economic growth for less developed countries. Zhang and Zou (2001) found a positive

effect of per capita fiscal devolution shares on Indian regional economic growth, although the effect is only statistically significant when the fiscal decentralization measure used is the per capita revenue share.

Faridi (2011) also found that fiscal decentralization does have a positive influence on economic growth and development. Similar results were found by Akai and Sakata (2002), and (Gemmell, Kneller, and Labrador, 2009). There was a long-run positive relationship between trade openness and GDP (Faridi, 2011). Moreover, the studies of Ahmed and Mortaza (2010), and Frenkel and Mehrez (1998) found that high inflation does have a negative effect on economic growth due to the high cost of production.

Using the data from 2001 to 2011, Cuddy (2015) analyzed the relationship between horizontal fiscal decentralization and economic growth of 247 Canadian Census Districts in Canada. The result says that the horizontal fiscal decentralization of general-purpose government units in non-metropolitan areas hurts the population, employment, and income growth and has no significant impact on economic growth in metropolitan areas.

It is proved that fiscal decentralization increases the share of education and health expenditures in total government expenditures in developing countries (Arze del Granado, Martínez-Vázquez and McNab, 2005; Shelton, 2007). Moreover, it was also proved that fiscal decentralization helped increase investment in social sectors, such as education, urban development, water and sanitation, and health care (Faguet, 2004).

2.4 Federalism

"Federalism" is the process by which two or more governments share powers over the same geographic area (https://usgovinfo.about.com/). In a federal system, a multilevel government exists. In a federalist government, the power is divided between the national government and other sub-national governmental units. Moreover, federalism is a system of government in which sovereignty is constitutionally divided between a central governing authority and constituent political units. The central governing authority has certain exclusive federal powers, and the constituent political units have certain states' rights. Federalism differs significantly in the social and economic composition and the institutional arrangement of the countries. There is a practice of federalism in very large

and very small countries in terms of population and geography, rich and poor countries that have very homogeneous and very diverse populations (Anderson, 2008).

Each level of a government has some independent authority to make economic decisions within its jurisdiction. The economic decision means the collection, utilization, and redistribution of revenue for both recurrent and capital expenditure to provide public goods and services. In a federal form of government, each level of government does have shared decision-making responsibilities. Federalism represents either a 'coming together' or 'holding together' constituent geographic unit. Coming together is known as a mature federation such as the United States and Canada. However, holding together is called as new federalism that attempts to decentralize responsibilities from the center to state and local government. Generally, unitary countries such as Brazil, India, Nepal, Iraq, Spain, and South Africa have adopted a federal system of government through the principle of holding together (Boadway and Shah, 2009)[1].

2.5 Fiscal Federalism

Federalism is a constitutionally established governance system with various orders of government having special autonomy from the other. However, fiscal federalism deals with the raising, borrowing, and spending of revenue not only within federal systems but also, it can also equally be applicable in a devolved system of government for the fiscal arrangements (Anderson, 2010). Moreover, fiscal federalism focuses on who should do what? who should levy what tax? How be the imbalance between revenue and expenditure of sub-national governments resolved? How to deal with the horizontal inequality at the same level of government? And how to ensure the access of various levels of governments to capital market or rules of subnational borrowing (Bird and Vaillancourt, 2006). There are many tools and processes applied to ensure effective and efficient public service delivery. Budgeting and planning are the most critical initiatives for public service delivery for which transparency, accountability, participation, and inclusion have become the new development consensus globally (Carothers, and Brechenmacher, 2014). Fundamentally,

[1] Federal countries include Argentina, Australia, Austria, Belgium, Bosnia-Herzegovina, Brazil, Canada, Comoros, Congo, Ethiopia, Germany, India, Iraq, Malaysia, Mexico, Micronesia, Nepal (May 29, 2008), Nigeria, Pakistan, Russia, South Africa, Spain, St. Kitts and Nevis, Sudan, Switzerland, United Arab Emirates, United States of America, and Venezuela.

there are four pillars of fiscal decentralization, i.e., public expenditure or expenditure assignment, revenue assignment, inter-governmental fiscal transfer, and borrowing. The basic components of good governance such as participation, transparency and accountability and policy compliance are also briefly reviewed.

2.5.1 Expenditure Assignment

The expenditure assignments are considered to be the base of fiscal decentralization. It is the first step in designing an inter-governmental fiscal system. If there are not any roles and responsibilities, there is no need for revenue. The functions should be assigned as per the principle of efficiency. Revenue assignment without solid expenditure assignment weakens the decentralization process. Therefore, expenditure assignment is the first step in designing an intergovernmental fiscal system (Martinez, 1994). Fiscal decentralization means transferring some responsibilities for expenditure and revenue as well to the lower levels of government. More specifically speaking, expenditure assignment means the distribution of functions and expenditure responsibilities among all tiers of government.

Until the 19th century, public expenditure was limited to laissez-faire philosophies believed that money left in private hands could bring better returns. In the 20th century, it is argued the role of public expenditure in determining levels of income and distribution in the economy since government expenditures have shown an increasing trend.

2.5.2 Revenue Assignment

Revenue assignment is the second pillar of fiscal decentralization (Musgrave, 1959). Theory suggests that a close match between revenue and expenditure assignments at sub-national levels benefits allocative efficiency, and hence economic growth. Musgrave suggests that, for conceptual purposes, the functions of government should be separated into three functions such as macroeconomic stabilization, income redistribution, and resource allocation. However, the third function of governments is the efficient allocation of resources. With respect to the the resource allocation function, Musgrave argues that policies of sub-national branches of governments should be permitted to differ to reflect the preferences of their residents. Decentralization of taxing and spending power allows sub-national governments to tailor schemes that match the demand of their constituency

which will increase efficiency ultimately because local governments have better information about their residents' needs than the central government.

The traditional theory of fiscal federalism argues that taxes which can easily be administered at the local level should be given to the local government/sub-national government. The service provided by the sub-national governments can be supported through non-taxes such as user charges and other local fees like taxes to be levied on motor vehicles, fuels and construction fees, etc. (Ebel and Yilmaz, 1999). An independent source of revenue is needed for the effective and pragmatic fiscal autonomy of the subnational level. Otherwise, sub-national governments are under the financial control of the central government (Martinez-Vazquez, McLure, and Vaillancourt, 2006).

The budget, which is also an annual planning document, of a government is a crucial document that reflects choices, priorities, and tactics set forth. As a result of intensive planning, local government can meet the needs of the citizen. There must be adequate funding to local governments (Mansuri and Rao, 2013). Budget is a legal plan document of operations enforced, expressed in the currency for a fiscal period. A budget is a financial statement of public purposes and policies that are translated into the allocation of financial resources. Lewis (2007) says that the budget is the government's key policy document. The budget is a very important tool for public expenditure for all kinds of governments, i.e., local, provincial, and central.

The Vertical Fiscal Equalization (VFE) means citizens in different states and local governments should have access to equal standards of government services. The States and local governments have various capacities to raise revenue and additional spending 'needs.' The VFE thus redistributes resources from states and local governments with the ability to provide above-average services to the other States and LBs.

The Vertical Fiscal Imbalance (VFI) means the imbalance between the spending responsibilities of each tier of government and the own-source revenue resources available to that tier. To address the imbalance between spending responsibility and own-source revenue, the Federal and Provincial Governments provide both conditional and un-conditional grant to local governments (https://www.aph.gov.au/).

The revenue source should be linked to the services to be provided by municipalities. And the beneficiaries should finance the services that municipalities offer, called "the general benefit principle." These are the two principles of local revenue management.

The benefit principle of municipal finance is as outlined in Figure 2.1.

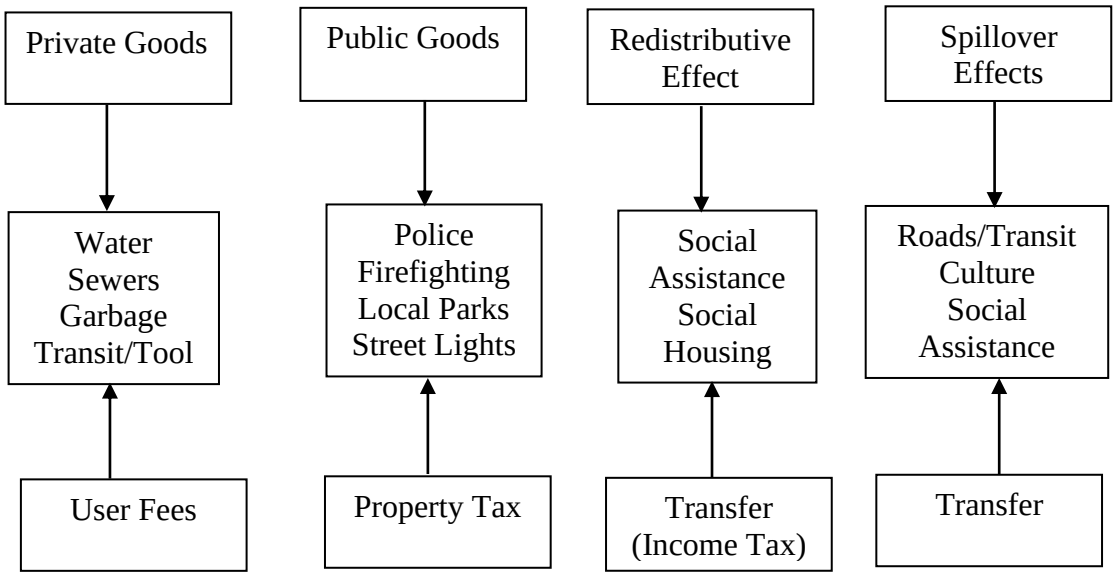


Figure 2.1: The Benefit Principle of Municipal Finance

Source: Slak (2009, p.18)

The economic theory says that local governments are responsible for providing goods and services to the residents within a particular geographic area willing to pay for them. The efficiency of local government will be enhanced if the benefits of specific services are confined to the local jurisdiction. The role of local government for the services such as police, fire protection, garbage collection and disposal, land use planning, roads, sewer and water, social services, and recreation tends to be much weaker in remote areas than in urban areas. Moreover, the benefits model of local government finance, wherever possible, the service receivers should pay for services provided by local government (Kitchen and Slack, 2006).

2.5.3 Intergovernmental Fiscal Transfer

The inter-governmental fiscal transfer is the third pillar of fiscal decentralization. It comes into practice with different names, such as grants, subsidies, subventions, etc., and is an important tool of public sector finance either in industrial or in developing countries (Srivastava, 2002). It is because, on the one hand, the central government will have the opportunity to collect more revenue and maintain a good relationship with the sub-national governments, and on the other hand, sub-national governments can deliver quality services as required by the people in a transparent manner.

Inter-governmental fiscal transfer, based on subnational government financing, is primarily crucial in the developing countries and the countries in the transitional phase (Martinez-Vazquez and Boex, 2006). There is an inherent tradeoff between central government control and local flexibility. Moreover, there are various models of the center-local fiscal transfer. The purposes of inter-governmental fiscal transfer are to narrow down the vertical gap, to minimize the horizontal gap by equalizing across subnational governments (SNGs), to compensate for spillovers and externalities, to encourage SNG expenditure according to national priorities, to build SNG capacity, and to promote SNG performance and to help them remove political discretion, patronage, and corruption (Shotton, 2010).

Due to the absence of equalization transfers, sub-national governments often would have insufficient resources to fulfill their responsibilities at minimum desirable national standards. In particular, equalization grants are substantial as they typically provide a sizeable share of overall sub-national government resources. Furthermore, equalization grants reduce horizontal fiscal imbalances in a country or regional disparities and inequities by compensating sub-national governments with more significant fiscal needs and smaller fiscal capacity. Equalization grants can also be useful to resolve regionalism, separatism, and other political centrifugal (tending to move away from the center of a revolving body) forces (Martinez-Vazquez and Boex, 2006).

The Vertical Allocation Formula (VAF) illustrates the allocation percentage of the total revenue to the three tiers of government, i.e., federal, state, and local. This formula is used vertically to the total disbursal revenue in the national account at a particular point in

time. The Horizontal Allocation Formula (HAF) is appropriate to state and local governments for the due allocation of resources among them. Thus, it can be concluded that the vertical allocation formula is for 'inter-tier' sharing between the three tiers of government while the horizontal allocation formula is for 'intra tier' sharing amongst the states and the local governments (Bashir, 2008). Inter-governmental fiscal transfers are necessary elements of any decentralized system that help resolve both vertical and horizontal financial imbalances of a local government. Inter-governmental transfers are broadly categorized as general-purpose, known as 'unconditional,' and the specific purpose is also called conditional or earmarked grants (Muwonge and Ebel, 2014).

Moreover, inter-governmental fiscal transfers have become a pivotal element in successfully dealing with vertical and horizontal imbalance around the world (Martinez-Vazquez, and Searle, 2007). The total revenue of local governments consists of current revenue, capital revenue, and financing transactions. The current revenue is used for regular services and operation of the local government, which is called operating expenditure. The capital revenue is used for developing infrastructure and other capital costs, and financing is associated with debt principal repayment or purchasing of financial assets (Farvacque-Vitkovic and Kopanyi, 2019)

2.5.4 Sub-National Borrowing

Local governments' borrowing is one of the major parts of local government finance. There are two schools of thought about the borrowing principle (Boex, 2001). The first one is short-term borrowing, which can be used for the funding of regular activities. It can be applied only in cases when the revenue is not collected evenly throughout the year. The second thought is that long-term borrowing can be implemented by taking out loans on the domestic money and capital markets and contractors only for capital investment projects for reconstruction and development when the local budget is insufficient.

In some instances, for sub-national or level governments, their own sources and the grants provided to the sub-national and local level government by the upper level of governments may not be adequate to meet their expenditure. In such cases, sub-national governments are entitled to receive borrow/debt from the finance companies or unique borrowing mechanisms for the development activities they have to carry out. However, the

execution of this provision depends upon the state law of the respective countries. The principle of borrowing is that if the own revenue of the sub-national government doesn't meet the public expenditure, they have the right to borrow. Further, borrowing is one of the important and preferred options to meet the gap between expenditure and revenue. They can implement it according to the national laws and mechanisms.

The "golden rule" for local government borrowing says that it is appropriate for local governments to borrow for capital projects. Still, it excludes the use of borrowing to fund recurrent spending (Musgrave, 1959). Instead, government spending on current goods and services should be met by revenue from taxes and other recurrent revenue sources. There is a common agreement that borrowing to cover current expenditure is acceptable in sporadic cases, specific cases, usually for a brief period, to cover deficits arising from uneven cash flows within a budgetary year (Dafflon, 2002).

2.6 Service Delivery Mechanism

Samuelson (1954) introduced the concept of public goods in his famous contribution titled "A Pure Theory of Public Expenditure." The private and public (social) goods have been clearly separated on the basis of the presence or absence of excludability and rivalry characteristic of goods (Singh, 2014). The 'true meaning of rural development is based on at least three basic elements such as necessities of life, self-respect, and freedom. People have specific basic needs, i.e., food, clothes, shelter, basic literacy, primary health care, and security of life and property for the survival of life. It can be claimed that economic growth (increased per capita availability of necessities) is a necessary condition for improving the 'quality of life of people (Singh, 2007). Development is a process of growth towards modernity, national building, and socio-economic progress. More specifically, development should be to enrich the quality of life of all (Goel and Kumar, 2004). The essential services and basic need approaches are supposed to be effective strategies for meeting the basic needs of poor people. This approach is envisaged to improve the income-earning opportunities of the people and satisfy the needs of all the people and elicit the participation of the poor people in how their needs are met (William and Christopher, 2011).

People's lives are most severely suffered at the local level in their homes, at school, in workplaces, and in neighborhoods. However, there is enormous potential and opportunity for local governments to influence the well-being of people who live in their constituents. Well-being is more than happy. So, the role of LGs is not only to make people happy but also to create a conducive environment for well-being, providing at least basic needs such as primary health, education, drinking water, sanitation, shelter, and so on (Group, 2010).

Public services are defined as those services which are entirely funded by taxation (Humphreys, 1998). In public services, different guiding principles, such as equitable treatment and the allocation of resources according to need, pervade the processes of decision-making, management, and provision. Public services are delivered by a nexus of relationships between beneficiaries, politicians, and service providers (such as bureaucrats, doctors, teachers, etc.). Three actors, such as politicians, bureaucrats, and non-profit organizations, are crucial for service delivery. The biggest challenge in the world is to improve public service delivery. Public service is an essential element of quality of life that is not measured in per capita income. They are also an essential plank of the poverty reduction strategy (Besley and Ghatak, 2007).

The customers directly make payments to the private sector (service provider) of the services they receive. It means that there is a direct relationship between service providers and receivers. However, public service, the providers (public organizations) provide services to the customers (citizens), and the customers pay taxes or service charges to the state. Finally, the state offers a fund to the service providers for effective service delivery to the citizen (Humphreys, 1998). The citizen's satisfaction through the public service delivery of the government depends on institutional values, democratic practice, and greater efficiency and effectiveness within the public sector. The consumers of public services are by far the largest group that demands the efficient delivery of services. Moreover, the business community and civil society require and demand that the service delivered to them by the public organization should be effective and efficient.

Similarly, the private sector also demands the better services be provided by the public sector so that it can generate economic growth, which creates the employment

opportunity that contributes to poverty reduction ultimately. Likewise, donor communities and non-government organizations also demand that the amount provided by the development partners (donors) be used efficiently. It is assumed that aid is not reaching the target group that means aid is not productive to the extent that it does not produce the desired results (Agere, 2000).

The central government is one of the actors that deliver services to the people. The other actors that have an important role in shaping demand, developing state policies, and providing services are the private sector, communities, and civil societies. In recent decades, there is an increasing practice where the central governments share the responsibilities of service delivery with the local governments in various intergovernmental public arrangements that aim to enhance the accountability and responsiveness of service delivery. The weight of public service responsibilities and the degree of autonomy with local governments vary significantly from country to country. It is widely acknowledged that local governments are well-placed, but they need to be empowered more and more to make them deliver their responsibilities more effectively. Local governments that are large, urban, and well-established and have a productive economic base are at the forefront of this effort. Conversely, new, small, and poorly supported local governments struggle to take on meaningful service functions.

Local service provision includes the arrangements that mean resource mobilization and management and means organization and service delivery management. Its own revenue base is an important foundation for a local government for its sustainable empowerment and governance, and service provision. The greater sense of ownership with the people who pay taxes and fees for the costs of local infrastructure and services strengthens citizens' demand and public officials' accountability. The greater degree of local discretion associated with own-source revenues enhances the capacity for the responsiveness of decision-makers and service providers (Helling, Berthet, and Warren, 2005).

2.6.1 Representation and Participation

Stigler (1957) suggests two principles of jurisdictional design regarding representation and participation. A closer representative government to the people is

important to produce better service. More specifically, people should have the right to vote for the kind and amount of public service. These principles suggest that decision-making should occur at the lowest level of government consistent with the goal of allocative efficiency, and they should have complete autonomy in decision-making on local services.

The universal consensus is that democracy is a form of rule. Citizen participation is a process that provides private individuals an opportunity to influence public decisions and has long been a component of the democratic decision-making process (Meyer, Theron, and Van Rooyen, 1995). The roots of citizen participation can be traced to ancient Greece and Colonial New England. Before the 1960s, governmental processes and procedures were designed to facilitate "external" participation. Citizen participation was institutionalized in the mid-1960s with President Lyndon Johnson's Great Society programs (Cogan, Sharpe, and Hertzberg, 1986).

Public involvement ensures the citizens' participation in their direct voice and influence in public decisions. The terms "citizen" and "public," and "involvement" and "participation" are often used interchangeably. While both are generally used to indicate a process through which citizens have a voice in public policy decisions, both have distinctively different meanings and convey little insight into the process they seek to describe. The term "citizen participation" and its relationship to public decision-making has evolved without a consensus regarding either its meaning or its consequences (Mize, 1972).

Many agencies or individuals try to exclude or minimize public participation in planning efforts claiming citizen participation is too expensive, time-consuming ultimately worthless. Yet, many citizen participation programs are initiated in response to public reaction to a proposed project or action. However, there are tangible benefits that can be derived from an effective citizen involvement program. The five benefits of citizen participation to the planning process are prescribed as information and ideas on public issues; public support for planning decisions; avoidance of protracted conflicts and costly delays; reservoir of goodwill which can carry over to future decisions; and spirit of cooperation and trust between the agency and the public (Cogan, Sharpe and Hertzeberg, 1986).

Interactive planning is the open, participative process that lead to better decisions. The planner engages directly with stakeholders to gain support, build consensus, identify acceptable solutions, and secure implementation. Success in interactive planning is by the extent to which balance can be achieved among competing interests and reached appropriate actions. Participation is a very important aspect for the formation of values and understanding of social needs (Dreze and Sen, 2002).

The collaborating planning includes various aspects such includes information/feedback, consultation, and negotiation; the interaction occurs early on and throughout the planning process, with a full range of stakeholders; assumes that open participation leads to better decisions; planner as a value-committed advocate; focuses on the mobilization of support. The plan is what is agreed to do, and success is measured by the achievement of an agreement on action. Nonetheless, conventional planning involves the same aspects in different ways such as limited information/feedback and maybe some consultation; early interaction with implementers and affected interests not involved until late in the process; assumes that better information leads to better decisions; planner as a value-neutral expert; focuses on manipulation of data; the plan is what should be done and success measured by the achievement of the plan's objectives (Lang, 1986).

In successful citizen involvement programs, the disparity between the planner's and the participant's expectations is minimal. If expectations are different, conflict is probable. This conflict damages the planning process and the relationship between the participants and the planner. Often, it is avoidable because its source is in conflicting expectations rather than conflicting demands (Cogan, Sharpe, and Hertzeberg, 1986).

Arnstein (1969) presented eight types of participation in a ladder of citizen participation often; it is termed "Arnstein's ladder," these are broadly categorized in three aspects. First is citizen power that represents the partnership, delegated power, and citizen control, which is the actual participation of the citizen in decision-making processes. Second is tokenism which includes informing, consultation, and placation (satisfaction). It is just a minimum effort of participation: the last non-participation, a kind of manipulation (use), and therapy (treatment). Arnstein defines citizen participation as the redistribution

of power that enables the haves-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future.

Silverman (2005) expands on Arnstein's ladder of citizen participation by introducing his "citizen participation continuum." In this extension to Arnstein's work, he takes the groups that drive participation into consideration and the forms of participation they pursue. Consequently, Silverman's continuum distinguishes between grassroots participation and instrumental participation.

Connor (1988) also presents other "ladders" of participation. Fung (2006) proposed another classification of participation based on three key questions: who is allowed to participate, and are they representative of the population? What is the method of communication or decision-making? And how much influence or authority is granted to the participation?

2.6.2 Transparency and Accountability

Transparency stances the minimum degree of disclosure to which agreements, dealings, practices, and transactions are open to all for verification and confirmation. Moreover, the essential condition for a free and open exchange is the regulatory measures that are fair and clear to all participants (https://business dictionary.com).

Accountability stands to be accountable and answerable to the citizen or the service receivers. A synonym of accountability is responsible. There are two players involved in accountability, the one accountable for their actions and the one to whom they are accountable (https://professionalgrowthsystems.com). Accountability means that the leaders or answerable persons have to accept responsibility for the outcomes, which are good and evil. Others should not be accused, and the external environment should not be blamed (https://leadonpurposeblog.com).

Transparency initiatives in service delivery are relatively easy to define. Any attempts of states or citizens to place information or processes previously dense in the public domain are known transparency. Moreover, accessibility for use by citizen groups, providers, or policymakers can be defined as transparency initiatives. Initiatives for

transparency can be pro-active or reactive disclosure by the government. Although freedom of information laws often plays an important part in state or citizen-led transparency initiatives. Transparency must be maintained to improve accountability in service delivery. The major tools for maintaining transparency are information dissemination through various means like media and publication; public expenditure tracking surveys to highlight leakages and gaps in the delivery of funds to the local level. Similarly, complaint mechanisms such as Complaint Box, Online Complaint Management System; Citizen Charter, Citizen Report Card (Consumer Satisfaction Survey), and Community Score Cards, which is hybrid of Citizen Report Cards, community monitoring, public audit, public hearing and social audits are also crucial tools for maintaining transparency (Joshi, 2012).

A new development consensus between development partners and government are four fundamental principles, such as accountability, transparency, participation, and inclusion. These four principles have become nearly universal features of the policy statements and programs of international development organizations. Four fundamental principles have emerged as crucial aid priorities and principles as part of the broader opening of the door to politics in development work over the past twenty-five years. Governance work initially concentrated on public sector efficiency and competence, with a programmatic focus on public expenditure management, civil service reform, and privatization (Carothers and Brechenmacher, 2014).

Generally, a state is not very effective at holding itself responsible. The Government officials may ignore the laws, break the rules and regulations with impunity and exemption, may not implement and apply properly for the betterment of citizens. In this situation, it is challenging to make the government accountable. However, the citizens can say to the government for full compliance with the rules and regulations. If the government is not watched correctly by the citizen, the programs and projects will not be well administered, and money and resources will not be fully utilized; there will be wrong choices in policies, services will be wrongly targeted or delivered. As a result, there will be high chances of corruption (The World Bank, 2013).

Khadka and Bhattarai (2012) recommend 21 tools of social accountability to make the government accountable which provides services to the citizens. The prescribed tools are citizen's charter, checklists of entitlements, budgets of local bodies, right to information, checklists of relevant laws, policies, regulations that affect a citizen's life as necessary information; civic education, public expenditure tracking, checklists of standards and indicators, community scorecards, public hearings, public audits, public revenue monitoring and citizen's complaint structures as accountability and integrity; multi-stakeholder groups, participatory planning, participatory budgeting, community-led procurement, declaration of assets, understanding conflict of interest and integrity pact as participatory development.

The service delivery mechanism analyses the accountability relationship between policymakers, service providers, and citizens. Civil Society Organizations (CBOs) are important stakeholders in delivering social services and making service providers responsible. They can influence the decisions of policymakers. Similarly, by exploiting the behavior of service providers through client power, the beneficiaries can affect social services (Chambers, 1997). Social accountability influences the quality-of-service delivery by holding providers accountable. The citizen should individually or collectively be informed about their rights, the service, and the benefits they are entitled to receive (Chambers, 1997). The NGOs can contribute to service delivery accountability through various roles such as initiators, catalysts, watchdogs, and supplementary (William and Christopher, 2011).

The challenge of accountability is generally tackled by improving the “supply-side” of governance using political checks and balances, administrative rules and procedures, auditing requirements, and formal law enforcement agencies like courts and the police. The “top-down” approach to managing accountability found only limited success in many countries. As a result, new approaches and methods like setting up of independent pro-accountability agencies such as vigilance commissions and ombudsman have been practiced in many countries in the world. Furthermore, public institutions have been privatized to bring market-based accountability into the public sector. Very lately, increased attention has been paid to the “demand-side” of good governance for strengthening the voice and capacity of poor citizens to directly demand greater

accountability and responsiveness from public officials and service providers (Malena, Forster, and Singh, 2004).

Citizen oversight and engagement are considered very effective instruments to improve accountability in allocating resources for public services. This kind of effort can be implemented by decentralizing service delivery to local government, giving the responsibility to the private providers and NGOs that make greater community participation in service provision, and transferring resources directly to community organizations. Community engagement in public service delivery can be helpful to ensure the involvement of the citizen in the decision-making process and enhance the accountability of service providers (Mansuri and Rao, 2013).

2.6.3 Performance-Based Grant System and Service Delivery

Intergovernmental Fiscal Transfer (IGFT) is one of the primary sources of local government (LG) revenue in developing countries, often accounting for more than 60 percent of total LG revenues; it is of utmost importance for the success of the overall decentralization process that such transfers achieve their objectives and provide the right incentives. The way the transfer systems are designed to impacts the likely success of the overall system of local government finance and decentralization as a whole.

Uganda was an early initiator of a performance-based grant system in the mid/late 1990s in four districts with a gradual expansion in the number of LGs covered. By 2003, Uganda's PBGS had been scaled up to a nationwide basis, covering all of the LGs in the country. By 2009, at least 15 countries were used a PBGS approach, either on a pilot basis or nationwide, and several other countries are planning similar processes of UNCDF. There is now considerable on-the-ground international experience with PBGS, providing many evidence-based lessons about how such systems function, what their impact has been, and the conditions under which they seem to work optimally (Steffensen, 2010).

The Philippines had adopted a unique approach to Performance-Based Grants (PBGs). Like others in low- and mid-income countries, it is being used to address maternal morbidity and mortality in children aged below 5, specifically to reduce the many challenges faced by pregnant women. There was a practice of per capita transfer to local municipalities based on planned increases in certain services, such as safe delivery of

babies for low-income women, monitoring infants' nutritional status and growth, and treating poor children for various illnesses. If the municipalities reach these targets and several others, they will continue to be eligible for future financial transfer; otherwise, the level of central government support will be reduced (Hecht, Batson, and Brenzel, 2004).

The Janani Suraksha Yojana (JSY) scheme in India aims to promote institutional deliveries amongst poor pregnant women. The qualified Social Health Activists (ASHA) is female honorary volunteers who receive performance-based compensation for promoting a variety of primary healthcare services in general, and reproductive and child health services in particular, such as universal immunization, referral and attend services for institutional deliveries, construction of household toilets, and other health-care delivery interventions (Oxman and Fretheim, 2008)

For enhancing the quality and accountability in health service provision in Argentina, an incentive and collaborative mechanism between the National Ministry of Health and the Provincial Government and between the Provincial Government and healthcare providers have been established. Finance is associated with results-based planning. The performance-based incentive mechanism has been institutionalized to strengthen the inclusion of the target population with the program output and health outcomes (Cortez, 2009).

2.6.4 A Concept of Service Quality

Participation in the decision-making process is essential for socially equitable economic growth and meeting the basic needs of the poorest groups. The decentralized governance system can ensure the participation of the targeted communities in decision-making process (Rondinelli, 1981). The efficient delivery of services to the rural community depends on the effective organization to have meaningful interaction with the service delivery agencies (UNDP, 1979).

The service quality (SERVQUAL) is a research instrument that is designed to capture consumer expectations and perceptions of service. The SERVQUAL is used to measure the consumers' pre-consumption expectations of service quality and their actual perceptions of the service experience (Parasuraman, Berry, and Zeithaml, 1991). The

SERVQUAL is the measurement tool used to conceptualize and measure service quality (Nyeck, Morales, Ladhari, and Pons, 2002).

The service quality depends on the organization's human capacity, property, technology, and working process (Figure 2.2). The relationship between independent and dependent variables used in the study acted as the conceptual framework as follows:

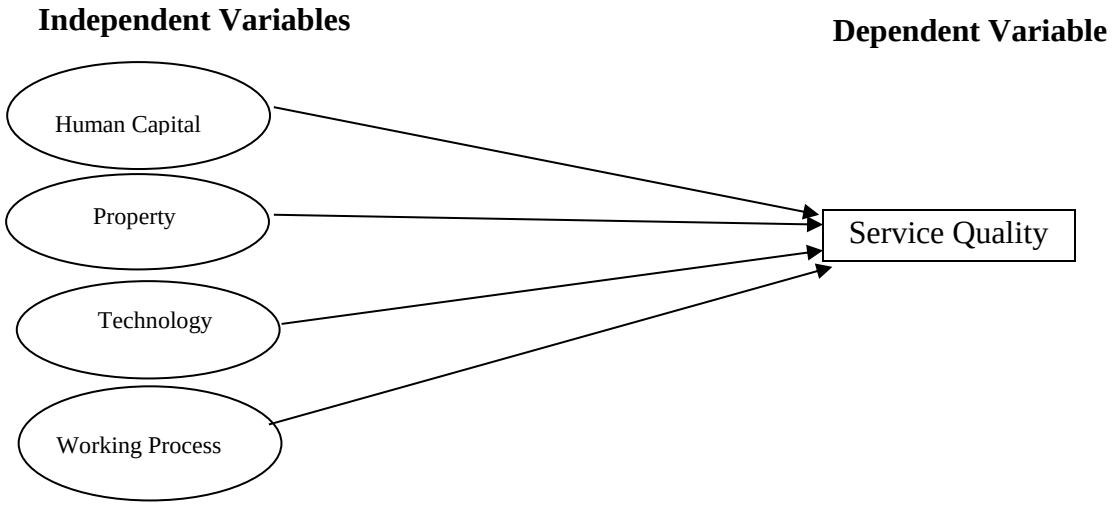


Figure 2.2: Conceptual Framework of Service Quality

Source: Yusoff, Ismail, and Newell (2008)

2.6.5 Inputs-Output Relation of Service Delivery

It is common to distinguish three stages of production function from inputs to outcome levels which are labeled direct-outputs (Bradford, Malt and Oates, 1969). The direct outputs of the municipal activities (service delivery) translate into welfare improvements perceived by consumers. Theoretically, efficiency can be measured at each stage of the production function. But due to the unavailability of data, it is not easy to distinguish between primary inputs, intermediate outputs, direct outputs, and final welfare effects. Therefore, the analysis is often limited in the relation between primary inputs and direct outputs (Balaguer-Coll, Prior and Tortosa-Ausina., 2007).

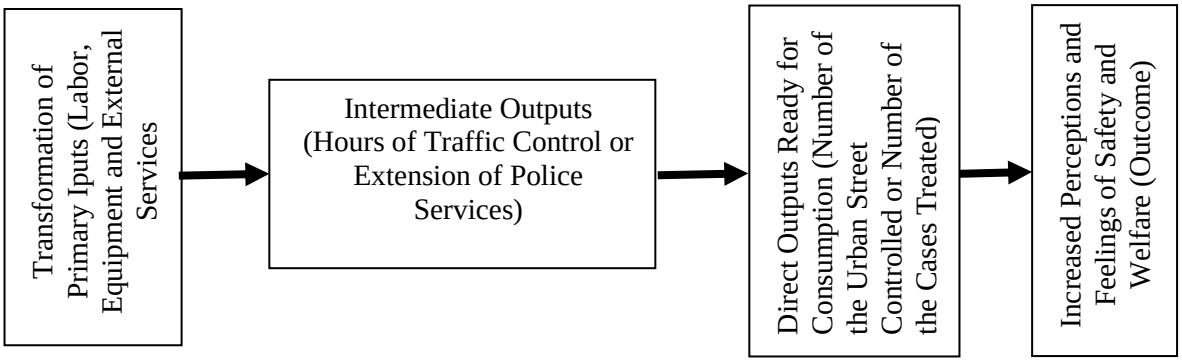


Figure 2.3: Production Functions- Transformation of Inputs into Outcomes

Source: Balaguer-Coll, Prior and Tortosa-Ausina (2007)

2.6.6 Expectations and Perceptions

What the customer expects is customer expectation, which is determined by available resources and is influenced by cultural background, family lifestyle, personality, demographics, advertising, experience with similar products, and information available online. Customer's or user's perception is entirely subjective and is shaped by the customer's interaction with the product or service. Perception is derived from the customer's satisfaction with the specific product or service and the quality-of-service delivery. The most critical gap is the customer gap, and in an ideal world, the customer's expectations would match the customer's perception. More specifically, the concept of expectation and perception is as follows (Prabha, Soolakshna, and Perunjodi, 2010).

Costumers' Expectation = before a service encounter, consumers' predictions, desires or wants (Should offer rather than would offer), what they want?

Customers' Perceptions =after a service encounter (actual service delivered), what do they get?

Oliver, Balakrishnan, and Barry (1994) recommended the service quality conceptualization equation as follows:

SQ = P- E;

Where SQ = Service Quality; P = the Individual's Perceptions of Given Service Delivery and E = the Individual's Expectations of a Given Service Delivery

If, P>E then Service Quality is High; if P<E then Service Quality is Low and if P=E then Service Achieved the Minimum of Quality Level,

2.6.7 The Gap in Service Delivery

The perspective of both the service provider and the service receiver can affect the service quality (Surprenant and Solomon, 1987). Therefore, it would be better that the research must include both perspectives of the service provider and receiver on the study of service quality (Czepiel, 1990). The model of service quality identifies seven key discrepancies (gaps) relating to managerial perceptions of service quality service delivery to customers. In this model, gap 5 is the service quality gap and is the only gap that can be directly measured. In other words, the SERVQUAL instrument was specifically designed to capture gap 5. In contrast, the first six gaps (gaps 1, 2, 3, 4, 6, and 7) are identified as functions of how service is delivered. These cannot be measured but have diagnostic values.

Table 2.1: Summary of Service Quality Gaps with Diagnostic Indications

Gaps	**Brief Description**	**Probable Causes**
Gap 1 The Knowledge Gap	Difference between the target market'seExpected service and management's perceptions of the target market's expected service	▪ Insufficient marketing research ▪ Inadequate upward communications ▪ Too many layers of management
Gap 2 The Standards Gap	Difference between management's perceptions of customer expectations and the translation into service procedures and specifications	▪ Lack of management commitment to service quality ▪ Employee perceptions of infeasibility ▪ Inadequate goal setting ▪ Inadequate task standardization
Gap 3 The Delivery Gap	Difference between service quality specifications and the service delivered	▪ Technical breakdowns or malfunctions ▪ Role conflict/ambiguity ▪ Lack of perceived Control ▪ Poor employee-job fit ▪ Poor technology-fit ▪ Poor supervision or training ▪ Lack of team work

(Table continued)

(Table 2.1 continued)

Gaps	Brief Description	Probable Causes
Gap 4 The Communications Gap	Difference between service delivery intentions and what is communicated to the customer	▪ Lack of horizontal communications ▪ Poor communication with advertising agency ▪ Inadequate communications between sales and operations ▪ Differences in policies and procedures across branches or divisions of an entity ▪ Propensity to overpromise
Gap 5	The discrepancy between customer expectations and their perception of the service delivered	▪ The extent of personal needs influences customer expectations ▪ Word of mouth recommendation ▪ Past service experience
Gap 6	The discrepancy between customer expectations and employees' perception	▪ It creates as a result of a misunderstanding by front-line service providers
Gap 7	The Discrepancy between employees' perceptions and management perception	▪ Differences in the understanding of customer expectation between managers and service providers

Source: Parasuraman, Zeithaml and Berry, 1985; Luk, and Layton, 2002, derived from Shahin (2004), retrieved from https://en.wikipedia.org/wiki/SERVQUAL

The service quality gaps with diagnostic indications are also shown in Figure 2.4. The figure shows the consumer's and provider's gaps between expectation and perception.

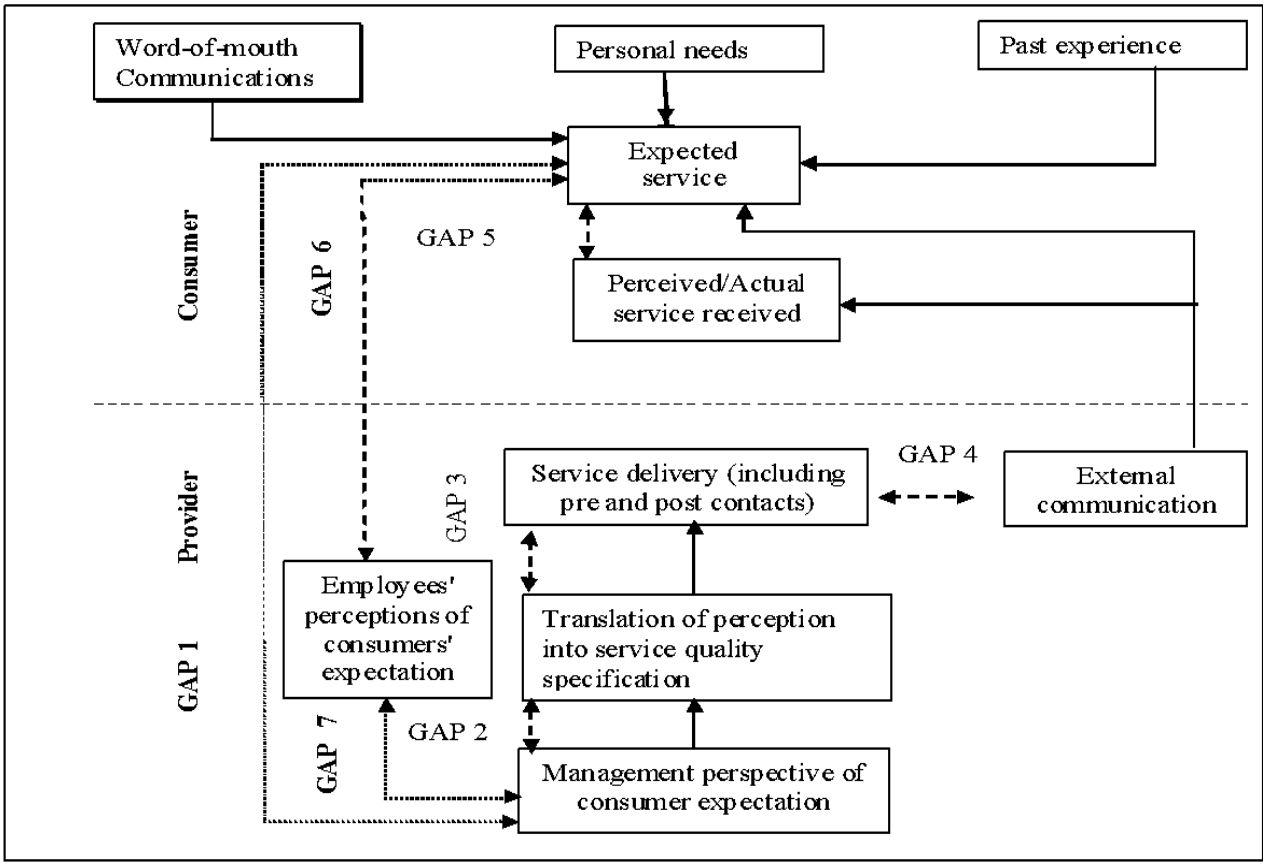


Figure 2.4: Model of Service Quality Gap

Source: Parasuraman, Berry, and Zeithaml, 1985; Luk and Layton, 2002, derived from Shahin (2004)

2.6.8 Use of SERVQUAL Instrument

SERVQUAL is a multidimensional instrument, i.e., questionnaire or measurement scale which is used to measure the service quality by capturing respondents' expectations and perceptions along the five dimensions of service quality (Parasuraman, Berry, and Zeithaml,1991). The instrument developers claim that it is a highly reliable and valid instrument for measuring the gaps of expectation and perception of service receivers (Zeithaml, Parasuraman, and Berry, 1990). The SERVQUAL measuring tool appears to

remain the complete attempt to conceptualize and measure service quality (Nyeck, Morales, Ladhari, and Pons, 2002).

Customer satisfaction is generally measured by the post-consumption evaluation. It measured the difference between the actual and expected quality. There were 22 questions regarding expectation, and 22 questions about perception were asked to the respondents of the sampled districts. The questionnaires of expectation and perception were developed based on the five dimensions of service quality, i.e., tangibles, reliability, responsiveness, assurance, and empathy as follows:

Table 2.2: Summary of SERVQUAL Items

Dimension	No. of Items in Questionnaire	Definition
Tangibles	4	The Appearance of Physical Facilities, Equipment, Personnel and Communication Materials
Reliability	5	The Ability to Perform the Promised Service Dependably and Accurately
Responsiveness	4	The Willingness to Help Customers/Citizen and to Provide Prompt Service
Assurance	5	The Knowledge and Courtesy of Employees and their Ability to Convey Trust and Confidence
Empathy	5	The Provision of Caring, Individualized Attention to Customers/Citizen

Note: Here, customer means the citizen (service receivers) of the sampled local levels.

Source: Parasuraman, Berry and Zeithaml, 1988

The SERVQUAL instrument/approach was used to examine the gap between citizen's expectations of general services (before a service encounter, receiver's predictions, and desires of service quality) and their perceptions (actual service delivered or received) on the services received from local levels. This approach is developed as part of a broader conceptualization of how customers understand service quality. This conceptualization is known as the model of service quality or, more popularly as the gaps model.

A very few researchers have applied dual perspectives of service quality, i.e., provider and receiver of service quality (Chow-Chua and Komaran, 2002). However, most research on service quality has been limited only to the service receiver perspective (Parasuraman, Berry, and Zeithaml, 1988). The study investigated the relationship between

customer expectations of service and front-line employee's perception of customer expectation. Prabha, Soolakshna, and Perunjodi (2010) suggest administering the survey questionnaire to these two distinct groups, i.e., service receiver, and provider.

2.7 Empirical Perspective

The empirical perspectives have been reviewed as follows:

2.7.1 Local Governments' Service Delivery and HDI

The Human Development Index (HDI) is an indicator to measure the success or performance of a country or region in terms of human development, i.e., health, education, and living standard. The decentralized local governments can arrange budgets to finance capital expenditure through general allocation funds and special allocation funds that help at increasing HDI (Rahayu, Raviyanti, and Mahardika, 2016).

Fattah and Muji (2012) used the multiple regression model to estimate and analyze government expenditure on the human development index of Jeneponto regency in South Sulawesi Province, Indonesia using data from 1998 until 2007. The result of the study showed that there was a positive and significant effect to improve HDI in the Jeneponto regency during the period of investigation. The increase in government expenditure on education and infrastructure development contributes to increased HDI, and the municipalities show more significant impact than the district (Sulistyowati, Sinaga, and Novindra, 2017).

Prasetyo and Zuhdi (2013) investigated the efficiency level of government expenditure per capita in health, education sector, and transfer and subsidies in 81 countries towards human development using the DEA approach during 2006-2010. The study found that Armenia, Australia, Bangladesh, Chile, Georgia, Japan, Korea Republic, Lao PDR, Madagascar, Niger, Norway, Philippines, Sierra Leone, Singapore, US, and Zambia found always be positioned in the efficient frontier during the sample period. However, Only Singapore and Zambia succeeded in maintaining improvement among countries. Singapore scored the Malmquist Index 1.768, which meant that the HDI scores of Singapore averagely improved about 76.8 percent each year, given the inputs.

Nepal Human Development Index was published for the first time in Nepal in 1998. The report had focused on the political economy of Nepal. Next time, it was published in 2001, covering poverty reduction perspectives. The third publication came out in 2004 and examined poverty reduction from an empowerment perspective, emphasizing equal opportunities for all. For 2009, the report was on state transformation and human development and identified the cause and effect of exclusion in Nepal. The latest, 2014, attempts to assess the production capability at the district level of Nepal. Human Development broadly represents human capability and well-being. Human capacity encompasses the process, outcome, and choice accompanied by the freedom to choose. The HDI reflects average achievements in the respects such as a long and healthy life. It measures by life expectancy at birth; knowledge that was measured by adult literacy, and mean years of schooling; and a decent standard of living which was measured by Gross National Income (GNI) per capita in purchasing power parity in the US dollar (UNDP, 2014).

The HDI is used as an output variable because it is the tangible outcome and results of the government target, believing that this index is a better measure of human well-being than a mere economic indicator such as GDP growth. Most of the budget of DDCs were focused on education, health, infrastructure development, and capacity development of the citizen. So, the capital expenditure, LGCDP expenditure, and Own Source Revenue should have been an impact on HDI. So, these variables are chosen as predictors/independent variables that have an influence on HDI. The HDI is the key outcome of the service delivery of DDCs in the district.

2.7.2 Local Governments' Service Delivery Efficiency

The decentralization policy implemented in Brazilian municipal did not find efficient use of public resources. The small municipalities were less efficient in providing public goods and services than the bigger ones because they tended to operate with higher average costs. It meant that this was bringing about a significant waste of resources (De Sousa and Romos, 1999).

The reform programs implemented by the organization found positive and significant predictors of public service motivation for the overall commitment to the public

interest. The measurement of levels of hierarchical authority is a positive predictor of public service motivation across all scales. Moreover, the length of organizational membership was found negatively associated with public service motivation. The results reinforce earlier findings on the positive relationship between education and public service motivation (Perry, 1997).

The urban regional and rural agricultural councils of New South Wales have substantial slacks in recyclables and the recycling rate. Still, both are relatively productive in collecting garbage within the constraints imposed by their respective local government areas. However, logistic regression showed that both urban and rural councils were less technically and scale efficient (Shah and Shah, 2006).

A study of Belgium local government found that the local tax rates and education were estimated to influence municipal efficiency positively. Moreover, the per capita block grants an average income affected the efficiency negatively (DE, Borger, and Kerstens, 1996).

In the efficiency analysis of Turkey's municipalities for 2006, 17 municipalities out of 25 were found efficient under the CCR model, but 18 were found efficient under the BCC model in the same year. In 2008, the number of municipalities whose total efficiencies decreased found increased compared to the first two years, 2006 and 2007 (Kutlar and Bakirci, 2012).

A study by Lo Storte (2013) measures the expenditure efficiency of 103 major Italian municipalities using the annual expenditure as an input variable and urban infrastructure, nursery schools, and resident population as output variables. The number of 100 percent efficient municipalities in the CCR and BCC models was 60 and 66 out of 103 municipalities, 58 percent and 66 percent of the sample, respectively. The BCC (in) efficient municipalities remained below the sample average. The inefficiencies were found mostly due to decreasing returns rather than increasing returns to scale.

A study of 231 local municipalities and 46 district municipalities of South African in 2006/07 under the output-oriented approach, on average, 30.5 percent of district municipalities were found technically efficient under constant returns to scale, where 58 percent of district municipalities found technically efficient under variable returns to scale

and 48 percent scale efficient. Under the input-oriented approach, on average, it was found that 47 percent of district municipalities were found technically efficient in the case of variable returns to scale and 64.1 percent scale efficient (Dollery and Van der Westhuizen, 2009).

A study was carried out to identify the efficiency of public spending and potential improvement of the 96 departments in metropolitan France in 2008 using total expenditure as single input administrative units' employ and the output variables were the given level of obligatory tasks provided. The study found significant inefficiencies in public service provision at the intermediate level of government. It was found that the average spending efficiency of the French departments of about 78 to 90 percent, depending on the model specification. So, it was recommended that the expenditure be reduced by 10 to 22 percent while providing the same number of public services (Nieswand and Seifert, 2011).

The political completion at elections does have a destructive effect on the efficiency of the municipal (Ashworth, Geys, Heyndels, and Wille., 2014). The study found that education had a significant positive association with the overall public service motive and two sub-scales commitment to public interest/civic duty and sympathy. Perry had used education as a demographic control. Public service motivation is positively related to the level of education and membership in a professional organization. Red tape and length of organizational membership were negatively associated with public service motivation (Perry, 1997).

2.7.3 Local Government Performance and GDP

It was not easy to measure and document the impact of the Performance-Based Grant System (PBGS) on the efficiency of service delivery and poverty alleviation. However, the Performance-Based Funding (PBF) system, in general, was considered an exciting and useful tool to foster good local governance and accountability by the stakeholders. The use of the PBF system in some countries was found to be process-oriented, and somewhere it was seen only for formality because of paper excellence. Due to the inefficient capacity of DDCs, the minimum requirement of the PBF system was not correctly followed. The three years' results showed that the DDC that passed in one year could not pass in the next year. It was one example of the institutional capacity that did not meet the requirement of the MCPM assessment (Joshi, 2012). The Local Governance Act (LSGA) 1999 and many

other related Acts were not implemented in the right spirit and direction. The central government had given less attention to the effective devolution of power and authority to the lower tiers of the government in Nepal (Lama, 2009).

The study using average per capita internal revenue and per capita fiscal transfer as an independent variable has tried to measure the relationship with the average scores on the performance measure of municipalities of Nepal. The empirical finding suggested that there was a significant positive relationship between revenue decentralization and municipal performance in Nepal (Khanal, 2016).

There is a significant and positive relationship between poverty and choice of public education but an insignificant association with the choice of public health. It is found that people consider health services as an essential consumption. There is negligible expenditure on the health and education of municipalities and VDCs in Nepal (Panta, 2018).

The participation of the marginalized community in the local planning process, program implementation, monitoring, and evaluation was very weak because of their lack of awareness and confidence in contribution. Participation of CSOs in the local planning process found almost nil. There is a lack of harmony and mutual common understanding among policymakers, frontline service providers, and poor people for ensuring effective service delivery to address the demand of needy people. Moreover, he said that the responsibilities of different levels of governments and stakeholders are overlapped each other. As a result, service delivery has become inadequate. There is also weak fiscal autonomy to mobilize local revenue to the local bodies so that local bodies are entirely dependent on the grant of the government of Nepal. The role of private sectors in service delivery is neither recognized nor practiced at the local level (Paudel, 2013).

The revenue and foreign loan exerted a positive impact on local government expenditure. However, the foreign grant and domestic loan did not have any contribution to local government expenditure. The model showed that a one-rupee increase in total national revenue leads to nine (9) paisa increase in local government expenditure. Similarly, if the foreign loan goes up by 1 percent, on average, local government expenditure increases by about 0.13 percent (Lamichhane, 2012).

The study about the impact of fiscal decentralization on economic growth in districts of Nepal found that the coefficients of fiscal decentralizations, including the dummy for the Local Self Governance Act, were statistically significant and positive to economic growth (Devkota, 2014).

For effective service delivery from local bodies in Nepal, a study suggested empowering local bodies in the planning process; improve the system for planning, prioritization, and allocation of resources. Furthermore, the same research says to improve fund flow system; strengthen financial management practice; strengthen audit and financial control system; strengthen monitoring, supervision and evaluation system; enhance accountability, enhance capacity, and enforce performance measurement practices and so on (Ligal, Shrestha, Chapagain, Bista and Maharjan, 2005).

Fiscal decentralization is the devolution of government fiscal responsibilities to lower levels of government. The per capita growth and net fertility tend to move inversely. A higher initial stock of human capital leads to higher growth and lower fertility (Barro, and Becker, 1989; Becker, Murphy, and Tamura, 1990). The per capita growth and investment ratio tend to move together in the endogenous growth model (Rebelo, 1990; Barro, 1990). Barro (1990) used the growth, fertility, and investment for 98 countries for 1960-1985 to measure economic growth. The school enrollment rates are used as a proxy for the flow of investment in human capital.

The primary school enrollment rate was used as a proxy for the initial stock of human capital. The teacher-student ratios in the initial year were used to measure the quality of education (Barro, 1991). The finding is that per capita growth and the percentage of private investment to GDP are negatively related to the ratio of government consumption expenditure to GDP. The proxy variables of political instability such as revolutions, coups, and political assassinations are inversely correlated to growth and investment. The purchasing power parity for investment deflators was used as a proxy for price distortions which were found negatively associated with growth (Barro, 1991).

The initial secondary-school enrollment rates found a significantly positive and robust coefficient. The result confirms the finding of Barro (1991). Theoretically, it is predicted that fiscal decentralization enhances government competency and promotes

economic development and growth (Oates, 1993). The conventional theoretical studies say that fiscal decentralization positively affects economic growth (Akai and Sakata, 2002).

Woller and Phillips (1998) found no significant and robust relationship between fiscal devolution and economic growth for less developed countries. Zhang and Zou (2001), using Indian regional data, found that there was a positive effect of the per capita fiscal devolution shares on Indian regional economic growth, although the impact is only statistically significant when the fiscal decentralization measure used is the per capita revenue share.

The study on efficiency effects of education decentralization in Argentina, Chile. Mexico and Colombia found little evidence that decentralization contributes to gains. The efficiency was measured by an increase in net enrolment in pre-school and primary education, a reduction of dropout and repetition rates, and an increase in completion rates. However, changes in educational expenditures are not considered (Prawda,1993).

Public service motivation is essential not just for inspiration but also for productivity, improved management practice, accountability, and trust in government. Public organizations are not just meaning to produce outputs, and they are also social institutions in which individuals interact and influence each other in the context of a structured environment (Brewer, Sally Coleman, and Rex., 2000). There is no difference between public and private organizations on extrinsic and intrinsic (core/basic/key) motivation (Buchanan, 1975; Gabris and Simo, 1995).

Robinson and Stiedl (2001), following a qualitative approach, conducted a comparative study of decentralized road administration in Nepal, Uganda, and Zambia. The finding was that decentralization does not lead to improvements in the delivery of rural infrastructure services.

Qualitative research on the relationships between decentralization and the effectiveness of local service delivery of the health sector during the period of decentralization in Lao PDR between 1987 and 1992 found a negative impact. Moreover, the subsequent period of the re-centralization study showed that decentralization has a negative impact on effective service delivery. It is due to a lack of local financial resources; as a result, there was a considerable delay in salary disbursement or an inability to

effectively control disease outbreaks and a lack of qualified staff. As a result, there was a decline in the availability of services. But after re-centralization, when the Ministry of Health reasserted control of budgeting, financing, and staff management, the utilization of health facilities increased (Phommasack et al., 2005).

Aslam and Yilmaz (2011) who had carried out a quantitative study about the provision of services such as street paving, water canals, sanitation sewer lines, and school facilities. The application of the Poisson regression model on the longitudinal data set from 1995 to 2007 of 183 randomly selected villages found that the magnitude of services increases significantly but not uniformly across villages and services. But service of water canal provision appeared to be strongly skewed across the villages.

Jones, Lyytikainen, Mukherjee, and Reddy (2007) carried out the qualitative assessment of education committees and mother's committees in co-managing local public services in villages of Andhra Pradesh (India). It has been formed that the towns with proactive committees and service providers experienced improved local public health and education services where committee members themselves got involved in the extension of work. It was also found that a bias towards infrastructure development suggests local political leaders may benefit from kickbacks (bribes/payoffs) from contractors.

Asthana (2003, 2013) estimated the effect of decentralized management of facilities on water supply efficiency in Madhyapradesh and Chattisgarh using a quantitative approach. In 2003, using cross-sectional data from over 1,700 state-run (centralized) and locally run (decentralized) water supply facilities, efficiency was measured in terms of operating expense scaled by annual production and asset utilization. Simple OLS estimation concluded that decentralization was less efficient than centralization. In 2013, the subsequent study was carried out by using panel data of just 1,200 facilities that were decentralized between 2000 and 2010. Wallis and Oates (1988) carried out a study using a difference-in-difference approach to measure supply efficiency. They found the continued increased population and urbanization create pressures for a more decentralized government.

2.7.4 Summary of Empirical Studies

There are many studies on the relationship between decentralization and economic growth. The contribution of fiscal decentralization on growth is meant that there is a sound performance of sub-national government, especially local government in service delivery. A glimpse of selected few studies is presented in Table 2.3 below. There are mixed results of the relationship between fiscal decentralization and quality of service delivery.

Table 2.3: Synopsis of Some Empirical Studies about the Service Delivery Efficiency

SN	Author(s)	Method	Sample	Inputs (I) and Outputs (O)	Main Findings
1	Eeckaut, Tulkens, and Jamar, 1993	DEA, FDH	235 Walloon Municipalities in 1986	I: Total Expenditure O: Length of Municipal Roads, Number of Subsistence Grants and Students in Local Primary Schools, Total Population, Number of Persons Aged 65 and more, Number of Crimes Registered	80 (34 percent) of the Municipalities are Efficient under FDH, DEA
2	De Borger and Kerstens, 1996	DEA, FDH, COLS, SFA	589 Belgian Local Government in 1985	I : Total Expenditure O: Number of Beneficiaries of Minimal Students Enlisted in Local Primary Schools, the Surface of Public Recreation Total Population, a Fraction of Population Older than 65	Mean Efficiency Scores Range from 0.57 (COLS) to 0.94 (FDH)
3	Athanassopoulus, and Triantis, 1998	DEA, SFA	172 Greek Municipalities in 1986	I: Operating Costs (Expenditure on Services, Salaries, Maintenance and Material) O: Actual Households, Average House Areas, Heavy Industrial Use Area, Tourist Areas	Mean Efficiency Scores range from 0.60 (DEA) to 0.85 (SFA)

(Table continued)

(Table 2.3 Continued)

SN	Author(s)	Method	Sample	Inputs (I) and Outputs (O)	Main Findings
4	De Sousa and Ramos, 1999	DEA, FDH	3756 Brazilian Municipalities in 1991	I: Current Spending O: Total Resident Population, Domiciles with Access to Safe Water, Domiciles Served by Garbage Collection, Illiterate Population, Enrolment in Primary and Secondary Municipal Schools	Smaller Municipalities are Less Efficient in the Provision of Public Goods and Services than Bigger Municipalities
5	Balaguer-Coll, Prior, and Tortosa-Ausina (2007)	DEA, FDH	414 Spanish Local Governments (Located in Valencia) in 1995	I: Wages and Salaries, Spending on Goods and Services, Current and Capital Transfers, Capital Expenditure O: Number of Lighting Points, Population, Waste Collected, Street Infrastructure Surface Area, Surface Areas of Public Parks, Quality	Mean Efficiency Scores Range from 0.53 to 0.90 Depending on the Specification Used
6	Sung, 2007	DEA	222 Korean Local Government 1999-2001	I: Local Servants Per 100 Persons, Annual Constant Expenditure Per Capita O: Penetration Rate of Water Supply, Area of Urban Parks, the Ratio of Road Length to the Area, Registered Motor Vehicles, Sewage and Refuse Disposal, Seating Capacity of Social Welfare Institutions, Basic Livelihood Security Recipients, Building Construction Permits, Civil Affairs, and Petition Cases	Mean Efficiency Scores Range from 0.57 to 0.99 Depending on the Specification Used

(Table continued)

(Table 2.3 continued)

SN	Author(s)	Method	Sample	Inputs (I) and Outputs (O)	Main Findings
7	Afonso and Fernandes, 2008	DEA	278 Portuguese Municipalities in 2001	I: Total Per Capita Expenditure O: Calculation of Single Municipal Performance Indicator from Several Municipal Services	Mean Efficiency Scores Range from 0.23 to 0.65 Depending on Region and Specification
8	De, Borge, Falch and Tovmo, 2008	Ratio	362-384 Norwegian Municipalities from 2001-2005	I: Local Government Revenue O: A Constructed Measure of Aggregate Output	Average Output 35 percent below most Efficient
9	Kutlar and Bakirci, 2012	DEA, and Malmquist Index Technique	27 Municipalities of Turkey	I (X): Personal Expenses, Goods and Services Expenses, Current Transfer Expenses, Capital Expenses, Capital Transfer, Total Expenses (All are Controllable) Social Security Expenses (not Controllable) O (Y): Total Population, the Proportion of 65+ Population (65+/City Population %), Number of Pupils, Number of Beds in Tourism Establishment, the Total Number of in Hospital, Number of Visitors I (X) Total Expenses (Controllable) O (Y) Total Population, the Total Number of Beds in the Hospital	There was a decrease in the Number of Efficient Municipalities and the Level of their Efficiencies from 2006 to 2008.

(Table continued)

(Table 2.3 continued)

SN	Author(s)	Method	Sample	Inputs (I) and Outputs (O)	Main Findings
10	Woodbury and Dollery, 2003	DEA with Holistic Indices of Allocative and Technical Efficiency	177 Councils of NSW of Australia	I (X) Management Cost, Maintenance and Operation Cost, Energy and Chemical Cost O (Y) Number of Assessment, Annual Water Consumption, Water Quality Index, Water Service Index (Reliability), the Total Population	There is the Scope of General Improvements in the 1999/2000 Performance
11	Kalb, 2009	DEA, SFA, Pooled OLS Regression Time Fixed Effect;	Sample Size: 660 Observations; 44 Counties over 15 Years (1990-2004). 15 of Outputs (At Least in the Short Run), but have a Decisive Impact on their Quality.	▪ Total Expenditures for County Roads (in Mio. Euro) **Output Variables** ▪ Area of County Roads (in Hectare) ▪ Number of Accidents due to Dad Road Conditions **Exogenous Variables (Characteristics):** ▪ Unemployment Rate (in %) ▪ Population Density (Inhabitants Per Hectare) ▪ Total Population ▪ Accommodation Facilities ▪ Average (Weighted) Kilometers Traveled on County Roads Per Year (in 10000 km) **Exogenous Variables (Determinants):** ▪ Disposable Income (in euro Per Capita) ▪ Payments to Counties (in euro Per Capita) ▪ Herfindahl Index	▪ The Area of County Roads has a Positive and Highly Statistically Significant Impact on Total Expenditure for County Roads. ▪ Number of an Accident due to Bad Road Condition found Positive and not Significant. This could be the fact that County Road is in Good Condition, ▪ A Likelihood Ratio Test of the Trans logarithmic against the Cobb-Douglas Functions Forms Rejected the Cobb-Douglas Function at the 1 Percent Level Indicating that the (more Flexible) trans logarithmic model (used here) seems to be more Appropriate.

(Table continued)

(Table 2.3 continued)

SN	Author(s)	Method	Sample	**Inputs (I) and Outputs (O)**	Main Findings
12	Kalb, Geys and Heinemann, 2011	▪ Stochastic Frontier Analysis ▪ Cross-Section Data of 2004	1015 German Municipalities	**Input Variable (C):** Net Current Primary Expenditure (in a Million Euros) of 2004 Data (Excluded Capital Budget because of the Fluctuating Payment of Large Scale in Infrastructure **Output Variables:** No. of Student in Public School (Primary and Secondary School), No. of Kindergarten Places, the Surface of Public Recreation Facilities (in the Area), Total Population, the Share of Population Older than 65, **Exogenous or Background Variables:** Unemployment Rate (%), Population Density (Inhabitant Per Hector), Accommodation Facilities[2], **Political Background Variables**: Herfindahl Index, the Share of Left-Wing Parties (in percent)	▪ Disregarding Exogenous Factors Can Lead to Significant and Systematic Bias in Estimated Inefficiency Levels, ▪ Efficiency Occurs for Municipalities with High Tourist Activities while the Reverse is True for Municipalities with High Unemployment, ▪ Cobb-Douglas (No-Control and All Control Variables) ▪ Translog (No Control and All Control Variables)

Note: *COLS =Corrected ordinary least squares, DEA = Data Envelopment Analysis, SFA=Stochastic frontier analysis, FDH=Free Disposable Hull, I = Input variables; O= Output variables*

Source: Prepared by the author from various literature

[2] Unemployment rate and population density are used as exogenous and not as output variables to the estimation equation, since these variables can hardly be considered as the result of active policies of local governments. They rather describe the environment in which the local governments have to make their decisions.

The summary of some studies related to the contribution of local level expenditure to the Human Development Index is presented in Table 2.4.

Table 2.4: Summary of the Few Studies Related to Local Expenditure and HDI

Author (s)	**Title**	**Variables**	**Methodology**	**Result**
Rahayu, Raviyanti and Mahardika (2016)	Local Government Revenue, General Allocation Fund, Special Allocation Fund, Capital Expenditure to Human Development Index (HDI) in Papua, Indonesia, 2016	IVs=LGs Revenue, General Allocation Fund through Capital Expenditure DV=HID	Multiple Regression to the Population of the District/City Papua Province	▪ The Local Government Revenue, General Allocation Fund, and Special Allocation Fund through Capital Expenditure Significant Effect and only Partially Special Allocation Fund, which does not Affect the HDI. Central and Local Governments should Consider the Equitable Distribution of Development to Enable the Increase in HDI in the Region or Country.
Fattah and Muji, 2012	Local Government Expenditure Allocation toward HDI in Janeponto Regency of Indonesia, 2012	Y= HDI X1=Health Sector Expenditure Allocation X2=Education Sector Expenditure Allocation X3= Infrastructure Sector Expenditure Allocation Data 1998-2007	OLS Multiple Regression $R^2 = 0.987$	▪ The Allocation of Local Government Expenditure on Health, Education, and Infrastructure Sectors found a Positive and Significant Effect to Improve HDI.
Permata and Tanggulungan , 2014	The Impact of Local Government Spending for Education, Health, and Infrastructure to HDI in East Java-Indonesia, (28 LGs in 2010/11),	DV=HDI X1=Life Expectancy Index X2=Education Index X3=Standard of Living Index	Multiple Regression of a Panel Data	▪ Education Spending has a Positive and Significant Impact on Public Welfare ▪ Health Expenditure found Insignificant ▪ Infrastructure Spending found a Marginal Effect on Public Welfare

Source: Prepared by the Researcher from Various Literature

The summary of some studies related to the service quality (SERVQUAL) approach is presented in Table 2.5.

Table 2.5: Summary of the Review about SURVQUAL Approach

Title	Author (s)	Objectives	Methodology/Processes Inputs (I) and Outputs (O)	Main Findings
A Framework for Determining and Prioritizing Critical Factors in Delivering Quality Services	Shahin (2010)	▪ To ascertain any actual or perceived gaps between customer expectations and perceptions of the service offered, ▪ To point out how the management of service improvement can become more logical and integrated concerning the prioritized service quality dimensions	SERVQUAL approach, instrument Difference between customer expectations and perceived services SQ=E-P E>P=Less Satisfaction E<P = Satisfaction ▪ Five generic dimensions, i.e., tangibles, reliability, responsiveness, assurance, and empathy using 7 points **Likert Scale**	All questionnaire responses were negative, and an overall departmental weighted SERVQUAL score of -1.6 was recorded. It indicates that a significant shortfall in meeting customer expectations across all service areas and dimensions.
SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perception of Service Quality	Parasuraman, Zeithaml, and Berry, 1988	▪ Assessing customer perceptions of service quality, ▪ To describe the development of a multiple-item scale for measuring service quality (SERVQUAL) ▪ To discuss the scale's properties and potential applications	97 item instruments (perception part) were gathered from a quota **Sample:** 200 adult respondents (25 years of age or older) A 97-item instrument was refined by analyzing pooled data (i.e., data from all five service categories considered together **DV**=Overall Q coded as excellent =4, good =3, fair =2 and poor=1) Q= service quality in the form of an average score across all five dimensions	SERVQUAL has a variety of potential applications. It can help a wide range of service and retaining organizations in assessing consumer expectations about eh perceptions of service quality

(Table continued)

(Table 2.5 continued)

Title	Author (s)	Objectives	Methodology/Processes Inputs (I) and Outputs (O)	Main Findings
FM-SERVQUAL: A New Approach of Service Quality Measurement Framework in Local Authorities, Malaysia, 2008	Yusoff, Ismail, and Newell, 2008	▪ To measure the quality-of-service delivery in Johor Bahru City Council	▪ 100+191 respondents were involved in Johor Bahru City council ▪ Factor Analysis Technique used for sample adequacy test ▪ SQ=P/E ▪ The quality index which is formed based on a scale 1 to 5 ▪ Scale index 2.99 and below = Service is below than quality level (P<E) ▪ Scale index 3 to 3.9 and below = Service achieved the minimum of quality level (E=P ▪ Scale index 4 to 5 = Service is achieved good quality level (P>E))	Five elements in the management of technology and ICT and six elements of property management were below the service quality level. Most of the elements of other services were at a minimum quality level. The FM SERVQUAL can measure service quality.

(Table continued)

(Table 2.5 continued)

Title	Author (s)	Objectives	Methodology/Processes Inputs (I) and Outputs (O)	Main Findings
The Transformation of Municipal Services: towards Quality in the Public Sector	Rodríguez, Burguete, Vaughan, and Edwards, 2009	▪ Relationship between the small public local administration and citizens across an analysis of the link between quality and satisfaction	▪ H_1: Public service quality is a direct antecedent of citizen satisfaction, ▪ H2: Satisfaction is positively related to credibility ▪ H3: Quality is positively associated with credibility ▪ H4: Local public quality is determined for technical features, functional features, and latent image ▪ 400 Personal interviews conducted in 76 different local governments in Castellany Leon of Spain ▪ SERVPERF method applied ▪ Survey questionnaires determined to measure five distinct latent constructs, i.e., technical features, functional features, latent image feature, perceived quality and credibility ▪ 5 points Likert scale used ▪ Partial Least Square (PLS) algorithm used.	▪ Satisfaction does not depend on service quality alone. The political situation, taxes, or other personal situations can change citizen's perception, ▪ The effect of quality on satisfaction is just direct, but the impact of quality on credibility is relevant in an indirect way as well.

Source: Prepared by the author from various literature

2.8 Research Gap

Through the review of the literature, the following research gap has been identified.

Most studies have used sectoral expenditure, i.e., education, health, and infrastructure expenditure, as an independent variable to explain the Human Development Index. But this study has used five years' average district expenditure and total expenditure of DDCs to describe the HDI. Moreover, seven provinces and three ecological zones have been used as a dummy variable.

For assessment of the relative efficiency of the local governments, most of the studies have used total expenditure, and few have used local governments' revenues as input variables. However, they have failed to use input variables separately, such as capital expenditure, recurrent expenditure, LGCDP expenditure, LDF expenditure, and so on.

The study on qualitative information regarding the performance-based funding (PBF) system was carried out in the early period of the PBF system implementation in Nepal. The study suggests that it was carried out within five years' performance, which was too early to assess the impact of the system. Therefore, the study recommends carrying out the study to determine the effect of expenditure on local governments' performance (Joshi, 2012).

This study has analyzed the relationship between performance measurement scores of District Development Committees and Municipalities and their expenditures and own-source revenue. The capital expenditure, recurrent expenditure, and LGCDP expenditure of DDCs have been used as an explanatory variable, and additional LDF expenditure has been used for Municipalities as an explanatory variable. Recurrent expenditure has been used as a proxy variable for employees' incentives and organizational capacity of DDCs and Municipalities.

The examination of the local governments' autonomy decentralization and fiscal accountability decentralization would be an important contribution of this study. In the Nepalese context, this study would be the first to analyze the impact of financial resources (expenditure) in the performance of service delivery of local bodies in Nepal. The HDI is also used as a dependent variable which is used as a proxy of service delivery output.

Mainly two models have been estimated (i) five years' average district expenditure is used as the dependent variable and HDI is the independent variable (ii) DDCs' five years' total expenditure (capital expenditure, recurrent expenditure, LGCDP expenditure) are used as an explanatory variable to estimate the contribution of DDCs expenditure on HDI.

2.9 Summary of the Chapter

In the review chapter, the researcher has studied the theoretical perspective of local governance and service delivery and different perspectives of local governments such as traditional fiscal decentralization, new public management, public choice, new institutional economics, and network form of governance of local government. The theory and concept of decentralization, definition, and practice of fiscal federalism, service delivery mechanism of local government have also been reviewed. Moreover, the empirical perspective of local government service delivery and HDI, local government service delivery efficiency, local government performance, and GDP, etc., have also been studied in brief.

CHAPTER III: RESEARCH METHODOLOGY

This chapter describes the research methodology. There are so many types of researches, but broadly descriptive and analytical, applied versus fundamental, quantitative versus qualitative, conceptual versus empirical are important types of research methodologies used by many researchers that depend on the objective of the research (Kothari, 1994). In this study, both descriptive/qualitative and quantitative methods have been used. Both the secondary and primary data are used. The major purpose of descriptive research is a description of the present situation of service delivery. At the same time, the objective of qualitative research is to find out the opinion and experiences of respondents at the local level. In this study, using in-depth interviews with the respondents, the expectations and perceptions about service quality of local governments and level of satisfaction of the citizens have been collected and analyzed to obtain the real ground-level situation of the service quality of local governments before and after the local election in 2017.

This chapter includes data collection process, instruments of data collection, process and methods of analyzing available data. The description of the selection methodology of sampled local bodies, key characteristics of sample districts, selection of variables and data source, study period, and estimation techniques applied for the methods. The research design is the overall strategy to integrate the different components of the study. The research design ensures the evidence obtained enables to effective address of the research problem rationally and as clearly as possible.

To address the objectives, the following research designed has been prepared and applied. The research design has clearly stated the conceptual structure and clarity about the research methodology. The purpose of this research is to explore the association between the variables. For this purpose, both primary and secondary data have been used. However, there is substantial use of secondary data in the study to measure the relation/association between the dependent and independent variables. But the primary data has been collected and analyzed to understand the difference between expectation and perception and the level of satisfaction of the citizen about the quality-of-service delivery of local governments in Nepal.

3.1 The Population of the Study

The population of the study is 75 districts which are represented by earlier 75 District Development Committees (DDCs). Still, the new Constitution of Nepal renamed the then DDCs as District Coordination Committees (DCCs) after the restructuring of local bodies and 58 old Municipalities. The new municipalities have been excluded from the study because they were recently formed and did not have the necessary time-series data. DDCs and municipalities were the local government units, and they used to generate revenues and provide services to the citizen at both district and urban levels.

3.2 Sampling Design

The sample design involves the types of the universe, sampling units such as state, district, village, etc., source list of the universe, size of the sample, etc. The following sampling designs have been used in the study.

3.2.1 Collection of Secondary Data

The secondary data has been used to fulfill the objectives of the research. For this study, the secondary data had been collected from all 75 Districts and DDCs and 58 old Municipalities. The secondary data, for the study purpose, was collected from various government organizations, which is presented in Table 3.1 below.

Table 3.1: Sources of Secondary Data

SN	Variables	Description	Source
1	Dependent Variable	Human Development Index, 2014	Government of Nepal, National Planning Commission and UNDP, 2014
2	Independent variables	Human poverty index, per capita income index	Government of Nepal, National Planning Commission and UNDP, 2014

(Table continued)

(Table 3.1 continued)

SN	Variables	Description	Source
3	Dependent/Output Variable	Scores (0-100) of Performance Measurement	The then Local Body Fiscal Commission, FY 2011/12 to 2015/16
4	Output Variable	Own Source Revenue of DDCs and Municipalities	The then Local Body Fiscal Commission, FY 2011/12 to 2015/16
5	Independent/Input Variables	Capital Expenditure, Recurrent Expenditure, LGCDP Expenditure, LDF Expenditure of DDCs and municipalities	Financial Comptroller General Office, FY 2011/12 to 2015/16

Note: Population data from Government of Nepal, Central Bureau of Statistics, Population Census, 2011

Source: Prepared by Researcher

3.2.2 Collection of Primary Data

For this study, field observation and face-to-face interview methods through questionnaires have been used. Under the observation method, the information has been collected from the respondents. The personal interview method was used with the set questionnaires to gather the information regarding the expectation and perception and the level of satisfaction of the service delivery at the local level. The sample districts and local governments were purposively selected considering that the selected districts represent the Mountain, Hill, and Terai ecological zones and Municipalities and Rural Municipalities. Uttargaya rural municipality of Rasuwa represents the Mountain region, Besisahar municipality of Lamjung represents Hill district and local urban level, and Bindyabasini rural municipality of Parsa represents the Terai district and Rural Municipality (Table 3.2).

Table 3.2: Sample Local Governments

Local Governments	Mountain	Hill	Terai	Total
Rural Municipality	Uttargaya	-	Bindyabasini	**2**
Municipality	-	Besisahar	-	**1**
Total	**1**	**1**	**1**	**3**

Source: Prepared by Researcher

The sample size for the field survey was derived using the following formula (Zikmund, 2006).

$$\text{Sample size (n)} = \frac{Z^2 pq}{e^2}$$

Where, e is the desired level of precision (i.e., the margin of error), p is the estimated proportion of people who pay a property tax (attribute) in the population, q is (1-p), the estimated proportion of people who pay other tax and non-tax, i.e., business tax, rental tax, land tax, and other service fees (attribute) in the population, Z score=1.96; p=0.5, q=0.5, and e=0.06 (the margin of error). Due to the time constraint of the researcher, the margin of error has been taken at 6 percent level rather than at 5 percent level. Theoretically, it might be un-statistical consideration of the researcher. The confidence level is at 95 percent. Putting the value in the formula:

$$\frac{(1.96)^2(0.5)(1-0.5)}{(0.06)^2} = \frac{(3.84)*0.25}{0.0036} = 0.9604/0.0036 = 267$$

The primary data were collected from August 20, 2018, to September 30, 2018.

(a) Key Informant Interview

The closed questions were prepared to gather primary information regarding satisfaction level and expectation and perception of service delivery status from the service receivers' and provider's perspectives. From the receivers' side, the general people, teachers, students, business persons, etc., were interviewed in the selected field. From the providers' side, the Chairpersons and Vice-Chairpersons of selected rural municipalities, Mayors and Deputy Mayors of selected municipalities, selected Ward Chairs, and Chief Administrative Officers were interviewed.

The performance or the outcomes of the service delivery of local government have been tested using the method of constructing questionnaires through the field level survey that has helped to measure the residents' (citizens') perceptions and satisfaction level of service delivery of local governments. All interviews were scheduled in advance and conducted individually in person in the respective field. The interview was properly documented with notes. However, the voice recording of the interview was not taken

considering the reluctance of the interviewees. The name list of the key informants (experts) is presented in Annex 26.

(b) Mailed Questionnaire Method

This method was used to get feedback from the experts for finalizing the field-level questionnaires and collection of opinions of the experts. The necessary information was collected through a set of questionnaires. The questions were related to the expectation and perceptions about the services provided by the local governments. For this purpose, the set of questionnaires was prepared in Google Drive and shared with the concerned respondents through e-mail, and the regular follow-up was continued until the responses were received. This method was used by the key persons who have been involved in the policy level and experts residing in the Kathmandu valley.

3.3 Description of Variables

The dependent and independent or input and output variables used in the analysis are briefly described below. A brief explanation of each variable used in the different models is presented as follows.

A. Dependent and Output Variables

Human Development Index has been used as the dependent variable in regression analysis. The scores of performance measurement and own-source revenue of DDCs and municipalities have been used as output variables in the study of relative efficiency using the Data Envelopment Analysis (DEA) technique. A brief explanation of the variables is presented as follows:

1. Human Development Index (HDI)

The HDI is a composite index measuring average achievement in three basic dimensions of human development, i.e., health (life expectancy), education (adult literacy and mean year of schooling), and income (GNI per capita income at PPP$). The HDI is computed as the geometric mean of the normalized indexes measuring achievement in each of the three dimensions. Life expectancy at birth is a summary measure of the health status of the population, adult literacy and mean year schooling is the proxy of educational status, and per capita, Gross National Income (GNI) is the substitute of the economic status of the

population (GoN, NPC & UNDP, 2014). This variable has been used as the proxy output of the service delivery at the district level.

2. Scores of Performance Measurements of DDCs and Municipalities

The scope of performance measurement which was known as minimum condition and performance measure (MCPM) of DDCs and municipalities of the last five fiscal years, has been collected from the regular publication of the Local Body Fiscal Commission, which is used as a dependent or explanatory variable in the study.

The performance of service delivery of District Development Committees and Municipalities has been assessed broadly on five thematic areas. Furthermore, there were 46 leading indicators and 130 sub-indicators to measure the performance of DDCs. However, for the municipalities' performance assessment, there were 40 leading indicators and 152 sub-indicators. Based on the fixed indicators, the performance is assessed in 100 marks. The minimum pass mark was 40 out of 100 marks. But the DDCs and municipalities must have to receive at least pass marks in each thematic area. It indicates the 'institutional capacity or ability to deliver basic services' of DDCs and municipalities. This has been used as a proxy of citizen satisfaction as a dependent variable in the analysis. In DEA analysis, it has been used as an output variable. Performance scores achieved by respective DDCs and municipalities are firstly converted/translated from 1 to 7 scoring system as follows:

1	DDCs which fail in minimum condition (MC), 100 percent grant deduction	= 1
2	MC pass but fail to get minimum marks in the thematic area (20 percent grant loss)	= 2
3	25 percent DDCs securing lowest category (15 percent grant deduction)	= 3
4	25 percent DDCs securing third category (10 percent grant deduction)	= 4
5	25 percent DDCs securing highest marks with second category (10 percent additional grant)	= 5
6	25 percent DDCs securing highest marks with first category (15 percent additional grant)	= 6
7	Three DDCs securing highest marks (20 percent additional grant)	= 7

To minimize the variation, the above composite seven scales have been recoded into three scales as follows:

1. Poor performance (1)	= 1
2. Moderate performance (2, 3, and 4)	= 2
3. Better performance (5, 6, and 7)	= 3

Table 3.3: Performance Measurement Indicators of DDCs and Municipalities

DDCs					Municipalities				
Thematic Areas	**Indicators**		**Scores/Marks**		**Thematic Areas**	**Indicators**		**Scores/ Marks**	
	Main	**Sub**	**Full**	**Pass**		**Main**	**Sub**	**Full**	**Pass**
Planning and budgetary management	8	24	16	7	Local Governance	8	30	20	8
Resource mobilization and Financial Management	11	30	25	10	Resource Mobilization and Financial Management	11	34	28	11
Budget release, expenditure and program implementation	6	15	16	6	Planning and Program Management	8	33	20	8
Monitoring and evaluation, communication, and transparency	12	34	26	10	Organization and Human Resource Development	5	17	10	4
Organizational management and functional assignment	9	27	17	7	Urban Basis Service Management	8	38	22	9
Total	**46**	**130**	**100**	**40**	**Total**	**40**	**152**	**100**	**40**

Source: LBFC (2008, 2009)

Generally, the service delivery outcomes are established by the relationship between the inputs and outputs of service providers. In this study, the service delivery of local bodies (DDCs and municipalities) has been measured as a proxy of the marks obtained by DDCs and municipalities in the assessment of performance measures carried out by the Local Body Fiscal Commission Secretariat. The improvement in the result of performance measurement may indicate the improvement of the level of provision of other public services (Rodríguez, Burguete, Vaughan and Edwards, 2009).

3. Own Source Revenue of DDCs and Municipalities

The own source revenue of DDCs and municipalities is the aggregate revenue collected by DDCs and municipalities during the period of the specific fiscal year. The data of Own Source Revenue (tax and non-tax revenue) was derived from the regular publication of the Local Body Fiscal Commission (LBFC) under the Ministry of Federal

Affairs and Local Development. The deflated per capita Own Source Revenue (OSR) has been used in correlation, regression and DEA analysis.

B. Explanatory and Input Variables

The following variables have been used as explanatory variables in regression analysis.

Total District Expenditure

The total district-level expenditure of the government of Nepal has been used as an explanatory variable in the regression analysis. The deflated per capita total district expenditure has been used in correlation, regression, and DEA analysis. It has also been used to measure the ratio of expenditure decentralization of DDCs.

1. DDCs' Expenditure and Own Source Revenue

The capital expenditure, recurrent expenditure, Local Governance, and Community Development Programme (LGCDP) expenditure, and own-source revenue have been used as independent variables to explain the HDI.

2. Municipal Expenditure and Own Source Revenue

The per capita recurrent, capital, LGCDP, and Local Development Fee (LDF) and own-source revenue of municipalities have been used as independent variables and the score of performance measurement of the municipalities has been used as a dependent variable. The per capita recurrent expenditure has been used as a proxy of the institutional capacity of municipalities. The deflated figure of all variables has been used in correlation, regression, and DEA analysis.

3. Geographical Area

The geographical area has been used as a proxy of the territory of the respective local government. The reason to include this variable was that the cost of the basic public services would be higher for the local governments with the more extensive territory and low population. The cost-of-service delivery might be relatively higher in larger territories compare to a smaller one. Therefore, the geographic size of the local government may affect spending efficiency.

C. Dummy Variable

The seven Provinces and three ecological regions (Mountain, Hill, and Terai) have been represented by dummy variables in the regression analysis.

The following dummy variables have been generated for three ecological regions:

1= Mountain; 2= Hill; 3=Terai

- ED_1 = 1 if ecology is 'Mountain'; 0 otherwise
- ED_2 = 1 if ecology is 'Terai'; 0 otherwise
- Hill is considered as the reference/comparison/base/control/benchmark category

The following dummy variables have been generated for Seven Provinces:

1= Province 1; 2 = Province 2; 3 = Province 3; 4 = Province 4

5 = Province; 6= Province 6; 7 = Province 7

- PD_1 = 1 if Province 1'; 0 otherwise
- PD_2 = 1 if Province 2'; 0 otherwise
- PD_3 = 1 if Province 3'; 0 otherwise
- PD_4= 1 if Province 4'; 0 otherwise
- PD_5 = 1 if Province 5'; 0 otherwise
- PD_6= 1 if Province 6'; 0 otherwise
- Province 7 is considered as the reference/comparison/base/control/benchmark category

Only two dummy variables about the ecological region and six dummy variables about Provinces have been introduced since there are three ecological regions and seven Provinces, respectively to avoid falling into the ***dummy-variable trap*** (i.e., the situation of perfect collinearity).

D. The Study Period

The cross-sectional data have been used for the estimation of regression analysis. The panel data for the period from the FY 2011/12 to 2015/16 has also been used for the study of the ordinary regression model. However, to estimate the association between HDI and district expenditure, the total average district expenditure (Five Years' data from FY 2009/10 to 2013/14) has been used.

E. Data Deflation

The nominal value of any economic statistic is measured in terms of actual prices that exist at the time. The real value refers to the same statistic after it has been adjusted for inflation. The inflation rate is the percent change in the consumer price index (CPI). The FY 2011/12 has been fixed as the base year, and the remaining four fiscal years' data have been deflated in order to stabilize the variance of random or seasonal fluctuations and/or highlight cyclical patterns in the data. Annual change percentage in the Consumer Price Index has been used to convert the measurements in the money prevailing in the base year (Annex 22).

3.4 Methodologies Used for Analysis

3.4.1 Measurement of Fiscal Decentralization

The following indicators have been applied to measure fiscal decentralization:

1. Revenue Autonomy (RA)

The revenue autonomy has been used to measures the autonomy (degree of fiscal independence) of a local government in a state. Even if the revenue or expenditure share of local government is small about total revenue or expenditures within the state, local government autonomy is high if all fiscal needs are financed in the local government region, in which authority may be fiscally decentralized. Therefore, autonomy should be considered as one of the measures of fiscal decentralization. The autonomy indicator (AI) is defined as the local government's own revenue share of its total revenue. For this study purpose, DDCs' and municipalities' revenue autonomy (RA) has been calculated. This indicator measures the fiscal independency of DDCs and municipalities. Even if the local share of expenditure and revenues are low, the DDCs may still be considered to be more decentralized if they raise most of the revenues from their own sources. It is calculated as a share of total DDCs or municipalities revenues that are from the own sources' revenue (Devkota, 2014).

$$RA_{it} = \frac{\text{Own Rev}_{it}}{\text{Own Rev}_{it} + \text{GoN Rev}_{it}}$$

Where, 'Own Rev' indicates the DDCs' and municipalities' own-source revenues (OSR) collected from the tax and non-tax sources whereas 'GoN Rev' means the grant received from the Government of Nepal by DDCs and Municipalities.

Shah (2016a) explains that tax autonomy is the source and power of imposing a local tax by local governments. The higher value of tax autonomy indicates that there is a higher chance of collecting higher tax revenue. The formula of tax autonomy is as follows.

$$\text{Tax Autonomy} = \frac{\text{Total Tax Revenue}}{\text{Total Internal Revenue}}$$

2. Budget Performance Ratio

The budget performance ratio represents the budget performance and expenditure capacity of local governments in Nepal. The percentage is derived in such a way that the actual total expenditure (ATE_{it}) has been divided by budgeted total expenditure (BTE_{it}). It measures the ability of local governments to manage the budgets they set in the accounting period (Nollenberger, 2003; Chaney, Mead and Schernann, 2002).

$$BUP_{it} = \frac{ATE_{it}}{BTE_{it}}$$

Where, ATE means actual total expenditure and BTE means budgeted total expenditure.

Note: *The same formula has been used to measure fiscal decentralization at the municipal level.*

3.4.2 Regression Analysis of District Level Cross-Sectional Data

Empirical research is based on observed and measured phenomena and derives knowledge from experience rather than theory or belief. The "empirical" refers to using a working hypothesis that can be estimated using observation and experiment. The following regression analysis has been carried out to justify the objectives of the study.

Model Specification

According to UNDP (2014), HDI is the influence of several factors, among others, economic growth, which is represented by per capita income (ratio of the gross national income to population), inequality of income distribution that is represented by Gini index,

and government expenditure. More specifically, the human development index (HDI) is a composite index measuring average achievement in three basic dimensions of human development, i.e., health (life expectancy), education (adult literacy and mean year of schooling), and income (GNI per capita income at PPP$). GNI per capita is the aggregate income of an economy generated by its population.

As per UNDP (2014), HDI is the function of per capita income, Gini index, and government expenditure. The model would be as follow:

HDI = f (per capita income, Gini index, and government expenditure).

Inequality is important to understand the political, social, and economic implications of the country (McGregor, Smith, and Wills, 2019). If there is no information on household income or consumption, to measure inequality in living standards, data on household infrastructure, building materials, and ownership of certain durable assets can be used (McKenzie, 2005). Saltz (1995) derived the distribution of income in the Third World using the per capita ownership of cars, infant mortality rates, and the average daily caloric requirement along with the per capita Gross Domestic Product.

For the analysis purpose, the model is fixed as follow:

HDI = f (per capita income index, HPI, and average district expenditure).

Due to the lack of data on district-wise Gini-coefficient, the human poverty index (HPI) is used as a proxy of the distribution of income inequality. It is because UNDP (2014) used HPI as an average deprivation in the three basic dimensions of human development such as a long and healthy life (population not expected to survive beyond age 40), knowledge (adult literacy rate), and a decent standard of living (percentage of the population without access to safe drinking water, and percentage of children under age five who are malnourished). The expenditure on education and health will have a delayed impact, so the five years' average district expenditure has been used as an independent variable to explain HDI.

Specific Objective One: to assess the impact of per capita income index, HPI, and average district expenditure on HDI. The seven provinces and three ecological zones are used as dummy variables.

Conceptual Hypotheses: The multiple regression of HDI is best fitted to the data for ten sets of predictor variables (e.g., per capita expenditure, HPI, average district expenditure, ecological regions, and provinces).

Research Questions: What is the possible best model of HDI under the influence of per capita expenditure, HPI, per capita income index, ecological region, and political division, i.e., Provinces?

Model: One

$$Y = \beta_0 + \beta_1 PCII + \beta_2 HPI + \beta_3 ADE + \beta_4 ED_1 + \beta_5 ED_5 + \beta_6 PD_1 + \beta_7 PD_3 + \beta_8 PD_4 + \beta_9 PD_5 + \beta_{10} PD_6 + \varepsilon$$

The explanation of variables used in model one is presented in Table 3.4.

Table 3.4: Variables Used in the Cross-Section Regression Analysis

Variables		Explanation of variables
Y	=	HDI_2014 (Dependent Variable)
PCII	=	Per Capita Income Index
HPI	=	Human Poverty Index
ADE	=	Average District Expenditure of five FYs in billion rupees
ED_1	=	Dummy Variable 'Mountain'
ED_2	=	Dummy Variable 'Terai'
PD_1		Dummy Variabble 'Province 1'
PD_2	=	Dummy Variable 'Province 2'
PD_3	=	Dummy Variable 'Province 3'
PD_4	=	Dummy Variable 'Province 4'
PD_5	=	Dummy Variable 'Province 5'
PD_6	=	Dummy Variable 'Province 6'
ε	=	Error Term

Moreover, Y, is the response variable; X is the predictor variable;

Dummy Variables: 3 ecological regions and Seven Provinces

3.4.3 Regression Analysis of DDCs Level Cross-Sectional Data (75 DDCs)

This regression analysis aims to examine the relationship between HDI and five years' total capital, LGCDP, and the Own Source Revenue of DDCs in Nepal. The rationale behind selecting the variables is that most of the budget of DDCs goes to education, health, infrastructure development, and capacity development of the citizen. So, the capital expenditure, LGCDP expenditure, and Own Source Revenue do impact HDI. So, these variables are chosen as independent variables to represent HDI as the vital output of service delivery of DDCs in the district. The seven provinces and three ecological zones are used

as dummy variables. The definition of used variables is as follows. Under this, the following nine models have been estimated.

Specific objective: The specific objective of model Two is to examine the contribution of total DDCs expenditures (five years' total capital expenditure, LGCDP expenditure and Own Source Revenue) to Human Development Index (HDI) in Nepal along with dummy variables i.e., three ecological regions and seven Provinces (The five fiscal years' data is used from FY 2011/12 to 2015/16).

Conceptual hypothesis: DDCs' expenditure, ecological regions, and provinces have a significant effect on the HDI.

Following regression models have been estimated to address objective two of the study. It has analyzed the influence of local levels expenditure on HDI and service delivery performance of municipalities and DDCs in Nepal.

Model: Two

$$Y = \beta_0 + \beta_1 CapExp + \beta_2 LGCDP_Exp + \beta_3 OSR + \beta_4 ED_1 + \beta_5 ED_2 + \beta_6 PD_1 + \beta_7 PD_3 + \beta_8 PD_4 + \beta_9 PD_5 + \beta_{10} PD_6 + \varepsilon$$

The explanation of variables used in model one is presented in Table 3.5.

Table 3.5: Variables Used in the Cross-Section Regression Analysis

Variables		Explanation of variables
Y	=	HDI_2014 (Dependent Variable)
CapExp	=	Five Years' Total Capital Expenditure of DDCs (Rs. in billions)
LGCDPExp	=	Five Years Total LGCDP Expenditure of DDCs (Rs. in billions)
OSR	=	Five Years Total Own Source Revenue of DDCs (Rs. in billions)
ε	=	Error Term (the residual error, which is an unmeasured variable)
	=	Y-intercept
	=	The first regression coefficient; and so, on accordingly

Coefficient interpretation

Suppose X_1 is a continuous variable, β_1 represents the difference in the predicted value of Y for each one-unit difference in X_1 if other variables remain constant. This means

that if X_1 differed by one unit (and other variables did not differ), Y would vary by β_1 units, on average.

Similarly, β_2 is interpreted as the difference in the predicted value in Y for each one-unit difference in X_2 if X_1 remains constant. However, since X_2 is a categorical variable coded as 0 or 1, a one-unit difference represents switching from one category to the other. β_2 is then the average difference in Y between the category for which $X_2 = 0$ (the reference group) and the category for which $X_2 = 1$ (the comparison group)? The following ordinary least square (OLS) assumptions of regression models have been examined.

(i) No Multicollinearity

The situation in which two or more explanatory variables in a multiple regression model is highly linearly related is known as multicollinearity. In other words, multicollinearity is the condition of the linear relationship between/among some or all explanatory variables of the regression model. If the value of variance inflation factor (VIF) is equal to one, there is no collinearity between two predictor variables. In cases of high collinearity, the estimated standard errors increase dramatically, thereby making the t values smaller. The value of R square will be high (more than 0.90) than based on the F test, one can convincingly reject the null hypothesis that $\beta_2=\beta_3= \ldots= \beta_k=0$. Indeed, this is one of the signals of multicollinearity: insignificant' values but a high overall R square and a significant F value (Gujrati et al., 2015).

The collinearity statistics say that if the VIF value of the predictors is less than 10, it can be confirmed that there is no problem of multicollinearity (Gujarati et al., 2015).

(ii) No Autocorrelation

The correlation between members of a series of observations ordered in cross-sectional data is called spatial autocorrelation. The classical linear regression model assumes that such a correlation does not exist in the disturbance u_i. Symbolically, cov (u_i, $u_j | x_i, x_j$) = E (u_i, u_j) = 0; $i \neq j$

The disturbance term relating to any observation is not influenced by the disturbance term relating to another observation (Gujarati et al., 2015).

If the calculated' value lies between the lower and the upper limit, there is inconclusive evidence regarding the presence or absence of positive first-order serial correlation. To confirm it, the run test has been applied as follow:

Run test: Non-parametric Test

Null hypothesis: The numbers of runs are (asymptotically) random. If the 'p' value of the residuals in both median and mean is found greater than 5 percent meaning that the null hypothesis can't be rejected. So, it can be confirmed that there is no serial correlation in the residuals.

(iii) Normal Distribution of Residuals

The classical normal linear regression model assumes that each u_i is distributed normally with mean E (u_i)=0. The normality assumption says that the error has a normal distribution (Gujarati et al., 2015).

The following hypotheses of normality test of residuals have been tested.

H_0: Residual is normally distributed

H_1: Residual is not normally distributed

The Kolmogorov-Smirnov and Shapiro-Wilk tests have also been used to see whether the residuals are normally distributed or not.

(iv) Homoscedasticity

The important assumption of the classical linear regression model is that the variance of each disturbance term u_i, conditional on the chosen values of the explanatory variables, is some constant number equal to σ^2. In other words, there is an equal variance of disturbance terms in all levels of the dependent variable (Gujarti et al., 2015). The most common concerns in cross-section data are heteroscedasticity or spatial correlation (e.g., the crime rate in city A affects the crime rate in city B). The null hypothesis is that heteroscedasticity is not present (homoscedasticity) in the model. The heteroscedasticity can arise as a result of the presence of outliers.

3.4.4 Ordinary Least Square Analysis of DDCs' Level Panel Data

The ordinary regression model is estimated using the 75 DDCs' five years' panel data to predict performance measurement results about the recurrent, capital, and LGCDP expenditure and OSR revenue of DDCs.

Model: Three

Where,

β_1 CapExp = Capital expenditure of DDCs

β_2 LGCDPExp = LGCDPexpenditure of DDCs

β_3 OSR= Own Source revenue of DDCs

β_4 ED_1 = Mountain district (dummy variable)

β_5 ED_2 = Terai district (dummy variable)

ε = Error terms;

3.4.5 Measurement of Pooled OLS Regression Model of Municipal Panel Data

The five years' data of 58 municipalities have been used to estimate the regression models. A common panel data regression model is as follow:

Model: Four

$$Y_{it} = \alpha+\beta_1 X_{1it}+ \beta_2 X_{2it}+ \beta_3 X_{3it}+ \beta_4 X_{4it} + \beta_5 X_{5it} + \varepsilon_{it}$$

Where,

Y_{it} = PM Scores/marks obtained by municipalities in Performance Measure

X_{1it} = Per capita LGCDP expenditure of municipalities (PCLGCDPEXP)

X_{2it} = Per capita Own Source Revenue (OSR) of municipalities (PCOSR)

X_{3it} = Per capita recurrent expenditure of municipalities (PCRECEXP)

X_{4it} = Per capita LDF expenditure of municipalities (PCLDFEXP)

X_{5it} = Per capita capital expenditure of municipalities (PCCAPEXP)

ε_{it} = Error terms; α is intercept and β is coefficient, i and t are indices for individuals' local government and time. The error e_{it} is very important in this analysis. Assumptions about the error term determine fixed effects or random effects.

Model four is further specified as following pooled OLS regression model assuming that the regression coefficient of all objects is the same.

$$Y_{it} = \beta_1 + \beta_2 PCLGCDPEXP_{it} + \beta_2 PCOSR_{it} + \beta_3 PCRECEXP_{it} + \beta_4 PCLDFEXP_{it} + \beta_5 PCCAPEXP_{it} + u_{it} \quad (1)$$

i= 1, 2, …,58 (Municipalities)

t= 1,2, …,5 (Five fiscal years)

But, in real life, the intercept of the different subjects may be different due to the special feature of the subjects, such as managerial style, managerial philosophy, and so on. In literature, model (2) is known as the fixed effects (regression) model (FEM). The term 'fixed effect' is because, although the intercept may differ across subjects, each entity's intercept does not vary over time; this is, it is time-invariant—the intercept as β_{1it} it would suggest that the intercept of each entity or individual is time-variant.

$$Y_{it} = \beta_{1i} + \beta_2 PCLGCDPEXP_{it} + \beta_2 PCOSR_{it} + \beta_3 PCRECEXP_{it} + \beta_4 PCLDFEXP_{it} + \beta_5 PCCAPEXP_{it} + u_{it} \quad (2)$$

i= 1, 2, …,58 (Municipalities)

t= 1,2, …,5 (Five fiscal years)

In statistics, a random-effects model, also called a variance components model, is a statistical model where the model parameters are random variables. The random-effects model is a particular case of the fixed-effects model. The random-effects assumption is that the individual-specific effects are uncorrelated with the independent variables. In contrast, the fixed effect assumption is that the individual-specific impact is correlated with the independent variables. The random-effect model (FEM) is also known as an error components model (ECM).

The basic idea is to start from equation (2)

$$Y_{it} = \beta_{1i} + \beta_2 PCLGCDPEXP_{it} + \beta_2 PCOSR_{it} + \beta_3 PCRECEXP_{it} + \beta_4 PCLDFEXP_{it} + \beta_5 PCCAPEXP_{it} + u_{it} \quad (3)$$

Instead of treating β_{1i} it as fixed, we assume that it is a random variable with a mean value of β_{1i} (no subscript $_i$ here). The intercept value of an individual municipality can be expressed as

$$\beta_{1i} = \beta_1 = \varepsilon_i \quad (4)$$

where, ε_i is a random error term with a mean value of zero and a variance of σ_ε^2.

The individual differences in the intercept values of each municipality are reflected in the error term ε_i. The substitution equation (4) into equation (3) gives

$$Y_{it} = \beta_{1i} + \beta_2 PCLGCDPEXP_{it} + \beta_2 PCOSR_{it} + \beta_3 PCRECEXP_{it} + \beta_4 PCLDFEXP_{it} + \beta_5 PCCAPEXP_{it} + \varepsilon_i + u_{it}$$

$$= \beta_{1i} + \beta_2 PCLGCDPEXP_{it} + \beta_2 PCOSR_{it} + \beta_3 PCRECEXP_{it} + \beta_4 PCLDFEXP_{it} + \beta_5 PCCAPEXP_{it} + \omega_{it} \quad (5)$$

where;

$$\omega_{it} = \varepsilon_{it} + u_{it} \quad (6)$$

The composite error term w_{it} consists of two components: which is the cross-section, or individual-specific, error component, and is the combined time series and cross-section error component, and is sometimes called the idiosyncratic term because it varies over cross-section (i.e., subject) as well as time (Gujarati et al., 2015).

3.4.6 Measurement of Relative Efficiency of 75 DDCs and 58 Municipalities

The models five and six are related to the measurement of relative efficiency of DDCs and municipalities.

Table 3.6: Variables Used in Measuring Relative Efficiency

Models	**Input variables**	**Output variables**
Model Five (For DDCs)	Scores of performance measurement and per capita own-source revenue	Per capita capital expenditure, per capita recurrent expenditure, and per capita LGCDP expenditure
Model Six (For Municipalities)	Scores of performance measurement and per capita own-source revenue	Per capita capital expenditure, per capita recurrent expenditure, per capita LGCDP expenditure, and per capital LDF expenditure

Source: Prepared by researcher

Data Envelopment Analysis (DEA) Method

Data Envelopment Analysis (DEA), a non-parametric method, is used for the estimation of production frontiers. The DEA developed by Charnes et al. (1978) is a technique based on linear programming. DEA is also known as frontier analysis that is a performance analysis technique that is used for analyzing the relative efficiency of service delivery of DDCs and municipalities in this study. The main objective of using DEA is to determine which Decision-Making Units (DMUs) are operating on their efficient frontier and which DMUs are not. If the DMU's input-output combination lies on the DEA frontier, the DMU is considered efficient; and the DMU is considered inefficient if the firm's input-output combination lies inside the frontier (Karimzadeh, 2012). DEA is applied to empirically measure the productive efficiency of decision-making units (DMUs).

In the DEA methodology, formally developed by Charnes, Cooper, and Rhodes (CCR) in 1978, efficiency is defined as a ratio of the weighted sum of outputs to a weighted sum of inputs, where the weights structure is calculated using mathematical programming and constant returns to scale (CRS) are assumed. In 1984, Banker, Charnes, and Cooper (BCC) developed a model with variable returns to scale (VRS). Data envelopment analysis (DEA) model is also called the envelopment model because the identified best-practice frontier envelops all the observations (Decision Making Units-DMUs)

The concept is that to evaluate the input usage of DMUs by holding output produced is constant, the *input-oriented DEA approach* is used. It is because the method seeks the maximum possible proportional decreases in input usage with given output levels. On the other hand, to know whether the maximum possible output is produced by the decision-making units with a given set of inputs, the *output-oriented DEA* method is used. It seeks the maximum possible proportional increase in output with a given set of inputs. However, under the constant returns to scale technology, these two approaches give the same results in terms of technical efficiency index. Still, under variable returns to scale technology, the technical efficiency index may differ (Coelli and Rao, 2001).

For multiple inputs and multiple outputs, it requires to measure productivity as the ratio of an output index divided by an input index. The input index is generally defined as a weighted sum of all inputs, and output index is a weighted sum of all outputs.

$$\text{Total Factor Productivity (TFP)} = \frac{\text{Output Index}}{\text{Input Index}}$$

The weights used in these indexes usually are cost shares in the input index and revenue shares in the output index; that is, the researcher uses price information.

Choice of the DEA Model

The output-oriented DEA method has been used. The variable returns to scale (VRS) model have been applied. The output target has been measured, and the Malmquist productivity index approach has been used to analyze the changes in the total productivity of the DMUs over time.

Efficiency Measurement

The efficiency measure used in DEA is the ratio of total outputs to total inputs (Ramanathan, 2003). The formula for measuring relative efficiency is as follow:

$$\text{Relative Efficiency} = \frac{\text{Output}}{\text{Input}}$$

The performance of DMUs is assessed in DEA using efficiency. The efficiencies estimated are relative to the best-performing DMU. The best-performing DMU has been assigned an efficiency score of unity or 100 percent, and the performance of other DMUs vary between 0 and 100 percent relative to the best performance.

The most basic form of DEA, i.e., the BCC model, is used. The CCR score is called global technical efficiency (GTE), and the BCC score is called local pure technical efficiency (LPTE) (Cooper, Seiford, and Tone, 2007). The scale efficiency is obtained by the proportion (SE=GTE/LPTE) of these two scores (Gökşen, Dogan, and Ozkarabacak, 2015). The input-oriented approach applies to a situation in which DMU seeks to deliver the desired output with the minimum input (Dollery and Van der Westhuizen, 2009).

The CCR assumption says that there should be full proportionality between inputs and output, but often such a situation cannot be assumed. The CCR model is accepted if the DMUs operate under the condition of their optimal size. The CCR model assumes that

there is perfect competition, but in the real world, this situation will not happen or is unreal. The imperfect competition, financial constraints, control steps, and other factors can cause DMUs not to operate at their optimal size. Therefore, the BCC (VRS) model has been developed to overcome this problem.

Technical and Scale Efficiency

Technical efficiency is meant the non-existence of any waste of resources. It is the success of producing the maximum output by utilizing the available inputs most efficiently. The technically efficient DMUs are located on the efficient frontier, whereas the DMUs below the efficient frontier waste their resources relatively (Karaduman, 2006).

The CCR model calculates the total efficiency scores under the CRS assumption, and technical efficiency scores are calculated from the BCC model under the VRS assumption. The scale efficiency is calculated by using the following formula (Farrell, 1957).

$$\text{Scale efficiency} = \frac{\text{Total efficiency score (CCR)}}{\text{Technical efficiency score (BCC)}}$$

If the value of the ratio is one, the DMU is operating at an optimal scale. If the ratio is less than one, then the DMU appears to be too small or too large relative to its optimum size.

Output-Oriented Efficiency Measurement

It is assumed that company Y is producing two outputs by using one input. It is illustrated in Figure 3.3. In Figure 3.3, there are two outputs, i.e., output one and output two. The DD curve is the input isoquant. It is seen that company Y produces Y_1 units of output (Output 1) and Y_2 units of output (output 2) by using one unit of input. Y lies below the DD curve, so it is inefficient. The line RR represents the cost minimization line. The distance $|YS|$ is the technical inefficiency because both (two) outputs will be increased until reaching point S (Karaduman, 2006). In an input-oriented approach, the efficient envelop frontier curve will be convex to the origin. It means that lower the value of input variables better the DMUs. In this approach, the inefficient DMUs pull towards origin to be efficient. On the contrary, in output-oriented approach, the efficient envelop frontier curve will be concave to the origin. It means that larger the value of output variables better

the DMUs. In this approach, the inefficient DMUs be pushed towards the efficient envelop frontier curve to be efficient DMUs.

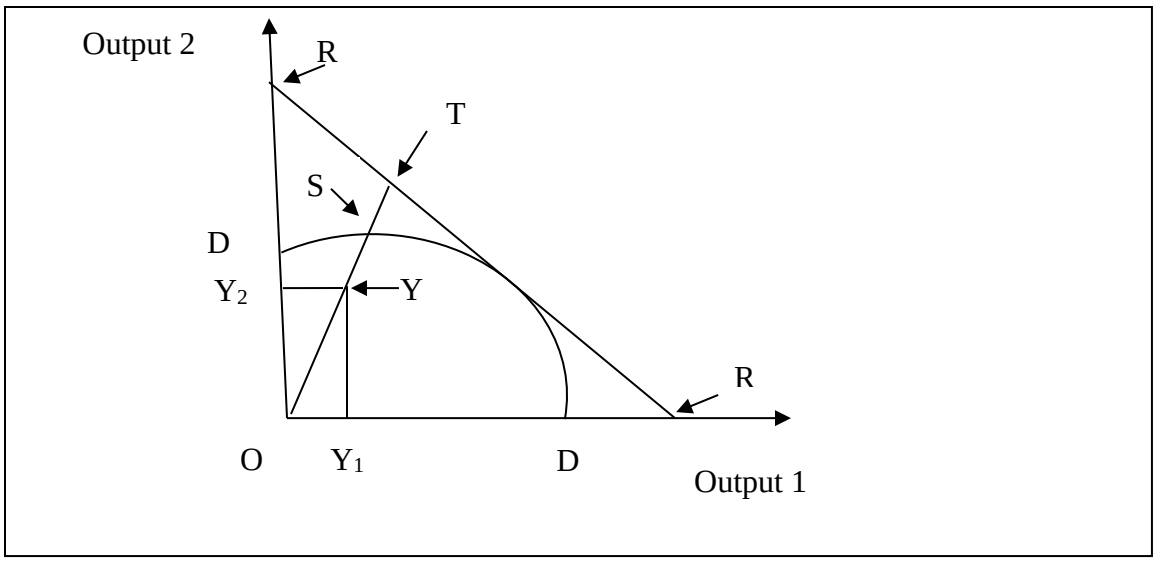


Figure 3.1: Technical and Allocative Efficiency

Therefore, the output-oriented perspective, the technical efficiency of Y is as follows (Figure 3.1):

$$\text{Technical Efficiency} = \frac{OY}{OS}$$

Besides, the allocative efficiency for the output-oriented measure is the degree of producing the output in optimal proportions given their prices for maximizing revenue. Hence the allocative efficiency of Y is (Figure 3.1).

$$\text{Allocative Efficiency} = \frac{OS}{OT}$$

The multiplication of the technical efficiency and allocative efficiency gives the overall efficiency as follows (Figure 3.3):

$$\text{Overall Efficiency} = \frac{OY}{OS} \text{X} \frac{OS}{OT} = \frac{OY}{OT}$$

Performance Targets and Slacks for Inefficient DMUs

The performance target for inefficient DMUs is set to enable them to reach 100 percent relative efficiency in comparison with the highest efficient DMU. The basic concept of performance target and slacks for inefficient DMUs (Ramanathan, 2003).

$$\text{Output Target} = \frac{\text{Actual output}}{\text{Relative Efficiency /100}}$$

$$\text{Output Slack Percentage} = \frac{\text{Output slack}}{\text{Actual output}} \text{ X } 100$$

This study assumes an output orientation, meaning that technical efficiency (TE) is taken to be the ability of a DMU to produce maximum output from a given level of inputs. Thus, the research question is: by how much could local governments expand their outputs without changing the quantity of the inputs used. In the DEA analysis, variable returns to scale (BCC model) and output-oriented model have been considered aiming to maximize the result of efficiency with a given level of resources. According to Charnes et al. (1978), the analysis allows each unit to establish its own set of weights to reach the most favorable combination in comparison with the rest of the units. Thus, the efficiency of the unit (j_0) can be obtained by solving the problem that maximization of the efficiency of unit (j_0) which is conditional to that the efficiency of all the units is equal to or less than 1.

The mathematical model is as follows (Benito, Bastida and Garcia, 2010):

$$\text{Max } h_o = \frac{\sum_r u_r y_{rjo}}{\sum_i v_i x_{ijo}} \tag{1}$$

Subject to:

$$\frac{\sum_r u_r y_{rj}}{\sum_i v_i x_{ij}} \leq 1 \quad j = (1, 2, \ldots n) \tag{2}$$

Where y_{rj} and x_{ij} represent the amount of output 'r' and input 'i' of unit/DMU j respectively. The variables of the problem are u_r and v_i (weights) and 'n' is the number of DMUs. The solution to this problem yields a value of h_0 (efficiency score) between 0 and 1, which is a measurement of the relative efficiency of unit j_0. If $h_0 = 1$, then the unit j_0 is efficient about other units and if h_0 is less than 1, other units are more efficient than j_0.

Malmquist Productivity Index (MPI) Approach

It is a geometric average of the effect of technology change (Fare, Grosskopf and Lee, 1995). The Malmquist total factor productivity index was first introduced by Malmquist in 1953 before being further developed in the frame of DEA. It is used for measuring the changes in the total productivity of DMUs over time. The Malmquist index decomposes these productivity changes into technical efficiency change and technological change:

- The first one is called 'catch-up'. This captures the change in technical efficiency over time.
- The second one is called 'frontier shift. This captures the shift in technology that occurs over time (i.e., the movement of efficiency frontiers over time).

The change of efficiency by time is important to assess whether increases/decreases in efficiency scores of each year. Malmquist TFP index has been used for measuring the changes in total factor productivity of DMUs by time under variable return to scale.

Fare, Grosskopt, and Lee (1995) say that the derivation of the Malmquist index calls for the definition of distance functions with respect to two different time periods, such as (Kirigia, Emrouznejad, Cassoma, Asbbbu, and Barry, 2008):

$$\mathrm{D}_{\mathrm{o}}^{\mathrm{t}}\left(x^{t+1}, y^{t+1}\right) = \inf\left\{\theta : \left(\mathrm{x}^{\mathrm{t+1}} y^{t+1} / \theta\right) \in \mathrm{s}^{\mathrm{t}}\right\} \qquad (2)$$

The maximum proportional change in outputs required to make (x^t, y^t) feasible with the technology at time t.

Cooper, Seiford and Tone (2011), define the Malmquist productivity index (MPI) as (Kirigia, Emrouznejad, Cassoma, Asbbbu, and Barry, 2008):

$$\mathrm{M}_{\mathrm{o}}^{\mathrm{t}} = \frac{\mathrm{D}_{\mathrm{o}}^{\mathrm{t}}\left(\mathrm{x}^{\mathrm{t+1}}, \mathrm{y}^{\mathrm{t+1}}\right)}{\mathrm{D}_{\mathrm{o}}^{\mathrm{t}}\left(\mathrm{x}^{\mathrm{t}}, y^{t}\right)} \qquad (3)$$

Fare, Grosskoft, and Lee (1995) specified the output-oriented Malmquist productivity change index as the geometric mean of two periods' productivity indices and subsequently decomposed it into various sources of productivity change as follows (Kirigia, Emrouznejad, Cassoma, Asbbbu and Barry, 2008):

$$M_o\left(y^{t+1}, x^{t+1}, y^t, x^t\right) = \left[\frac{D_o^t(X^{t+1}, Y^{t+1})}{D_o^t(X^t, Y^t)} . x \frac{D_o^t(X^{t+1}, Y^{t+1})}{D_o^{t+1}(x^t, y^t)}\right]^{\frac{1}{2}}$$

$$= \left[\frac{D_o^{t+1}(X^{t+1}, Y^{t+1})}{D_o^t(X^t, Y^t)}\right] X \left[\frac{D_o^t(X^{t+1}, Y^{t+1})}{D_o^{t+1}(X^{t+1}, Y^{t+1})} . x \frac{D_o^t(X^t, Y^t)}{D_o^{t+1}(x^t, y^t)}\right]^{\frac{1}{2}} \quad (4)$$

$$\text{Efficiency change} = \left[\frac{D_o^{t+1}(X^{t+1}, Y^{t+1})}{D_o^t(X^t, Y^t)}\right] \quad (5)$$

$$\text{Technical change} = \left[\frac{D_o^t(X^{t+1}, Y^{t+1})}{D_o^{t+1}(X^{t+1}, Y^{t+1})} X \frac{D_o^t(X^t, Y^t)}{D_o^{t+1}(x^t, y^t)}\right]^{\frac{1}{2}} \quad (6)$$

MPI is the product of efficiency change multiplied by technical change.

The MPI attains a value greater than, equal to, or less than unity. The net of the contribution of scale economies, between period t and t+1.

If MPI>1, then it indicates productivity gain and there is progress or productivity increased (t+1>t)

If MPI<1, then it indicates productivity loss and there is regression or productivity decreased (t+1<t)

If MPI=1, it means no change in productivity from time t to t+1 or productivity remains unchanged

The assumption is that all the inputs and outputs are under the control of the management of the DMU and can be varied at its discretion is known as discretionary variables. In practice, there may be some circumstances when some of the inputs and outputs are beyond the control of DMU management. The output-oriented approach applies to a situation in which a DMU seeks to maximize the output with a given set of inputs.

Although there are categorical or ordinary variables in practice, all the variables used are assumed to be continuous. Likewise, all the DMUs are also presumed to be equal

in terms of location characteristics. The inputs and outputs are assumed to be continuous variables. Generally, the DEA model compares only those DMUs that hold similar uniqueness for a more accurate measurement of performance (Ramanathan, 2003). Although the selected local governments (DMUs) were not identical in terms of location and capability, all the DMUs have been assumed to be similar in nature in the study while using the CRS model.

3.4.7 Relative Efficiency Analysis of DDCs and Municipalities

DEA PIM Ver 3.2 Software (Performance Improvement Management) has been used to analyze the efficiency of DDCs and municipalities. This analysis addresses the objective three of the study. The five years' inputs and outputs data from the fiscal year 2011/12 to 2015/16 has been used to measure the relative efficiencies of DDCs and municipalities under the following models:

Model Five: Relative Efficiency Analysis of DDCs

Output Variables

- Scores obtained by DDCs in Performance Measure
- Per Capita Own Source Revenue

Input Variables

- Per Capita Recurrent Expenditure of DDCs
- Per Capita Capital Expenditure of DDCs
- Per Capita LGCDP expenditure of DDCs

Model Six: Relative Efficiency Analysis of Municipalities

Output Variables

- Scores obtained by municipalities in Performance Measure
- Per Capita Own Source Revenue of Municipality

Input Variables

- Per Capita Recurrent Expenditure of Municipalities
- Per Capita Capital Expenditure of Municipalities
- Per Capita LGCDP Expenditure of Municipalities
- Per Capita LDF Expenditure of Municipalities

3.4.8 Analysis of Expectations and Perceptions

The Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the data. Descriptive statistics analysis was performed to measure respondents' expectations and perception scores. Paired t-test was carried out to test the significant difference between the two means of expectations and perceptions. A gap score analysis was carried out to compare customers' expectations with their perceptions of the services delivered by local governments.

(i) Sample Adequacy Test

Kaser-Meyer-Olkin test (KMO) and Bartlett's test can be used for sampling adequacy tests. If the KMO result is more significant than 0.05 alpha values, it means the sample size is sufficient (Coakes and Steed, 2001). If Bartlett's test gives the value 0.000, which is less than 0.05 alpha values, the sample size is significant. If both tests show significance, then this study is appropriate for further analysis using Factor Analysis (httts//www.SPSS/analysis/dimension reduction/factor analysis/descriptive/…)

(ii) Instrument Validity

Face and content validity can be used. Face validity refers to what extent the measurement can be used to reflect the actual value that needs measuring. Content validity refers to what extent the measurement contains the meaning in the items which construct upon the meaning that we want to study (Babbie, 2004). Before actual survey implementation, authorized and experience people in LAs and researchers can be consulted to evaluate the validity of the research instrument.

(iii) Reliability Test

It refers to the ability to cope and manage the same value when the measurement is replicated in another situation. Bruner and Hensel (1994) suggest that 'Alfa-Cronbach' is a standard method for measuring the reliability of the study. The reliability test of the SERVQUAL scale and the internal consistencies of the five dimensions are used by Parasuraman et al. (1988), the research instrument was analyzed using Cronbach's α values for each size using data on perceptions, expectations, and the differences between the perceptions and expectations.

(iv) Overall Test

The test of consistency for overall items gives the high value of Alpha Cronbach. If Coefficient Alpha Cronbach produces the value 0.6 to 0.95, the level of instrument is good and suitable to use. But if the value of Alpha Cronbach is too low below 0.6, it means the instrument is having low reliability so it needs for improvement. If the value is more than 0.96 and above, it shows that most of the items are similar or redundant among themselves, which are not required.

The explanation of all the models, regression results, and the results of relative efficiency measurement using the DEA method has been explained in chapter five.

3.5 Definition of Keywords

The keywords used in the study are defined as follows:

a. Local Governance

The decentralization theory says that the local level should provide each public service to control the smallest geographic area. It is because the decision of the local level will be more responsive to the people for whom the services are proposed. The subsidiarity principle argues that the lower levels of government should implement the taxing, spending and regulatory functions unless a convincing case can be made for assigning them to higher levels of government.[3]

b. Local Bodies/Government

Then District Development Committees and municipalities have been used as the people's representative local government institutions in the study. In legal terms, the local governments used to know as local bodies in Nepal before the promulgation of the new constitution in 2015. For this study, the local bodies refer to 75 DDCs and 58 municipalities[4].

[3] For detail, see "Local governance in developing countries, edited by Anwar Shah, The World Bank, 2006

[4] The term ‘local bodies used to know as DDCs, VDCs and municipalities. However, after the restructuring of the local bodies, now they are renamed local level as they are rural municipalities, municipalities and District Coordination Committees (DCCs)

c. Financial Resource

Here the word 'financial resource' is used in terms of budgetary or financial capacity of local government. In other words, the financial resource is the annual budget and expenditure of the respective local governments (DDCs and municipalities). It involves the collection of Own Source Revenue and grants, i.e., conditional and unconditional capital grant and recurrent grant received from central government (Government of Nepal) by DDCs and municipalities according to the provision of the Local Self Governance Act and Regulation (LSGA/R).

d. Service Delivery

Service delivery is the key function of local government at the grassroots level assigned by the law. This study has tried to measure the quality-of-service delivery based on scores obtained by local bodies in the performance assessment, which used to be carried out annually by the Local Body Fiscal Commission in Nepal. The assumption is that the higher the scores they receive, the higher the quality-of-service delivery. The scores obtained by the local bodies have been used as a proxy indicator of service delivery (output) and used as the dependent variable in regression analysis. On the other hand, the Human Development Index has been used as a proxy indicator as to the output of the expenditure incurred by the local governments for service delivery.

Service delivery is a result and product of key inputs directly related to the service provider's ability and service provider effort. For better service delivery, the service provider needs sufficient financial resources, necessary logistics, and capable and skillful human resources to perform its functions perfectly. The effectiveness of public service delivery mostly depends on the human and financial resources, necessary inputs, and the motivation of frontline service providers at the local level (The World Bank, 2014).

e. Performance-Based Grant System

The Minimum Condition and Performance Measurement (MCPM) process was used to assess the performance of local bodies in Nepal. It was the monitoring tool of assessment of the performance of local bodies. Based on the results of the performance assessment of local bodies, the Local Body Fiscal Commission (LBFC) was used to prepare recommendation about the ceiling of annual grant for local bodies to the Ministry of

Finance. The DDCs and municipalities used to comply with the MCPM to be eligible to get unconditional grants[5]. The performance of service delivery of District Development Committees and Municipalities used to assess broadly on five thematic areas. Furthermore, there were 46 main indicators and 130 sub-indicators to measure the performance of DDCs. Moreover, for the municipalities' performance assessment, there were 40 main indicators and 152 sub-indicators (LBFC, 2008 and 2009).

f. Decentralization

Decentralization is widely known as the redistribution of powers, functions, and responsibilities to the lower levels of organization or government (that is, local authorities)[6]. Meaningful decentralization means they accompany by the delegation of corresponding authority, for example, to raise resources, allocate them, and plan for their expenditure. Furthermore, the decentralization is based on the notion of the principle of subsidiarity that all matters have to be managed by the lowest level of authority that is competent to do so.

g. Fiscal Decentralization

It is the devolution of revenue generation and spending powers to local levels of government to accomplish the assigned responsibilities and mandates through the constitution and law.

h. Horizontal Imbalance

It refers to mismatches and divergences in the resource capacity of sub-national governments (local governments) because of the different resource bases and other factors.

i. Vertical Imbalance

It refers to a mismatch between expenditure functions that local governments have been assigned and their access to locally generated finances to fund activities to meet their

[5] Tied grants had to be used for particular purposes specified by the central government whereas untied grants can be used by local bodies on their own decision.

[6] Local authorities are known as local government units. It is also used in the replacement of local bodies in Nepal.

mandates. A vertical imbalance thus leads to resource transfers from the central government to bridge the financial gap of the lower level of government.

3.6 Structure of Field Survey Questionnaires

The field survey questionnaires were prepared in the following three categories (Annex 24).

(a) Satisfaction Level of Service Delivery of Local Government

In total, ten pair structured questions were asked to the respondents about the satisfaction level before and after the local election 2017 on a 5-point Likert scale. The ten questions are grouped under the following three dimensions of service quality of local governments.

(i) Responsiveness (3 statements/questions)

(ii) Basic service (5 statements/questions)

(iii) Tax policy (2 statements/questions)

(b) Expectation and Perception about Service Quality of Local Government

The expectation and perception of the performance of local government's service delivery before and after the election of local government in 2017 have been collected using three paired structured questions (Annex 24, C).

3.7 Gap Analysis of Expectation and Perception of Service Quality

The gap analysis has been carried out to compare the expectation with the actual performance of local governments' service quality in Nepal.

Gap = Performance/perception (P) – Expectation (E)

The data analyzed are

- Mean scores technique; Paired t-test; and Independent Sample t-test

Research Question

- Is there a difference in the mean of expectation and perception of service quality of local government in Nepal?

Objective

- The objective is to compare the mean difference of service delivery of the local level.

Hypothesis,

- Null hypothesis (H_0): There is no difference in mean of expectation and perception about the quality-of-service delivery of local government
- The alternative hypothesis (H_1): There is a difference in mean of expectation and perception about the quality-of-service delivery of local government.

3.8 Summary of the Chapter

Chapter three explains the study population, collection of primary and secondary data, description of variables, methodologies of primary data collection, and analysis of primary and secondary data. The measurement of fiscal decentralization is done through the regression analysis, ordinary least square analysis of DDC level data. Moreover, the pooled OLS regression model of municipal panel data, measurement of the relative efficiency of DDCs and municipality, and analysis of expectation and perception of citizens about service quality have been analyzed. The following six models have been estimated to address the objectives of the study (Table 3.7):

Table 3.7: Summary of the Estimated Key Models

Models	DV/Input Variable	IV/Output Variables	Dummy Variables	No. of Observations	Methods
Model 1	District HDI-2014	Average district expenditure, Per Capita Income Index (PPP$), Human Poverty Index	Three Ecological regions and Seven Provinces	75 Districts	Cross-section OLS regression analysis
Model 2	District HDI-2014	Total capital expenditure, LGCDP expenditure, and Own Source Revenue	Three Ecological regions and Seven Provinces	75 DDCs	Cross-section OLS regression analysis
Model 3	The scale of performance measurement scores	Capital expenditure, recurrent expenditure, LGCDP expenditure, and Own Source Revenue	3 Ecological regions (Mountain, Hill Terai)	75 DDCs	The ordinal logistic regression model

(Table continued)

(Table 3.7 continued)

Models	DV/Input Variable	IV/Output Variables	Dummy Variables	No. of Observations	Methods
Model 4	Scores of performance measurement	Per capita LGCDP expenditure, per capita Own Source Revenue, per capita recurrent expenditure, and per capita LDF expenditure	-	58 Municipality	Panel regression (Pooled, fixed, and random effect)
Model 5	Scores of performance measurement and per capita own-source revenue	Per capita capital expenditure, per capita recurrent expenditure, and per capita LGCDP expenditure	-	75 DDCs	Relative efficiency of DDCs (DEA method)
Model 6	Scores of performance measurement and per capita own-source revenue	Per capita capital expenditure, per capita recurrent expenditure, per capita LGCDP expenditure, and per capital LDF expenditure	-	58 municipality	Relative efficiency of Municipality (DEA method)

Note: DV=Dependent Variables; IV=Independent Variables

Source: Prepared by Researcher, 2021

CHAPTER IV: FUNCTIONAL ASSIGNMENT AND BUDGET PROVISION

This chapter presents the provisions and practice of functional assignment and budget provisions of local governments in Nepal. More specifically, the local governance system to local service delivery mechanism, local planning and citizen participation, budget management, performance assessment and measurement of local bodies, practice of fiscal decentralization, transparency and accountability mechanism at local level, and factual service delivery status through the local level in Nepalese context are also reviewed. This chapter is related to objective one of the studies.

4.1 Evolution of Local Governance and Service Delivery in Nepal

The Democratic era in Nepal started after the enactment of the Interim Constitution in 1950. Article five of the constitution had made the provision of ***Village Panchayats*** *a*s the units of local government. There were 791 Panchayats by 1956 compared to 171 in 1950. A new Village Panchayat Act had promulgated in 1956, replacing the Panchayat Act, 1949. The first elected government in 1959 had recommended 7 provinces, 32 districts, 76 sub-districts, 165 blocks, and 6500 Gram Panchayats to share the central power to the lower level. In the same year, 33 panchayat officers and 109 supervisors were recruited to impart momentum. But, the removal of elected democratic government and the collapse of democratic practice had hindered the whole reform process and progress (Khanal, 2006).

The local authorities, namely village, town, and district panchayats, were functional at the local level during the Panchayat era (1962-1990). However, these institutions were used extensively as an extended arm of the central government. Therefore, local authorities hence became centrally driven and non-effective. Later, based on the recommendations from different committees and commissions, the Decentralization Act, 1982 and regulation, 1984 were enforced. This initiation had a significant contribution to establishing the decentralization system, putting all district-level line agencies under the umbrella of respective District Panchayats. However, it had given less emphasis on fiscal decentralization and less orientation on local governance system in practice. The then government had formed a high-level commission under the chairpersonship of Bishwa Bandhu Thapa in 1963 (2020 BS). This commission had recommended dividing the country into 75 districts and 14 zones (GoN, 1996). The commission also had

recommended delegation of power to the panchayat without decreasing its efficiency and effectiveness and abolished the post of *Bada Hakim* (Khanal, 2006).

To institutionalize the democracy at the local level, service delivery is one of the major agendas which can be ensured through the various government units and service centers. The current system of local governance, a history of around 60 years in Nepal, has undergone significant changes. A decentralization plan was implemented in 1965, under which chief district officers were assigned to work as Secretary of the District Panchayats under the Local Administration Management Act, 1965 (GoN, 1996).

The decentralization process and local governance system had started in Nepal once the democracy was restored in 1990. The constitution of 1990 had provisioned the state responsibility of maintaining suitable conditions for employment opportunities. The constitution had ensured the wider participation of the people in the decision-making process as the fruit of democracy (Khanal, 2006).

Local Self Governance Act, 1999 had explicitly stated the two levels of local government viz. Village Development Committees in rural areas and Municipalities in urban areas, and District Development Committees (DDCs) at the district level. As there were many implications in the implementation of LSGA, it was considered as the milestone in favor of decentralization in Nepalese history. It had explicitly provisioned the role, responsibility, accountability, and limitation of elected representatives and local government institutions in line with the inclusive and participatory planning process to address the aspirations and needs of the people at the local level (GoN, 1999). However, after the termination of the five years' tenure of the elected representatives in local governments from July 2002, there was no representation of elected representatives in local government institutions.

Article 139 (1) of Interim Constitution of Nepal, 2007 had explicitly made provision of holding the local election or, according to Article 139 (2), making the special political arrangement in the local government in the all-party consensus to promote decentralization and local governance system (GoN, 2007). But unfortunately, both provisions had not come into action. This vacant situation at the local level hampered Nepal's effective and efficient service delivery mechanism (ADDCN, 2010).

4.2 Legal Foundation of Local Service Delivery

The most important legal document was the Interim Constitution of Nepal, 2007, which was directly related to the local service through local bodies. Moreover, Local Self Government Act (Second Amendment), 1999; Public Procurement Act, 2006; Local Development Fund Regulation, 2000; Local Self Governance Regulation, 2000; Constituency Development Program (Operation Procedure) Regulation (Second Amendment), 2002; Local Body (Financial Administration) Regulation, 2007; Public Procurement Regulation, 2007; and Constituency Infrastructure Special Program (Operation Procedure), Regulation, 2014 were some important legal foundations for the institutionalization of the democratic process and good local governance in Nepal.

Similarly, there were some important procedures that helped and guided for service delivery system more functional. Some procedures were *Jageda Kosh* (Reserved Fund) Operation Procedure, 2009 (Third Amendment); Local Body Resource Mobilization and Management Procedure, 2012; Child Friendly Local Governance Implementation Procedure, 2012; Social Security Program Operation Procedure, 2012; District Disaster Management Plan Formulation Guideline, 2012; Environment Friendly Local Governance Frame-Work, 2013; Golden Thousand Days Project Implementation Procedure, 2013; Aadibasi Janajati District Coordination Committee (Formation and Operation) Procedure, 2014; Dalit District Coordination Committee (Formation and Operation) Procedure, 2014; Disabled District Coordination Committee (Formation and Operation) Procedure, 2014; Disabled Municipal Coordination Committee (Formation and Operation) Procedure, 2014; Disadvantaged District Coordination Committee (Formation and Operation) Procedure, 2014; Women District Coordination Committee (Formation and Operation) Procedure, 2014; Women Municipal Coordination Committee (Formation and Operation) Procedure, 2014; Livelihood Improvement of Member of Citizen Awareness Centre, Procedure, 2014 and Citizen Awareness Centre (CAC) Referred Community Infrastructure Grant, Procedure, 2014.

Some strategies, policies, guidelines, and directives were also implemented during the study periods. They were Public-Private Partnership Policy, 2003; Local Infrastructure Development Policy, 2004; Local Bodies Gender Budget Audit Directive, 2007; Child-

Friendly Local Governance National Strategy, 2011; and Social Mobilization Guideline/Procedure, 2014. Minimum Condition and Performance Measures Assessment Manual of DDCs, 2008 (With revision and amended in 2013); Minimum Condition and Performance Measures Assessment Manual of VDCs, 2009 (With Amendment and Revision in 2013); and Minimum Condition and Performance Measures Assessment Manual of Municipalities, 2009 (With revision and amendment in 2013) were also in practice.

To facilitate/capacitate and be accountable and responsible to the local bodies, the Government of Nepal also implemented the Local Governance and Community Development Programme (LGCDP) and Local Governance Accountability Facility Programme (LGAF).

4.3 Public Service Delivery Mechanism in Nepal

During the study period, the Parliament was the highest constitutional law-making body, and the user committees were the lowest grass-root level beneficiaries and implementing mechanism of the activities to be launched by local bodies. The service delivery mechanism under the unitary system of governance in Nepal before the restructuring of the state in 2017 is presented in Figure 4.1.

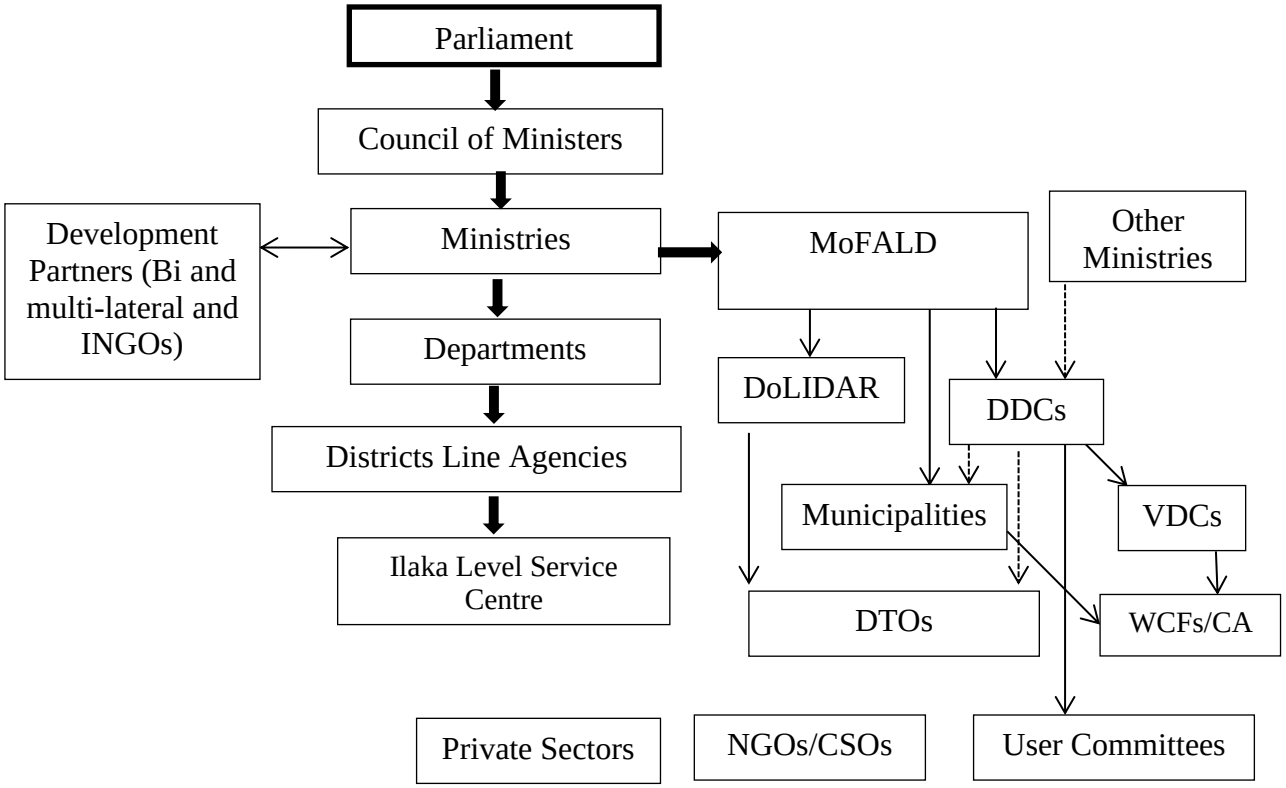


Figure 4.1: Service Delivery Mechanism of Nepal

Source: Prepared by the researcher in 2018.

However, the service delivery under the new federal democratic republic system has been devolved in the various level of government units. These are the federal government (Government of Nepal), seven provincial governments, 77 District Coordination Committees in the district level, and 753 local governments, including 460 rural municipalities, 276 municipalities, 11 sub-metropolises, and six metropolises at the local level. The structure of the service delivery mechanism is as follows (Figure 4.2):

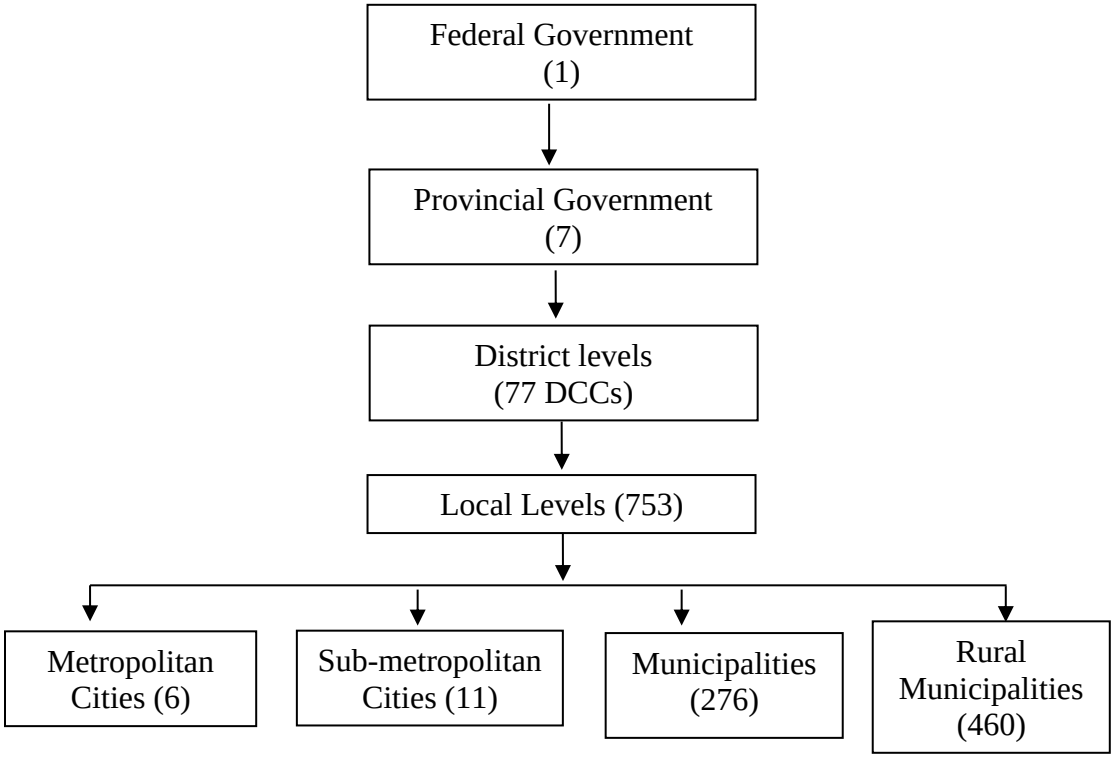


Figure 4.2: New Service Delivery Structure under the Federal System in Nepal

Source: MoFALD, 2017

4.4 Arrangement of Local Levels

During the study period, there were two tiers of sub-national government institutions in Nepal. At the lowest level, there were 3,157 Village Development Committees (VDCs) and 217 municipalities. Each VDC was further divided into nine wards, whereas municipalities were divided into 9-35 wards depending upon population and land areas. Based on the population, sources of income, and urban facilities, the government of Nepal had classified municipalities in three categories viz. Metropolitan city, Sub-Metropolitan City and Municipality. There were 75 District Development Committees (DDCs) at a district level, the territory of which overlaps with the VDCs and municipalities. The DDCs were also divided into 9-17 Ilakas.

4.5 The Element of Local (Rural and Urban) Development

Local Self Governance Act, 1999 had provisioned the element of the local development in the following three dimensions/sectors (Table 4.1):

Table 4.1: Local Level Development Sectors

Infrastructure Development	Productive Sector	Social and Economic Sector
1. Water Resource, Environment, and Sanitation, Rural Drinking Water 2. Works and Transport 3. Irrigation and Soil Conservation **4.** Physical Development (Community Buildings, Rest Houses and Public Toilets, Roads, Sewerage and Drainage), and **5.** Information and Communication	1. Agriculture 2. Forest and Environment 3. Tourism and Cottage Industry 4. Wages and Labor, and 5. Land Reform and Land Management	1. Education and Sports 2. Health 3. Language and Culture 4. Vital Registration 5. Natural Calamity 6. Social Protection/welfare 7. Protection of Children, Women, Disadvantaged Group (DAG) 8. Preparation of Periodic and Annual Plans

Source: GoN, 1999

4.6 Local Planning, Social Mobilization, and Citizen Participation

(a) New Provision

According to the New Constitution of Nepal, the three-level governments have to present their annual program and budget in the specified deadline as follows.

- The Minister for Finance of the Government of Nepal shall lay before the Federal Parliament an estimate of revenues and expenditures on the 15th day of Jesta (mid-May) each year (Article 119 clause (1) of Constitution of Nepal, 2015);

- The Ministers for Finance of the Provincial Governments shall lay before the provincial parliament an estimate of revenues and expenditure by the 1st day of Asar (June 15) each year (section 21 (2) of Inter-Governmental Fiscal Management (IGFM) Act, 2017);

- The local governments (local levels), i.e., Municipalities and Rural Municipalities, shall present before the respective assembly (sabha) an estimate of revenues and expenditure by the 10th day of Asar (June 24) each year (section 21 (3) of IGFM Act, 2017).

According to the Planning and Budgeting Guideline for Local Level prepared by MoFAGA, there are only seven planning formulation processes at the local level. The seven steps planning processes are as follows (Table 4.2).

Table 4.2: Local Planning Steps under New Provision of Local Levels

SN	Steps	Time-Line
1	Submission of the projection of income and expenditure detail to the Federal Government	Last day of Pause of each year (By 14th of January)
2	Receive estimated budget ceiling and guidelines from Federal and Provincial Governments	From Federal Government by the last day of Falgun (March 13) and from the Provincial Government by the last day of Chaitra (April 12) each year
3	Determination of resources and determination of total budget ceiling according to the different sectors[7] (a) Submission of Revenue Projection Detail to the Palika by the Local Revenue Advisory Committee (b) Determination of budget ceiling and resource projection by the Resource Estimation and Budget Ceiling Determination Committee	 (a) By 15th of Pause of each year (31 December) (b) By the 10th of Baishakh of each year (23 April)

(Table continued)

[7] Economic development, social development, Infrastructure development, Environment and disaster risk reduction (DRR), and Institutional development and service delivery committees.

(Table 4.2 continued)

SN	Steps	Time-Line
4	Make budget ceiling for the coming fiscal year available to sectoral divisions or sections under the Palikas	By the 15th of Baishak of each year (28 April)
5	Ward level projects collection and prioritization	By the 15th of Jestha of each year (29 May)
6	Formation of Integrated Annual Programme and Budget	By the last day of Jesth of each year (15 June)
7	Approval of annual program and budget by the respective Executive Board	By 5th Asar (20 June)
8	Table the annual program and budget in the respective assembly for discussion	By the 10th day of Asar each year
9	Approval of the annual program and budget by the respective assembly	By the end of Asar (16 July)
10	Make the annual program and the budget public for the information of general people	By 15th of Shrawan (31 July)

Source: NPC, 2018

(b) Provision during the Study Period

According to the provision of LSGA, 1999, each local body used to prepare periodic and annual plans for the development of their (VDC, municipality, and DDC) respective area and jurisdiction. The legal provision was that annual plans of local bodies must be linked with the periodic plan (Five years plan). The formulation of annual plans to be launched in the fourth-coming year of local bodies begins from 15 November to March 25 of the current fiscal year. The detail of 14 steps normative participatory planning process is presented in Figure 4.3. The first step among the 14th steps planning process was to providing ceiling and guidelines to local bodies from the National Planning Commission (NPC) and Ministry of Federal Affairs and Local Development (MoFALD), 8th step was the conduction of village, and municipal level council and final step was the submission of the district development plan to NPC and MoFALD (Figure 4.3).

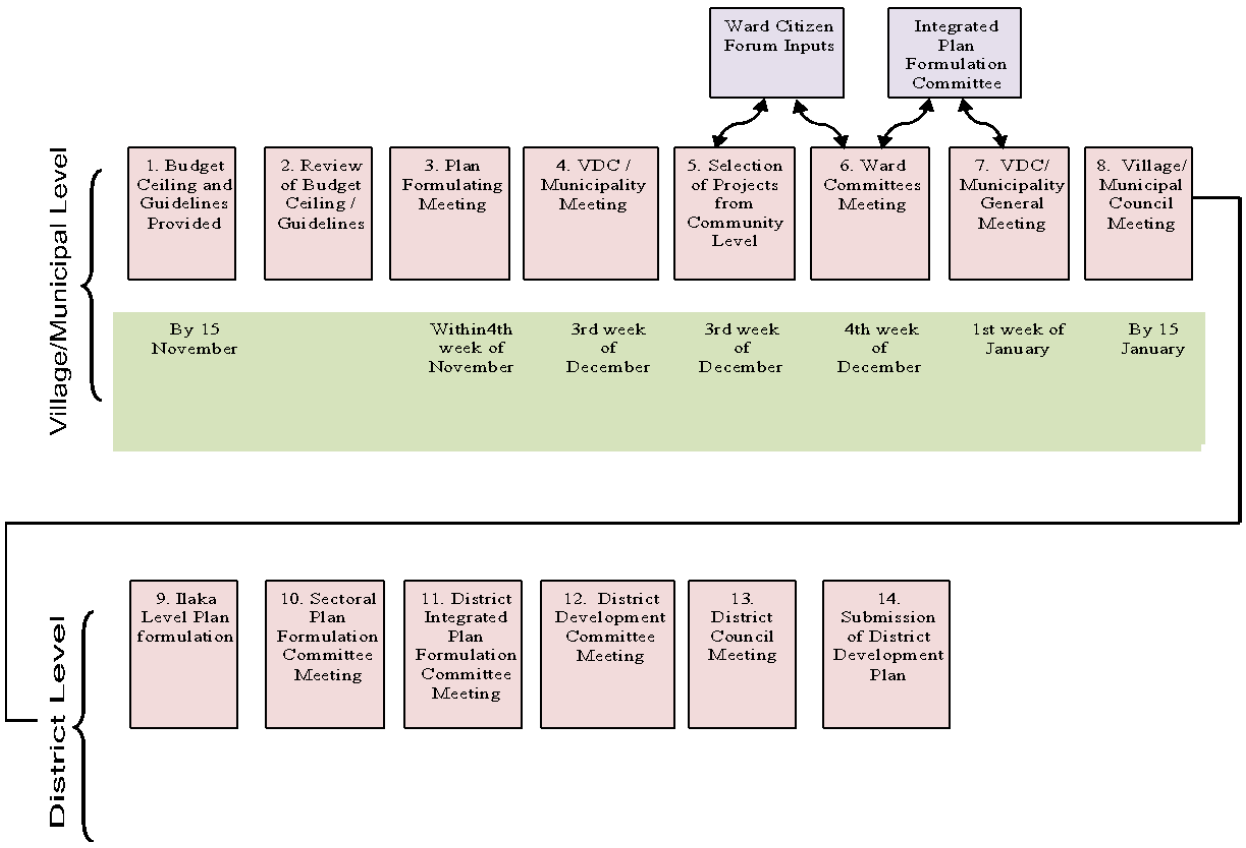


Figure 4.3: Local Planning Process before State Restructuring in 2017

Source: The World Bank, 2014, Figure 2 (pp. 21)

Nepal had an inherent accountability gap at the local level as the local election had not been held since 2002. So, MoFALD had made an interim arrangement of citizen engagement in the decision-making process. According to the Social Mobilization Procedure, 2014, the temporary arrangement was that to implement the social mobilization program in the Ward level, there was a provision of formation of Ward Citizen Forum (WCF) including at least 33 percent representation of women in each Ward of VDCs and Municipalities. After introducing the Ward Citizen Forums, WCFs used to carry out many of the functions generally undertaken by the elected Ward Council for an inclusive, participatory planning process in Nepal. Compliance with participatory planning procedures detailed in the Local Body Resource Mobilization and Management Procedure, 2069, used to ensure some of the demands from citizens are incorporated in LBs annual plans, especially for VDCs and Municipalities. This includes holding a Ward gathering to obtain demands of projects from the wider community and holding Integrated Plan

Formulation Committee (IPFC) meetings, including members from Ward Citizen Forums (WCFs), as well as local political leaders, to recommend projects within the budget provisions to the local body council.

In the absence of elected representatives in local bodies since 2002, the Government of Nepal had made provision to form a Ward Citizen Forum (WCF) to represent the citizen in the decision-making process. The key role of the WCF was to participate in the local planning process representing the voice of the local people and facilitate to implementation the annual programs. The number of WCFs formed in VDCs and municipalities, and the total number of WCFs' members and the average number of members in each WCF are presented in Table 4.3 below.

By the end of the fiscal year 2015/16, under the LGCDP program, 28,413 and 1,017 WCFs were formed in VDCs and municipalities, respectively. There was a total of 3,14,450 female and 3,98,739 male members associated with WCFs (Table 4.3). An increasing number of WCFs used to participate in monitoring activities, including public audits and public hearings as outlined for the relevant output indicators.

Table 4.3: Ward Citizen Forum in Municipalities and VDCs

Local Governments	**No. of VDCs/ Municipality**	**No. of Wards**	**No. of WCF**	**No. of Female members**	**No. of Male members**	**Total members**
VDCs	3157	28413	28413	303894	384079	687973
Municipality	58	1021	1017	10556	14660	25216
Total	**3215**	**29434**	**29430**	**314450**	**398739**	**713189**

Source: LGCDP, 2016

Aiming to empower the citizen who was socially and economically deprived and excluded in the society, the Social Mobilization Procedure, 2071 (2014) had also envisaged for the formation of Citizen Awareness Centre (CAC) with the participation of the same deprived and excluded group in the VDCs and municipalities. More specifically, the CACs community groups were established in the most deprived VDCs and Municipality wards. The LGCDP program had focused on enhancing the capacity of the CAC members through various social mobilization programs. They were also represented in the Integrated Planning Formulation Committee (IPFC) meetings to influence the budget decisions of the

LBs. Most CACs used to receive Livelihood Improvement Plans (LIP) support for their economic improvement. By the end of fiscal year 2015/16, under the Local Governance and Community Development Programme (LGCDP), total 4,088 CACs had been established where a total of 1,02,102 Female and 28,908 Male from the deprived communities were involved as members (LGCDP, 2015).

Local Development Training Academy (LDTA) was selected as National Service Provider (NSP) to prepare necessary training manuals for facilitating the WCFs CACs members and enhancing the capacity of Local Service Providers (LSPs) to expedite the social mobilization program at the local level. The LGCDP program had also procured LSPs to orient Social Mobilizers and facilitate each event of social mobilization at the prescribed VDCs and municipalities. 4,403 Social Mobilizers (1,782 Male and 2,621 Female) were engaged in social mobilization activities, and 506 local service providers used to support at the local level to promote the participatory and inclusive local governance system in Nepal. However, their capacity was limited by insignificant orientations and training due to delays in selecting CSOs and LSPs (LGCDP, 2015).

4.7 Minimum Condition and Performance Measurement System

A performance-based grant system (PBGS) is such a mechanism from which Local Governments (LGs) access fiscal transfers from the central government is conditioned upon their overall performance. Based on the result of the assessment made by certain prescribed indicators, LGs receive fiscal transfers. A PBGS can provide incentives for LGs to improve themselves in a range of areas such as revenue collection, planning, budget execution, downward/upward/ horizontal accountability, financial management, good governance in general.

A performance assessment process commonly relies on set indicators that measure the general, institutional, or functional performance of LGs, which is carried out on an annual basis. PBGSs are usually based on two types of indicators; they are (i) Minimum Conditions, which are categorical ("yes/no" triggers), and which need to be complied with in order to gain access to basic grants; and (ii) performance measures, which are more "qualitative" and "calibrated" than minimum conditions, and which allow local

governments performance to be assessed in a scaled manner, resulting in increases or decreases in the size of any grants allocated to LGs (Steffensen, 2010).

The minimum condition and performance measurement (MCPM) system was introduced by the Government of Nepal from FY 2004/05 and piloted in 20 DDCs with the technical and financial support of the Decentralized Financing and Development Programme (DFDP). The aims of the implementation of PBGS were improving LBs' process-oriented reforms through proper incentives, adjusting the size of grants based on the individual performance of LBs, identifying the capacity gaps of LBs, and strengthening the monitoring and evaluation system of LBs (LBFC, 2011). The Minimum Conditions (MCs) and Performance Measures (PMs) assessment of DDCs and municipalities started from FY 2007/08 (assessment for FY 2006/07) and FY 2008/09 (assessment for FY 2007/08); respectively as country-wide. However, the MCs assessment system was introduced in all VDCs from FY 2008/09 (assessment for FY 2007/08). In the case of DDCs and municipalities, the assessment result of the MCPM of the previous two fiscal years directly used to affect the capital grant for the current fiscal year. Similarly, for VDCs, those VDCs who were failed in the MC assessment would not have received the topping up grant. It was used and linked with process-oriented compliance grants rather on service delivery outcomes (LBFC, 2011).

According to the LBFC's publication, namely Local Bodies' Financial Analysis Report, 2015, the effects of MCPM result are as follows.

1. VDCs, Municipalities, and DDCs who failed MC used to lose the entire additional capital grant and used to receive only unconditional capital grant earmarked by law. In an annual basis, each VDC, municipality, and DDC used to receive a total grant of NRs. Fifteen lakhs, 30 lakhs, and 40 lakhs, respectively.
2. DDCs and municipalities who passed MC failed to receive minimum marks in each functional area of PM indicators used to lose 20 percent of the additional capital grant.
3. Three DDCs and municipalities having the highest PM marks with MC pass used to obtain 20 percent additional unconditional capital grant.
4. Other provisions are as follows:

1. 25 percent DDCs and municipalities those MC passed and having higher marks in PM (first-ranked group) used to receive 15 percent top-up capital grant as an additional unconditional capital grant,
2. 25 percent DDCs and municipalities those MC passed and having higher marks in PM (second-ranked group) used to receive 10 percent top-up capital grant as an additional unconditional capital grant,
3. 25 percent DDCs and municipalities those MC passed and having higher marks in PM (third-ranked group) used to lose 10 percent additional unconditional capital grant,
4. The remaining 25 percent DDCs and municipalities those MC passed and having lower marks in PM (last category group) used to lose 15 percent additional unconditional capital grant.

4.8 Mechanism of Maintaining Good Governance and Service Delivery

The Office of Prime Minister and the Council of Ministers has been playing a leading role in maintaining good governance in Nepal. Moreover, the Public Accounts Committee of the Parliament, Office of the Auditor-General, Commission for Investigation of Abuse of Authority, and Supreme Court are also very important organizations to maintain a good governance system in Nepal. Likewise, National Human Rights Commission; National Vigilance Center; Revenue Investigation Department; Department for Investigation on Money Laundering; and other Sectoral Ministries, Departments, and Offices in Nepal have also been actively working in the areas of maintaining peace, good governance, and ensuring effective service delivery in Nepal (MoF, 2015a).

Three local bodies associations were working in supporting local bodies for better service delivery according to the spirit of local self-governance. The Association of District Development Committees of Nepal (ADDCN) represented 75 DDCs, the Municipal Association of Nepal (MuAN) represented 217 municipalities, and the National Association of Village Development Committees of Nepal (NAVIN) represented 3,157 VDCs. These associations were established in 1995 with the cabinet's approval under the National Directive Act, 1961. According to their constitution, their primary work was for advocacy and lobby with the government of Nepal and the national political parties for the

promulgation and implementation of acts, regulations, policies which were in favor of decentralization, good local governance, and inclusive and participatory planning.

More specifically, they were advocating for the devolution of power to the local government in line with the 'principle of subsidiarity.' They were also lobbying with the government of Nepal and the political parties for holding a local election which was not held from 2002 to the date. They had also played a crucial role in putting the provisions of local bodies in the Interim Constitution of Nepal, 2007. During the first and second Constituent Assembly, they were also doing their best for the constitutional provision of local government in the new constitution.

Besides the advocacy role, the local bodies associations had also worked in capacity development of the respective member local bodies from the inception. They facilitated participatory planning (periodic and annual) at the local level, carrying out capacity assessment studies and recommendations for proper actions, carrying out studies on various aspects on transparency, accountability, utilization of public funds, and reduction of fiduciary risk service delivery, etc. The local bodies associations contributed to making governments (local and central) accountable and facilitating and supporting local bodies for inclusive, participatory, justice, transparent service delivery even in the absence of elected representatives in local bodies. Nationally and internationally, they were also represented in numerous commissions, committees, networks, and forums on behalf of member local bodies.

However, the Municipal Association of Nepal (MuAN) is currently representing 293 municipalities, including six metropolitan cities and eleven sub-metropolitan cities. The National Association of Rural Municipalities in Nepal (NARVIN) and Association of District Coordination Committees of Nepal (ADCCN) has been representing 77 District Coordination Committees in Nepal.

4.9 Transparency and Accountability in Service Delivery

The problem of accountability is the lack of capacity to exercise responsibility for public services at sub-national levels of government. The new relationship of accountability between central and local policymakers seeks to make local politicians more accountable to their local clients. The central government has a key responsibility to

enhance the local capacity for effective service delivery (Ahmad, Devarajan, Khemani, and Shah, 2005). There are dozens of social accountability tools in practice around the world with the aim of enhancing accountability in government units that provide services to the citizen (Khadka and Bhattarai, 2012).

The Ministry of Federal Affairs and Local Development had implemented the Local Governance and Community Development Programme (LGCDP) from 2008 till July 2013 as the first phase, and the same program had been implemented as National Framework Programme in the name of LGCDP-II. The MoFALD had promulgated the Social Mobilization Procedure, 2014 for promoting accountability at the local level. The major objectives of the procedures were to enhance the livelihood of the citizen through social harmony and social transformation; ensure easy access of citizens in public service and benefit; improve economic, social, cultural aspects of marginalized communities, increase social harmony through joint support, cooperation and mediation and strengthening local democracy. The strategy was to establish and capacitated the Ward Citizen Forums (WCFs) and Citizen Awareness Centers (CACs). The Procedure had made provision of an institutional set of Social Mobilization Committees at Center, District, Municipal, and Village levels.

The Ministry of Federal Affairs and Local Development (MoFALD) had also implemented the Local Governance and Accountability Facility (LGAF) program. The main objective of the program was to make local governments more accountable and responsible for transparent, inclusive, quality, effective, and service receiver friendly service delivery and local governance system through empowering citizens with the help of non-governmental, private, and training institutes (ADDCN, MuAN, and NAVIN, 2013). This program was implemented countrywide in 66 districts. Local NGOs were contracted out to implement the LGAF program in the respective districts. One NGO was assigned in each district.

The Program for Accountability in Nepal (PRAN) was aimed at developing the capacity of civil society and government actors to promote social accountability. The Program was crucial in strengthening practical training, action learning, and networking aimed at developing the capacity of civil society and government actors to promote social

accountability in Nepal. The program had supported social accountability activities in three focus areas such as (i) public financial management; (ii) municipal governance, and; (iii) public service delivery (www.worldbank.org/en/about).

Khadka and Bhattarai (2012) highlighted the citizens' complaints about public service delivery as follows:

- Public services were not of high quality,
- The processes of providing public services were unnecessarily complicated,
- The necessary information related to the delivery of public services was not easily accessible,
- Services were not always relevant to the needs and interests of the target groups,
- Services did not reach those they were targeted to reach,
- It was not easily received the public services,
- Citizens were not able to hold service providers accountable,
- Openness and transparency were not maintained in the distribution of resources,
- Government employees who worked against the wishes of the citizen were not penalized,
- The budgets of public bodies were not easily known,
- It was very difficult to track public expenditure,
- The standards of public service delivery were not well known,
- The citizen did not know about the participatory planning, joint budget preparation, and community procurement with public money,
- The citizen did not know how to monitor or complain about public services or revenue and expenditure,
- No clear information was provided about the services that citizens were entitled to receive from government offices.

The program, namely 'Strengthening the Accountability of Local Governments' (SALG) was also implemented from FY 2014/15 till 2017/18 in 9 districts[8]. This program was a collaboration of the Governments of Nepal and the Swiss Government with

[8] Khotang, Okhaldhunga, Ramechhap, Jajarkot, Kalikot, Achham, Dailekh, Sindhuli and Surkhet.

COMAT-ASTHA-JV as its implementing agency as an aligned program of LGCDP. The primary objective of SALG was to fill in the existing 'bottom-up accountability and demand-driven governance gaps and to ensure people's and civic actors' active participation in political processes with accountability and democratic life. By empowering especially, the disadvantaged groups (DAGs) and intermediary civic agents such as community-based organizations (CBOs), civil society organizations (CSOs), and the media with their clear respective roles and responsibilities, dealt within an accountable way, it aimed to strengthen their voice, engagement and capacity to hold local government bodies and line agencies accountable (www.salgp.org).

As to the classification of the state, the policymaker refers to the high-level elected officials and civil servants responsible for carrying out legislative and regulatory responsibilities. The service providers are the program managers, local officials, and others involved in the administration and delivery of services and frontline providers such as doctors, teachers, and social workers who provide services to the poor and non-poor people. The harmony and compact between political leaders and frontline service providers depend on the quality of institutions, rules, regulations, and incentive arrangement. The client or the citizen has a direct influence on service providers. The voice of the citizen can be expressed through votes, taxes, and representation in parliament and other political bodies (Ringold, Holla, Koziol, and Shrinivasan, 2011).

The study carried out by ADDCN for the World Bank in 2012, based on the field observation of five districts viz. Ilam, Bara, Palpa, Jumla, and Kailali, had found that the proportion of conditional grants to be provided by the Government of Nepal was higher than the unconditional grant of DDCs and municipalities. It implied that the discretionary authority of DDCs and municipalities was very much compromised. These institutions were less able to spend resources in the areas identified through the participatory planning process. DDCs had not allocated a certain part of the revenue to VDCs and municipalities to enhance service delivery in sector/sub-sectors under the study, despite provisions in the LSGA, 1999. The public hearing was one of the effective tools of transparency and accountability, which was found very popular, practical, and widely used at the local level. Most of the public offices used to carry out public hearings on major projects. However,

the issues raised during the public hearings were not properly addressed by the concerned organizations. The public hearing program had more or less become ritual.

The Citizen's Charter was also found to be widely used. All the public offices had displayed Citizen's Charter Board for information to the service seekers. However, no monitoring seems to have been carried out to ensure whether the provisions of the Charter had been followed.

Similarly, public audits were also used and followed by local bodies, but the terms had been used by different bodies differently. The MCPM manual prescribes that the social audit had to be conducted within four months after the expiry of the Fiscal Year. But in several DDCs/VDCs/municipalities, social audits were not performed. In cases where these were formed, the prescribed manuals were not followed properly. The inclusive monitoring committees were formed in a paper in all districts but not allocated budget to make theme committees fully operational. It was also found that there was no effective monitoring of programs/project. The target communities were not directly benefited from the conditional grant provided by the government to the local bodies - the compliance of existing accountability mechanisms needed to be monitored constantly by the responsible authorities. The study had recommended that the present pattern of resource allocation be continued for some time in the future. It is used to give confidence to the local bodies to engage significantly in service delivery activities (The World Bank and ADDCN, 2012).

4.10 Corruption in Public Service Delivery

Corruption is a misuse of entrusted power for private advantage. It erodes trust, deteriorates democracy, hinders economic development, and worsens inequality, poverty, social division, and the environmental crisis. Transparency is a tool to seek and receive information from service providers that can work as a protection against corruption. It also helps to increase trust in decision-makers and public institutions. Transparency is an important and essential tool for ensuring easy access, understanding, and use by citizens (https://www.transparency.org/en/what-is-corruption#). Corruption is universal in countries where big money can flow freely into electoral campaigns. Also, governments listen only to the voices of wealthy or elite individuals, ignoring most of the general citizens (Transparency International, 2019). Lack of institutional capacity and limited human and

financial resources are the significant challenges to improve governance in all countries, particularly in small and less developed countries. Moreover, corruption has become a crucial challenge in many countries (The Commonwealth, nd.).

The institutional environment on the behavior of service providers and their monitors are the essential areas to understand the corruption in service delivery. Accountability of monitors to the service recipients, the degree of observability effort, wages, and the professional norms of providers can play a vital role in reducing corruption. It is not sure that service providers perform better when paid for them more. Monitors are more vigilant when elected, and service providers get more (Barr, Lindelow, and Serneels, 2010).

Corruption has become a severe challenge for public service delivery and governance in Nepal. It has seriously hampered the areas of economic development, political stability, and good management. Public offices have not adequately provided necessary information about the services to be provided to the citizen. The attitudes and behavior of the staff are not positive, and they make the service delivery process complex and make delay deliberately—the leading cause of delay in service delivery of public offices in bribery. The service receivers have to pay additional money (bribery) to receive essential services from public offices. Land Revenue Office, Survey Office, Rural Municipalities, Inland Revenue Office, Drinking Water Office, District Administration Office, and Land Reform Offices are the public offices where service receivers are cheated unnecessarily. Service receivers have less knowledge about and use of citizen charter. Most people are not aware of the complaint management process, an electronic information system, the banking service system, and the facilitation of information officers in public offices. As a result, citizens are cheated by the civil servants while receiving services from the public offices (CIAA, 2018).

Lack of transparency, accountability, and existence of elite capture, and ambiguity in the public offices are the critical reasons for the misuse of available resources. These phenomena help and promote corruption resulting in low efficiency in public service delivery. Local public goods and services have become lower due to elite capture and corruption at the local level, and it has made local people dissatisfied (Panta, 2016). The assessment of public expenditure and accountability shows that there is a fiduciary risk in

local governance in Nepal. The national public financial management (PFM) system is substantially vulnerable. There is general agreement between the government of Nepal and donors regarding strengthening the PFM system of Nepal (Bhatta, 2011).

The government of Nepal and donor-supported initiatives have intended to reduce corruption. There is a policy of zero tolerance of corruption in the use of donor funds. Since the mid-1990s, the World Bank, Asian Development Bank (ADB), UK Department for International Development (DFID), Norad, Danida, United Nations Development Programme (UNDP), SDC, USAID, and other development partners have been supporting anti-corruption initiatives in Nepal. However, corruption has threatened Nepal's political, economic development, and business environment due to the absence of solid and coordinated action from the Government of Nepal and the donor community against corruption (Dix, 2011). There are so many government agencies working against anti-corruption in Nepal. Table 4.4 shows the brief outline of the anti-corruption agencies, types, and major responsibility areas.

Table 4.4: Government Anti-Corruption Agencies in Nepal

S.N.	Anti-corruption agencies	Type	Major focus
1	Commission for the Investigation of Abuse of Authority (CIAA)	Constitutional body	Investigation and prosecution of cases of corruption and improper conduct
2	National Vigilance Centre (NVC)	Prime Minister's Office	Awareness raising and corruption prevention
3	Special Court	Judiciary	Adjudication of corruption cases
4	Office of Attorney General	Constitutional	Public prosecutor
5	Judicial Council	Constitutional	Combating Corruption in the judiciary
6	Revenue Investigation Department	Ministry of Finance	Detection of revenue leakage
7	Independent Review Committee	The committee under Public Procurement Act	Corruption related to public procurement over Rs. 30 million
8	Central Arrear Collection Office	Financial Comptroller General Office/Ministry of Finance	Collection of government dues and arrears

(Table continued)

(Table 4.4. continued)

S.N.	Anti-corruption agencies	Type	Major focus
9	Parliamentary Committees including Public Accounts Committees and State Affairs Committees	Parliament	Parliamentary oversight
10	Office of Auditor General	Constitutional	Auditing of books of accounts
11	Office of Financial Comptroller General	Ministry of Finance	Government budgetary control

Source: Dix (2011). Table 3.

4.11 Local Road Development in Nepal

At the central level, besides the two ministries involved, the Department of Roads (DoR) and Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) shared responsibilities for road network expansion and the Road Fund Board was responsible for maintenance of existing roads, at both central and local levels (The World Bank, 2012).

The local infrastructure development (LID) policy (2004) designates that local bodies shall be "responsible for the formulation, implementation, monitoring and evaluation, maintenance and operation of local infrastructure," including rural and urban roads. The responsibility for managing urban roads, district roads, and village roads lies respectively with municipalities, DDCs and VDCs.

Funding levels for the rural road sector were increasing steadily, almost tripling in the last five years. The major part of this funding used to come from the central level (80 percent) mainly for rural road projects, and the remaining fund used to come from the local level (20 percent) mainly internal revenue and community contributions. The Public Expenditure Review for the road sector (PER - 2011) estimates that approximately 70 percent of the unconditional grants of DDCs, VDCs, and municipalities used to spend on infrastructure, of which 80 percent was spent on roads, implying that approximately half the received grants were spent on the local road network (GoN, 2012).

It was a mandatory provision that the local contributions must cover 30 percent of the total cost of a rural road if it was centrally managed. A central grant budget used to cover only 70 percent of the estimated cost of the project; the balance must come in the

form of people's participation (20%) and from internal sources of the concerned local governments (10%). The central government stipulated that all local governments must set aside at least 30 percent of their annual budgets for roads programs and 30 percent for new roads. In practice, however, the local governments' expenditure on roads is much higher (The World Bank, 2012).

4.12 The Practice of Fiscal Decentralization

Principally, fiscal decentralization refers to the degree of independent decision-making power in the provision of public services at different levels of government (Oates, 1972). The degree of fiscal decentralization may be defined by three criteria, i.e. (1) the importance of local taxes relative to central taxes, (2) the importance of local expenditures relative to central expenditures, and (3) the importance of central subsidies to local resources (Prud'homme, 1990). Moreover, the present status of the practice of the four pillars of fiscal decentralization in Nepal has been reviewed as follows.

A. Expenditure Assignment

The Local Self-Governance Act, 1999, had provisioned the following expenditure assignment to the local bodies (Table 4.5).

Table 4.5: Expenditure Assignment of Local Bodies in Nepal

VDCs (LSGA, Article 28)	Municipal (LSGA, Article 96)	DDCs (LSGA, Article 189)
1. Agriculture	1. Finance	1. Agriculture
2. Rural Water Supply	2. Water Resource, Environment, and Sanitation	2. Rural Water Supply and Habitation Development
3. Works and Transport	3. Works and Transport	3. Works and Transport
4. Education and Sports	4. Education and Sports	4. Education and Sports
5. Physical Development	5. Physical Development	5. Hydropower

(Table continued)

(Table 4.5 continued)

VDCs (LSGA, Article 28)	**Municipal (LSGA, Article 96)**	**DDCs (LSGA, Article 189)**
6. Health Service	6. Health Service	6. Health Services
7. Irrigation, Soil Erosion, and River Control	7. Social Welfare	7. Irrigation, Soil Erosion, and River Control
8. Forest and Environment	8. Culture	8. Forest and Environment
9. Language and Culture	9. Industry and Tourism	9. Language and Culture
10. Tourism and Cottage Industry	10. Approval of Building Design	10 Tourism
11. Miscellaneous	11. Miscellaneous	11 Cottage Industry
		12 Land Reform and Land Management
		13 Development of Women and Helpless People
		14. Information and Communication
		15. Wages for Lab
		16. Miscellaneous

Source: GoN, 1999

B. Revenue Assignment

After the restoration of democracy in 1990, the Local Self Governance Act (LSGA) was promulgated in Nepal in 1999. It was used to say that this act was the milestone in promoting decentralization in Nepalese history. The District Development Committee was entitled to receive a certain percentage amount as a revenue sharing collected by the central government. The details of the vertical sharing (from central to local) and horizontal sharing (from DDC to VDC and Municipality) and vice versa were as follows (GoN, 1999).

1. DDC used to receive the following percent share from the registration fee to be collected by the government of Nepal for the purchase and sale of houses and land.

Table 4.6: Ceiling of the Land Registration Fee to DDCs in Nepal

SN	Particulars	Percent
1.1	Up-to 5 million	90
1.2	From 5-10 million	60
1.3	From 10-20 million	30
1.4	From 20-30 million	20
1.5	From 30-50 million	15
1.6	From 50-100 million	10
1.7	More than 100 million	5

Source: GoN, 1999

2. DDC shall receive 50 percent out of the amount to be obtained by the government of Nepal for the royalty of mines,
3. DDC used to obtain 10 percent out of the amount to be obtained by the government of Nepal from forests,
4. DDC used to get 50 percent out of the amount to be obtained by the government of Nepal from hydropower production and sale. Out of 50 percent, 12 percent shall be obtained by the DDC where hydropower plant was installed and the remaining 38 percent for the DDCs of the respective development region at the proportional rate[9].
5. DDC used to get 30 percent out of the amount of entrance fee to be obtained by government of Nepal for entry of tourists into the district development area[10], royalty of mountain climbing[11], entry of tourists into the national park, and pad yatra/trekking.[12] The detailed sources of internal revenue of local bodies are presented in Table 4.7.

[9]Amended by the second amendment of LSGR on 2061/09/26
[10] Added by the second amendment of LSGR on 2061/09/26
[11] Added by the second amendment of LSGR on 2061/09/26
[12] The amount to be obtained from the revenue sharing shall not be used in the administrative expenses by the DDCs.

Table 4.7: Sources of Internal Revenue of Local Bodies in Nepal

Source Revenue	**VDCs (Article 55-59 of LSGA)**	**Municipalities (Article 136-148 of LSGA)**	**DDCs (Article 215-219 of LSGA)**
Tax	▪ House and Land Tax ▪ Land Revenue and Tax ▪ Haat Bazaar Pasal (Shop) Tax ▪ Rent Tax and Vehicle Tax ▪ Entertainment Tax ▪ Professional Tax ▪ Advertisement Tax ▪ Natural Resource Utilization Tax ▪ Commercial Video and Other Tax	▪ House and Land Tax ▪ Vehicle Tax ▪ Entertainment Tax ▪ Rent Tax ▪ Advertisement Tax ▪ Professional Tax ▪ Property Tax ▪ Commercial Video Tax	▪ DDC may impose a tax on roads, paths, bridges, irrigation, ditches, ponds, etc., built by or transferred to it. Likewise, Wool, turpentine, herbs, worn and torn goods[13], stones, slates, sand and bone, horn, wing, feather, etc[14].
Service Charge	▪ Sanitation - use of Drainage ▪ Tourist Site Entrance Fee ▪ Park, Garden, View Tower ▪ Fee for Entertainment like Magic, Circus, etc. ▪ For recovering Dues for Others	▪ Parking Fee ▪ Water Supply, Electricity, Tap, Public Telephone Fee ▪ Solid Waste, Sanitation, Sewerage Fee ▪ Public Lavatories, Park, Bath Room, Swimming Pool, Gymnasium, Guest House, Tourist Site, Hostel, Haat Bazaar, Slaughter House, Crematorium, use of Washing Space, Street Light, Road, Drainage Maintenance. ▪ Valuation of Real Estate (Fixed Assets)	▪ DDC may impose the service charge at the rate approved by the district council not exceeding the rate as prescribed in its area. Such as a guest house, library, clinic, hermitage, city hall, ditch, small ditch, embankment, etc., built by it or under its custody. ▪ Local Development Fee[15]

(Table continued)

[13] From the fiscal year 2009/2010, this tax authority has been abolished from the jurisdiction of DDC

[14] Up-to 35-50 percent of the amount obtained from the tax shall have to be provided to the concerned VDC and Municipality.

[15] From the fiscal year 2009/2010, this tax authority is abolished from the jurisdiction of DDC

(Table 4.7 continued)

Source Revenue	VDCs (Article 55-59 of LSGA)	Municipalities (Article 136-148 of LSGA)	DDCs (Article 215-219 of LSGA)
Fees	▪ Television, Video and other Equipment License Fee ▪ Approval Fee ▪ Recommendation fee	▪ Approval and recommendation fee ▪ Approval of building design fee ▪ Attestation of maps fee	▪ DDC may impose fees at the rate approved by district council not exceeding the rate as prescribed in its areas such as river rafting, boat, tunings, fishing permission and renewal, registration and renewal fee for water bank, recommendation fee and others as prescribed.
Sales	▪ Soil from Fallow Government Land ▪ Product from Public Pond - Orchard ▪ VDC Property ▪ Dry Wood, Fire Wood, Branches, Roots ▪ Grass (Khar)		▪ DDC may sell, as prescribed the sand in the river, and canals, concrete, stones, soil, wood swept by river, etc. lying in the area.[16]
Loan	▪ Loans from a bank or other institution with approval from Council, with or without collateral and on government guarantee	▪ Loans from a bank or other institution, with approval from Council, with or without collateral and on government guarantee	▪ According to the policy adopted, DDC may raise loans or receive borrowings with or without pledging any of its movable and immovable property owned and possessed by it or under guarantee given by GoN from the bank or any other organization by the district council.

Source: GoN, 1999

4.13 Fund Flow System in Nepal

In addition to the central grant, local bodies did have their own source revenue (OSR). However, local bodies receive conditional and unconditional capital and recurrent grants to perform and execute their annual program approved by their respective council annually. The local bodies (DDCs and municipalities) used to receive the grant (authorization) directly from the Ministry of Federal Affairs and Local Development

[16] Up-to 35-50 % of the amount obtained from such sales shall have to be provided to the concerned VDC and Municipality.

(Figure 4.4). However, VDCs used to receive the grant (authorization) from respective DDCs.

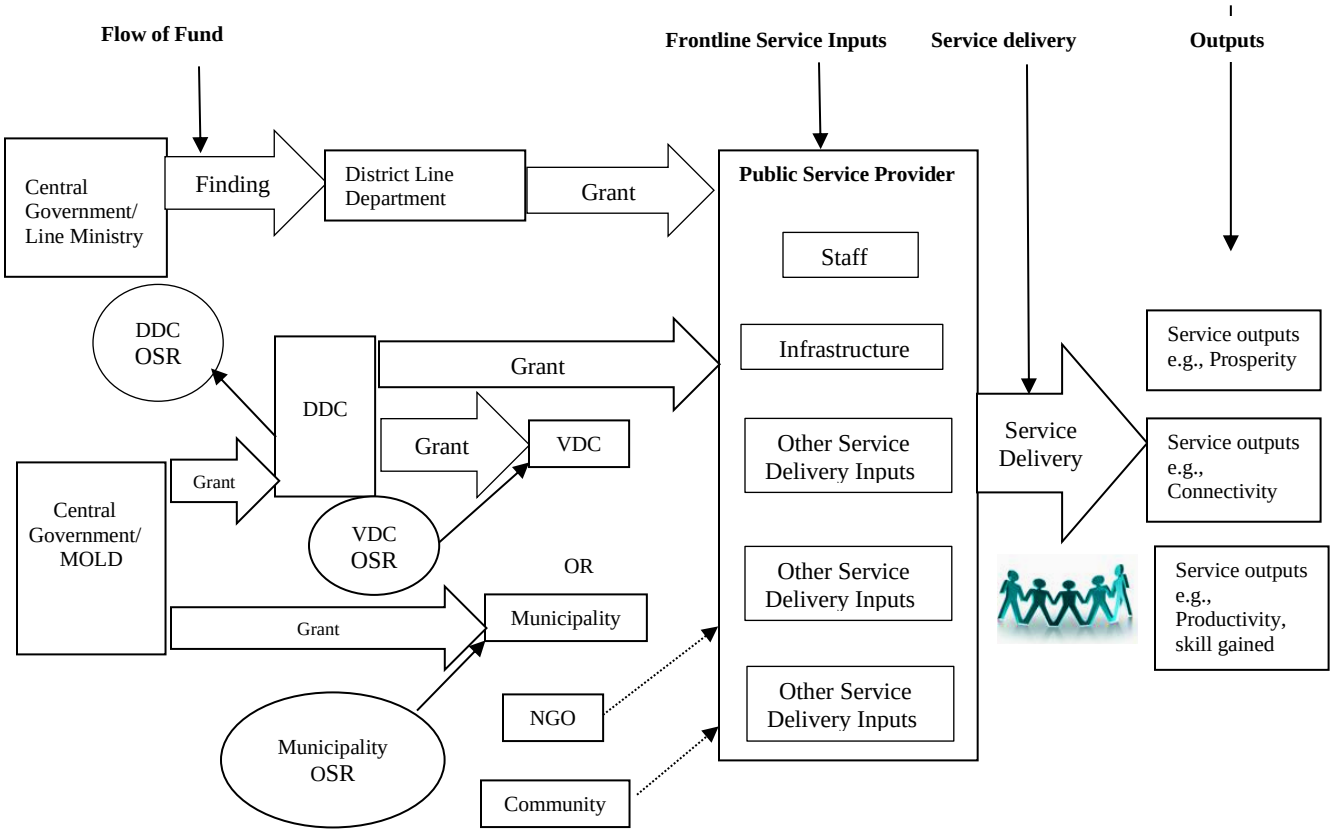


Figure 4.4: Fund Flow and Service Delivery Chain in Nepal

Source: The World Bank, 2014, Figure 1 (pp.13)

4.14 Personnel Management in Local Bodies

According to the provision of LSGA, the local bodies, based on workload, had to set positions of employees, along with a full description of the works to be done by each body and get the same approval from the concerned council. The council of the concerned council could determine the remuneration of the employees based on the pay-scale of the employees of civil service of the government of Nepal. However, the local bodies subjected to their own sources, means, and administrative budget can provide extra local allowances and facilities to their employees (LSGA, section, 249 and 250). The core staff in local bodies were provided and financed through earmarked grants by the central government.

Table 4.8 provides a summary of local bodies' staffing positions that such civil servants typically filled.

Table 4.8: Staff Positions Filled by Civil Servants in Local Body

Local Bodies	**Seconded Civil Servant Staff**
DDC	• DDC Secretary (Local Development Officer) • District Engineer(s) in the District Technical Office (DTO) • DDC Planning, Monitoring, and Administrative Officer • DDC Finance Officer and Accountants
Municipality	• Municipal Secretary (Executive Officer)
VDC	• VDC Secretary

Source: GoN, 1999

4.15 National Budget and Local Bodies' Grant

The comparison between national and local annual budget from FY 1996/97 to 2015/16 are presented in Table 4.6. On an average of 19 years, only 2.26 percent, 0.77 percent, and 0.21 percent budget of the total national budget used to receive annually by VDCs, DDCs, and municipalities, respectively. On an average of 19 years of the total national budget, the local bodies (VDCs, DDCs, and municipalities) had received only 3.24 percent as conditional and unconditional grants annually. The total grant to local bodies was 4.71 percent of the total national budget in the fiscal year 1996/97, which was the highest during 19 years, and the lowest grant (2.40 percent) was transferred to local bodies in FY 2014/15 (Table 4.9).

Table 4.9: Annual Grant to Local Bodies in Nepal (Rs. in Millions)

SN	**Fiscal Years**	**Total Budget**	**VDCs Grant**	**DDCs Grant**	**Municipality Grant**	**Total LBs Grant**	**Share of VDCs Grant (%)**	**Share of DDCs Grant (%)**	**Share of Municipal Grant (%)**	**Share of LBs**
1	1996/97	57566	2010	620	84	2714	3.49	1.08	0.15	4.71
2	1997/98	62022	1957	650	140	2747	3.16	1.05	0.23	4.43
3	1998/99	69693	1960	650	145	2755	2.81	0.93	0.21	3.95
4	1999/00	77238	1960	700	150	2810	2.54	0.91	0.19	3.64
5	2000/01	91621	1966	700	150	2816	2.15	0.76	0.16	3.08
6	2001/02	99792	1957	700	290	2947	1.96	0.70	0.29	2.95
7	2002/03	96125	1957	810	200	2967	2.04	0.84	0.21	3.09
8	2003/04	102400	1957	843	160	2959	1.91	0.82	0.16	2.89
9	2004/05	111690	1957	810	200	2967	1.75	0.73	0.18	2.65

(Table continued)

(Table 4.9 continued)

SN	Fiscal Years	Total Budget	VDCs Grant	DDCs Grant	Municipality Grant	Total LBs Grant	Share of VDCs Grant (%)	Share of DDCs Grant (%)	Share of Municipal Grant (%)	Share of LBs Grant (%)
10	2005/06	126885	1957	1010	176	3143	1.54	0.80	0.14	2.47
11	2006/07	143912	3915	1055	176	5146	2.72	0.73	0.12	3.58
12	2007/08	168996	3915	1134	300	5349	2.32	0.67	0.18	3.17
13	2008/09	236016	7830	1300	324	9454	3.32	0.55	0.14	4.01
14	2009/10	285930	7830	2080	350	10260	2.74	0.73	0.12	3.59
15	2010/11	337900	7830	2434	700	10964	2.32	0.72	0.21	3.25
16	2011/12	384899	7832	2461	710	11003	2.03	0.64	0.18	2.85
17	2012/13	404824	5872	3098	1051	10021	1.45	0.77	0.26	2.47
18	2013/14	517240	8210	3320	1150	12680	1.59	0.64	0.22	2.45
19	2014/15	618100	7360	3347	4148	14855	1.19	0.54	0.67	2.40
20	2015/16	819468	8051	3674	6295	18020	0.98	0.45	0.77	2.20
Average		240616	4414	1570	845	6829	2.20	0.75	0.24	3.19
Maximum		819468	8210	3674	6295	18020	3.49	1.08	0.77	4.71
Minimum		57566	1957	620	84	2714	0.98	0.45	0.12	2.20

Source: Various Years' Estimates of Expenditure (Including Line Item-Wise and Source-Wise), GoN/MoF,

4.16 Status of Public Service Delivery

The major challenges for implementing effective decentralization and local governance system in Nepal were the weak capacity of local bodies. An inadequate absorbing capacity critically restricted local autonomy, and there was a high dependency of local bodies on central transfer. Moreover, there was also a low level of awareness and organizational capacity of the citizen to make local bodies effective for service delivery. The absence of elected representatives in local bodies had adversely affected the effectiveness of local governance. A clear delineation of tasks among the different levels of governments was crucial for effective fiscal decentralization. It had hindered the devolution processes and service delivery in Nepal (Adhikari, 2006).

The restoration of democracy in 1990 had initiated a new era of the institutionalization of local governance in Nepal. A high-level Administrative Reform Commission formed in 1992 recommended devolving sectors such as education, health,

housing, water resources, construction works, local development, and environment to local government for effective implementation through citizen participation. In 1993, separate Acts were implemented for Village Development Committees, Municipalities, and District Development Committees. The first and second elections of local bodies were conducted under these Acts in 1993 and 1997 respectively. The government also implemented the Decentralization Action Plan in 1995 to promote and make effective civil society organizations through community involvement in the decision-making process (ADDCN, 2010).

The average status of service delivery of DDCs and VDCs was measured by institutional effectiveness (frequency of transfer of LDOs and VDCs Secretaries, number of meetings conducted, number of meetings chaired in devolved sectors, and number of field visits of devolved sectors' program by LDOs and VDCs secretaries. Moreover, the position approved and filled up of human resources, the status of fiscal performance (expenditure capacity and internal revenue mobilization capacity), the effectiveness of planning processes (status of preparation of profile, periodic plan, compliance of timeline of local planning processes, representation of NGOs, women, children, and DAGs in planning processes were also key indicators for the measurement of the service delivery status of local government in Nepal. Likewise, the preparation and use of monitoring and evaluation manual, timely release of budget, internal audit of devolved sector line agencies and VDCs, etc.), extent of transparency and accountability (number of public hearing, social audit conducted, use of medias in publication of documents and practice of notice board), status of capacity development (cooperation of political parties in planning processes, trainings to political representatives and personnel) and extent of coordination were also key pointers of service delivery in Nepal (ADDCN, 2010).

The government of Nepal had issued and implemented a letter of commitment, 2012 from FY 2012/13, for providing a guarantee to the people at the local level on the presence of a responsive and accountable government and for maintaining good governance through effective service delivery. Similarly, the government of Nepal had promulgated the Local Bodies' Resource Mobilization and Management Procedures Manual, 2012; and Immediate Action Plan on Governance and Financial Reform, 2012. Besides, to encourage VDC Secretaries to work in their designated VDCs, the government

of Nepal had decided to provide an incentive allowance of Rs. 1,500 to each VDC as they used to move to district headquarters or other places of their convenience by abandoning or leaving their VDC working posts on the excuse of security threats (MoF, 2013).

The Local Governance and Accountability Facility (LGAF) intervention in 260 local bodies (250 VDCs, 8 DDCs, and two municipalities) showed that 71.92 percent LBs had complied with allocating funds for the direct benefit for children. Likewise, about 80 percent of LBs are used to give a budget for the direct benefit of women as per the provision of grant procedure guidelines. Also, nearly 75 LBs had allocated 15 percent and more budget out of their total capital fund for the direct benefit of disadvantaged groups. Of the total service users (8,565 persons), exit interview (citizen service satisfaction in exit poll) conducted, about 46 percent respondents belonged to the disadvantaged groups, 28 percent expressed their views that they were delighted with the service provided by the local bodies. While 35 percent were found dissatisfied and 37 percent opined that they were on the average level of satisfaction from the services offered by the local bodies. Similarly, the satisfaction level of the citizen with the services provided by LBs through an opinion survey with 10,296 respondents found that only 26 percent of respondents expressed their satisfaction from the service delivery of LBs contrary to 37 percent satisfaction and 37 percent satisfaction percent dissatisfaction. (ADDCN, MuAN, and NAVIN, 2013).

The study carried out in 2014 by the World Bank found that the effectiveness of public service delivery depends largely on the capability, resources and inputs, and the motivation of frontline service providers at the local level. Although there was a gradual increment of LB revenue over the past years, there were no corresponding changes in the institutional framework of local government, which hindered the service delivery at the local level. LBs responsibilities reflect an approach of 'supplementary' rather than the principle of subsidiarity. LBs faced objective difficulties due to limited professional staff, high turnover, and scarcity of suitably skilled accountants, engineers, and other specialists to work in often remote localities (The World Bank, 2014). This study was carried out in Dhankuta and Dhanusa districts. The jurisdictions of Dhankuta district were Dhankuta municipality and five VDCs (Bhedetar, Bhirgoun, Hattikharka, Pakhribas, and Rajarani) and in Dhanusa district, Janakpur municipality and four VDCs (Basbitti, Labtoli, Lohana Sapahi, and Umaprempur). The study was based on the rapid review of service delivery in

local roads and primary and secondary education. The service delivery chains in Nepal were as follows:

1. Central Government Line Ministries used to fund district line departments for public service delivery for service outcome, e.g., people's prosperity, connectivity, and productive skill gained.
2. Ministry of Federal Affairs and Local Development used to provide the fund to DDCs, VDCs, and Municipalities for public service delivery for service outcome. The local bodies DDCs, VDCs, and Municipalities also had used their own source revenue (OSR) for better service delivery at the local level.
3. NGOs, Civil Society Organizations, Consumer Groups/Community, and Private Sectors were also involved in service delivery at the local level.

The local bodies in Nepal used to carry out similar types of functions. The LSGA had not adequately defined the services and functions for DDC, VDC, and municipality, and since the DDC did not have a territory of its own; as a result, there was a high chance of duplication in the functions. The major issue of decentralization in Nepal was highly overlapping responsibilities among the line agencies and the local bodies. Moreover, the local bodies were assigned more unfunded and underfunded mandates (Subedi, 2014). The fiscal decentralization was significantly enhancing economic growth in the districts of Nepal. The LSGA had provided much financial power to LBs, but they were not exploiting these rights properly. As a result, there was a high dependency of LBs on the central government's grant.

Social mobilization was considered as the broader process of empowering citizens to ensure their voices, choices, and rights in the local governance. It was assumed that the approach of social mobilization focuses on empowering citizens to articulate their needs better, claim assets and services, and influence decisions, procedures, and policies of government institutions in their favor (MoLD, 2011).

Moreover, the local road was the key development sector for local bodies in Nepal. The planning for district-level roads was mostly integrated but not comprehensive. There was no systematic planning for village-level local roads. Earmarked financing of the local

roads sector was not conducive to more robust planning. LBs generally did not have basic engineering capacity. There was a lack of monitoring, reporting, and evaluation in the local roads sector. Citizens, nonetheless, used to assess that there was an improvement in the local roads network over the past years, although much remained to be done.

LBs face objective difficulties due to limited professional staff and scarcity of suitably skilled accountants, engineers, and other specialists to work in the remote localities of Nepal. The LBs were not playing an active role in ensuring education for all children, whereas basic education service was decentralized to the School Management Committee. There was minimal effective local oversight of schools' use of funds. A marked decline in students at public (community) schools raises the need for rationalization. LBs' role in basic education was limited and declining in terms of financing. The limited role of LBs was not affecting the efficiency of the delivery of primary education in schools. The overall service outcomes appear positive in terms of efficiency and citizen satisfaction (The World Bank, 2014).

Although provisions made in the Good Governance Act and Regulations for maintaining good governance and various efforts made in that direction, review, and analysis of implementation status and uses of authorities as provided to officials and responsibilities through the Act and Regulations are yet to be conducted. As a result, maintaining accountability and transparency had remained a challenge. Due to the lack of strong security measures at the local level, lack of employees in conflict areas, and absence of elected local bodies, time-relevant qualitative services could not be delivered as expected at the local level. The major issues in the delivery of services at the local level were the attitude problem among the personnel working in service providing organizations, lack of orientation towards problem resolution; difficulty in conducting result-oriented participatory monitoring and evaluation of targeted objectives; and absence of programs prioritization as well as lack of good homework for implementation (MoF, 2015a).

The development practices of Nepal show that many communities are poor due to exclusion, lack of an enabling environment, and democratic deficiencies. The poor delivery of services at the grass-root level was the cause of the consequences of reluctance and lack of capacity of the government, bureaucratic centralization, and the feudal legacy deep-rooted in the social and political power structures. There was a lack of proper practice of fundamental

democratic principles such as accountability, self-reliance, and right of access to basic to services. Nepal faces a serious political, economic, and social transformation due to exclusion, poor governance, and institutional crisis for service delivery at the grassroots (Acharya, 2013).

Local bodies (LBs) were the key institutions to provide services to the Nepalese people at grassroots level. After the restoration of democracy in 1990, the local bodies' associations such as ADDCN, NuAN and NAVIN were emerged as lobbying and advocacy groups to promote the participatory decentralization process in Nepal. To fulfill the gap of the absence of elected representatives in LBS, the all-party mechanism (APM) was established, but this was not effective in fulfilling the demand of accountability. From 2002 till 2017, there were no elected representatives in local bodies. The absence of elected representatives in Nepal was badly felt at the local and national levels (Dhungel et al., 2011).

4.17 New Provisions about Local Government in Nepal

Article 56 (1) of the Constitution of Nepal in 2015 has provisioned that the main structure of the Federal Democratic Republic of Nepal shall be of three levels, namely the Federal, the State, and Local Levels. Article 54 (4) says that there shall be Village Bodies, Municipalities, and District Assemblies under Local Levels. The list of Local Levels' exclusive power is presented in Annex 21.

Based on the recommendation of the report submitted by the Local Level Restructuring Commission (LLRC), the Government of Nepal has restructured the previous Local Bodies and fixed the new number of Local Level and Wards. There are 6 Metropolitan Cities, 11 Sub-metropolitan Cities, 276 Municipalities, and 460 Rural Municipalities in Nepal. Altogether there are 753 Local Levels and 6,743 Wards in Municipalities and Rural Municipalities (Table 4.10).

Table 4.10: New Structure and Number of Local Governments in Nepal

Provinces	Metropolitan city		Sub-Metropolitan city		Municipalities		Rural Municipalities		Total Local Levels	Total Wards
	No. LL	No. of Wards	No. LL	No. of Wards	No. LL	No. of Wards	No. LL	No. of Wards		
Province One	1	19	2	40	46	496	88	602	137	1157
Province Two	1	32	3	76	73	804	59	359	136	1271
Bagmati	3	90	1	19	41	470	74	542	119	1121
Gandaki	1	33	0	0	26	318	58	408	85	759

(Table continued)

(Table 10.4 continued)

Provinces	Metropolitan city		Sub-Metropolitan city		Municipalities		Rural Municipalities		Total Local Levels	Total Wards
	No. LL	No. of Wards	No. LL	No. of Wards	No. LL	No. of Wards	No. LL	No. of Wards		
Povince Five	0	0	4	80	32	376	73	527	109	983
Karnali	0	0	0	0	25	303	54	415	79	718
Sudurpaschim	0	0	1	19	33	352	54	363	88	734
Total	**6**	**174**	**11**	**234**	**276**	**3119**	**460**	**3216**	**753**	**6743**

Note: Currently, there are 77 District Coordination Committees in Nepal.

Source: MoFALD, 2017

According to the restructured Local Level, the Government of Nepal has already held the election of local levels in three phases. The newly elected representatives have taken responsibility. The Government of Nepal has also promulgated the important laws concerning Local Levels, namely, Local Government Operation Act, 2017; Inter-Government Fiscal Management Act, 2017; National Natural Resource and Fiscal Commission Act, 2017 and Personnel Adjustment Act, 2017. For the current fiscal year, the Government of Nepal has transferred equalization and conditional grant to the Local Levels based on certain criteria, i.e., population, geographic areas, expenditure needs, and revenue capacities.

The concept and principle of functional analysis and division of responsibility of all three levels of government have been clearly analyzed in line with the constitution of Nepal. The main objective of functional analysis and responsibility assignment is to ensure trust and effectiveness in service delivery at each level of government. The principles adopted for the functional analysis and responsibility assignment are efficiency and subsidiary, economies of scale, externalities or spillover jurisdiction, **e**quity and **i**nclusion**,** overall economic stability, national interests and goals, accountability and capacity, cooperative, coordination, and co-existence at all levels. Moreover, other aspects such as policies, standards, quality, regulation, financial resources, services delivery, production, and distribution of the services are also more important to determine the functional analysis and assignment (Federalism Implementation and Administration Restructuring Coordination Committee, 2017).

Local Government Operation Act, 2017 has unbundled the powers guaranteed by the constitution of Nepal to the local governments. It has detailed out the executive, legislative and judiciary roles and responsibilities of the local governments. Moreover, it has elucidated a different kind of fiscal jurisdiction, including borrowings. They have the right to internal borrowing not exceeding the ceiling set by National Natural Resources and Fiscal Commission. It has also elaborated the fiscal working procedure of the local governments. Similarly, it has explained the working process of local level assembly-the legislative body, executive body, and judicial committee, the judicial organ provisioned by the constitution. Moreover, it has listed out the roles and responsibilities of the elected representatives of the local governments (GoN, 2017a).

The Local Government Operation Act, 2017 (11) has explicitly explained the local governments' sole and concurrent power and responsibilities in detail. Municipal police; promulgation, implementation and regulation of local policies, laws and standards regarding Cooperatives; operation of frequency modulation (FM) radio; local taxation, service fee and levies; management of local service; collection and documentation of local statistics; implementation local development projects and programs; basic and secondary education; basic health, sanitation and nutrition; management of local market, environment conservation, bio-diversity; local, rural and agriculture roads, and irrigation; management and arbitration and negotiation; distribution of land ownership certificate; agriculture and livestock; management of senior citizen, and persons having different ability/capacity (disabled); collection of unemployment data; operation, protection and management of agriculture extension program; drinking water, small electricity, and alternative energy; disaster management; protection of water induce, animals, mine and minerals; language, culture and handicraft development and conservation/protection are the sole power of local governments (GoN, 2017a).

Moreover, sports and newspapers; health, electricity, drinking water and irrigation services; jungle/tree, forest, animals, birds, use of water, environment, nature, and biodiversity; social security and poverty reduction; vital registration (birth, death, marriage, migration, divorce, adopted son and daughter); protection, promotion, and renovation of local level archaeology, ancient momentum, and museum/gallery; management of landless citizen, royalty from natural resources, the permission of vehicle

are the concurrent power of local governments by the federal and provincial laws. In addition to the above, local governments are also responsible for land management, communication service (internet, telecom, cable net, etc.), transportation services, etc. (GoN, 2017a).

4.18 Fiscal Authority of Local Government of Nepal

Schedule 8 of the current Constitution of Nepal has provisioned the single/sole financial authority of local levels/governments, and concurrent authority is presented in Annex 9. The Local Government Operational Act, 2017, the Inter-Governmental Fiscal Management Act, 2017, National Natural Resource, and Inter-Government Fiscal Arrangement Act 2017 are the major federal laws related to the local governments. The local governments are responsible for collecting revenue from property tax (land and building tax), business tax, house and land rent tax, advertisement tax, vehicle tax, entertainment tax, etc., and nontax such as local infrastructure utilization fee, design approval, and various recommendations, etc.

The Fiscal Act, 2018 of the Government of Nepal has amended section 5 of the Inter-Government Fiscal Arrangement Act 2017 by putting the following provisions regarding the revenue administration.

1. Notwithstanding anything contained in this act and other existing laws, the following taxes that are shared in the schedules of both local and provincial levels will be imposed and collected in the following ways:
    a. The vehicle tax rate will be set and collected by the province, but the rate of tax on tanga, rickshaw, auto-rickshaw, and electric rickshaw shall be set and collected by the local level.
    b. Rate of house and land registration fee shall be set by a province and collected by the local levels, i.e., municipality and rural municipalities.
    c. Entertainment tax shall be imposed by a province and shall be collected by the local levels,
    d. Advertisement tax shall be imposed and collected by the local level.

2. Municipalities shall deposit the 60 percent amount of the tax collected under (b), (c), (d) of sub-section 1 in their consolidated fund, and 40 percent of it shall be deposited in the respective province's consolidated fund.

a. Provisions of Revenue Sharing between Local and Provincial Governments

Fiscal Act 2018/19 has made the following provisions regarding revenue sharing under concurrent power between the province and local government (Table 4.11).

Table 4.11: Revenue Sharing between Provinces and Local Governments

Revenue Heads	Collection Authority	Revenue Sharing (in Percent)	
		Province	Local Level
Vehicle Tax	Province	60	40
House and Land Registration Fee	Local	40	60
Entertainment Tax	Local	40	60
Advertisement Tax	Local	40	60

Source: MoF (2018)

b. Provisions regarding Property Tax

The Fiscal Act, 2018 has amended the Local Government Management Act, 2017. Following provisions have been kept amending section 55 of the Act.

1. According to section 55 (1), municipalities shall levy property tax on a house and its plinth area. Clarification: For this sub-section, plinth area means the area which is smaller between the area covered by a house and 5,476 sq. ft.
2. Land tax will be charged for the remaining land which does not come under the provision of sub-section 1.
3. The bases for charging property tax are as follows:
   a. Size, type, and structure of the house and land,
   b. Current market price and depreciation value in the case of a house
   c. The situation of utilization, residential or commercial, the home or land

c. The provision regarding Royalty Sharing of Natural Resources

Subject to the Intergovernmental Fiscal Arrangement Act, 2017, conditions as given in Table 4.12 have been made regarding the royalty sharing of mountaineering, hydroelectricity, forest and mine, and minerals.

Table 4.12: Basis of Natural Resources Royalty Sharing (in Percent)

Sources	Federal	Province	Local Level
Mountaineering	50	25	25
Electricity	50	25	25
Forest	50	25	25
Mine and Minerals	50	25	25
Water and Other Sources	50	25	25

Source: GoN (2017b)

d. Provisions regarding Revenue Sharing

Following the Intergovernmental Fiscal Arrangement Act, 2017, the amount to be collected by the Federal Government from the value-added tax and excise duty will be deposited in the federal divisible fund. It will be shared among three levels of government as presented in Table 4.13.

Table 4.13: Basis of Sharing of Tax Revenue (in Percent)

Sources	Federal	Province	Local Level
Value Added Tax (VAT)	70	15	15
Excise Duty	70	15	15

Source: GoN (2017b)

According to the Constitution of Nepal, the local governments receive various kinds of grants (equalization, conditional, special and complementary) and amount of revenue sharing from VAT, excise duty, and natural resources from the federal government and same types of grants and amount of revenue sharing of vehicle tax from provincial governments. Moreover, the local governments also share a certain percentage amount to provincial government collected from land and building registration, advertisement, and entertainment. DCCs also receive conditional grants from the federal and provincial governments based on their annual program and budget (Figure 4.5).

The fund flow mechanism from the federal government is presented in Figure 4.6 below.

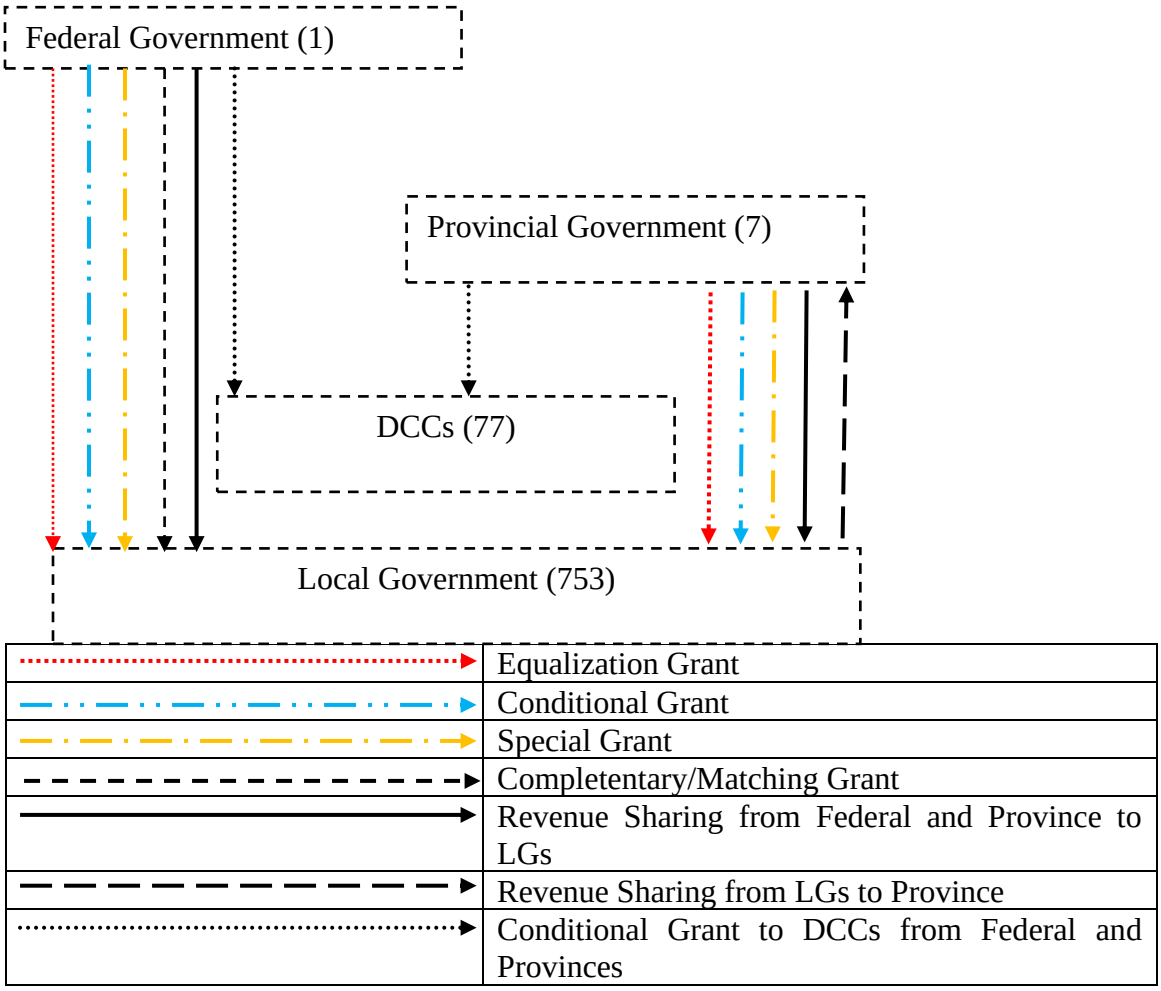
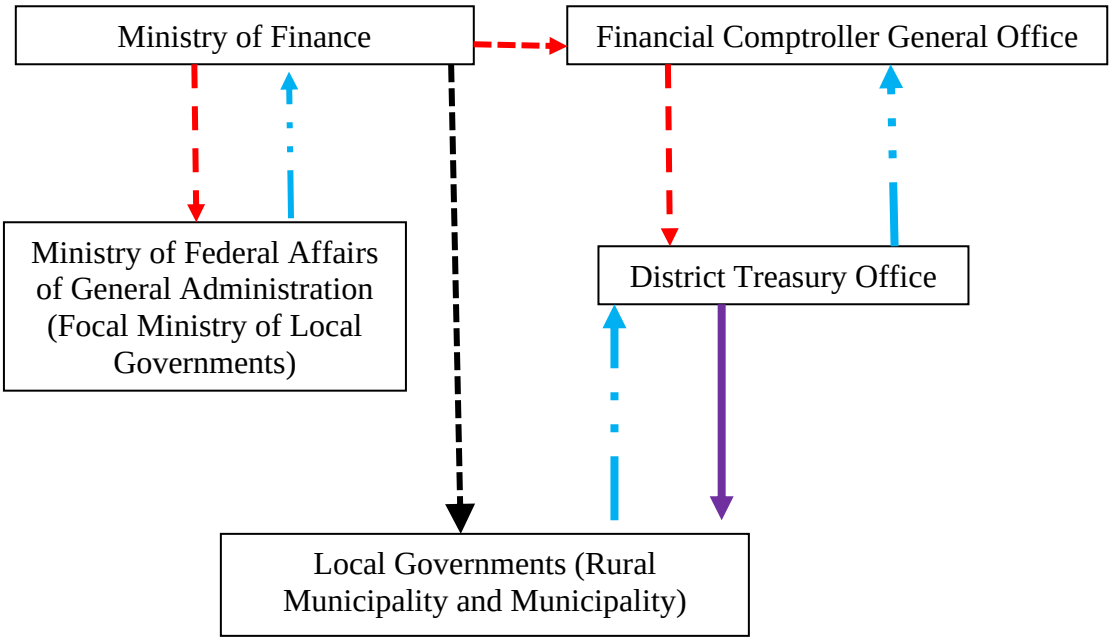
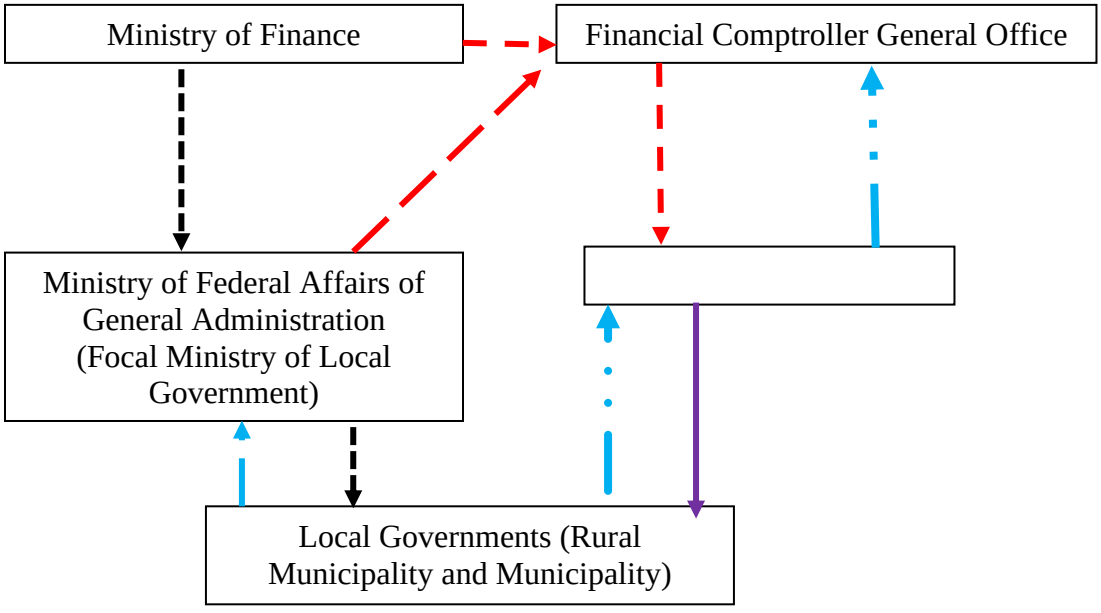


Figure 4.5: Vertical Fund Transfer System in Nepal

A. Equalization Grant Release System



B. Conditional Grant Release System



	Notice of Authorization
	Authorization
	Fund Release
	Reporting

Figure 4.6: Fund Flow System of Local Government in Nepal

Firstly, the Ministry of Finance (MoF) sends authorization directly to the local governments and provides the notice/information of the approval to the Ministry of Federal Affairs and General Administration (MoFAGA) and Financial Comptroller General Office (FCGO). Secondly, the FCGO will provide the notice of authorization to the District Treasury Comptroller Office (DTCO), and finally, the DTCO will release funds under equalization grant to local governments. However, under the conditional grant, the MoF sends the authorization to MoFAGA firstly, and MoFAGA sends the authorization to local governments. The MoF and MoFAGA provide information/notice to the FCGO about the authorization sent to local governments. Similarly, the FCGO will also give notice on authorization to DTCO.

The local governments must report the progress status of expenditure to the Ministry of Federal Affairs and General Administration and DTCO accordingly. DTCO must notify the financial progress of local governments to FCGO. The local governments must report the progress status of expenditure to the Ministry of Federal Affairs and General Administration and DTCO. Accordingly, DTCO must notify the financial progress of local governments to FCGO periodically.

e. Internal Borrowing Provisions

National Natural Resources and Fiscal Commission (NNRFC) has set the upper limit of internal borrowing of federal, provincial, and local levels. The federal government can get internal revenue up to five percent of the projected GDP of this fiscal year. The provincial and local governments can get internal borrowing up to 10 percent of the sum of revenue shared amount and own-source revenues (Table 4.14). However, the legal and monetary instruments are not yet ready for provinces and local levels. The internal borrowing must be made to finance capital formation activities only (NNRFC, 2018).

Table 4.14: Basis of Sharing of Tax Revenue

SN	Levels of Government	Upper Limit of Internal Borrowing
1	Federal	5 percent of Projected GDP of this Fiscal Year
2	Province	10 percent of the sum of Revenue Sharing and OSR
3	Local	10 percent of the sum of Revenue Sharing and OSR

Source: NNRFC (2018)

4.19 Summary of the Chapter

This chapter has covered the review of the evolution process of local governance and service delivery in Nepal. Legal foundation or provision of service delivery at the local level, and public service delivery mechanism in Nepal have been studied. This chapter enlightens the functional responsibilities of local bodies according to the local self-governance act, 1999. The researcher has reviewed the local planning, social mobilization and citizen participation in the planning process, a system of minimum condition and performance measurement, mechanism of good governance and service delivery, transparency and accountability mechanism in service delivery, corruption and service delivery, the practice of fiscal decentralization, fund flow system in Nepal, personnel management in local bodies, the constitutional provision of local government and fiscal authorities of local government in Nepal.

CHAPTER V: SERVICE DELIVERY PERFORMANCES OF LOCAL GOVERNMENT: EMPIRICAL ANALYSIS

This chapter is related to the empirical analysis of the secondary data, interpretation of results, and discussion. The results of the empirical study are derived from the estimation of various models of the resource mobilization and service delivery performance of DDCs and municipalities. Altogether, six models have been estimated in the study. The analysis of data and interpretation of the results are presented as follows:

5.1 Financial Performance Analysis

The financial performance of DDCs and municipalities are assessed using various variables such as per capita capital and recurrent expenditure that represents service solvency and revenue autonomy or revenue decentralization of DDCs, revenue autonomy or revenue decentralization, and expenditure capacity of municipalities. Moreover, the various models of regression analysis have been estimated. The fundamental analysis of the available financial data is presented below.

5.1.1 Financial Performance of DDC

The service level solvency is the capability of local government to provide and maintain the level of public services required and preferred by the citizen or community. The ratio of total expenditure to population (total expenditure/population) is used to measure the service level solvency (Wang, Agrawala, and Cohen, 2007). This ratio indicates the cost of local government incurred to serve each citizen or resident of the respective jurisdiction (Table 5.1). More than 50 percent of DDCs have made annual per capita expenditure between Rs. 250-500 in all five Fiscal Years. About 33 percent of DDCs have made per capita expenditure more than Rs. 500 in FY 2014/15. The figure shows that the highest per capita expenditure of DDCs in FY 2013/14 is Rs. 1,513.07, and the lowest per capita expenditure is Rs. 170.13 in FY 2011/12 (Table 5.1)

Table 5.1: Per Capita Capital and Recurrent Expenditure of DDCs

Per capita expenditure (Rs.)	Fiscal Years (No. of DDCs and %)				
	2011/12	**2012/13**	**2013/14**	**2014/15**	**2015/16**
<250	12 (16)	15 (20)	4 (5)	4 (5)	4 (5)
>250<500	59 (79)	57 (76)	44 (59)	46 61)	57 (76)
>500	4 (5)	3 (4)	27 (36)	25 (33)	14 (19)
Total No. of DDCs	**75 (100)**	**75 (100)**	**75 (100)**	**75 (100)**	**75 (100)**
Maximum Per Capita Expenditure (Rs.)	617.05	566.78	1513.07	1228.95	841.31
Minimum Per Capita Expenditure (Rs.)	170.13	157.52	206.47	219.39	213.10

Note: The numerical value in parenthesis is the percentage.
Source: Annex 3 and 4

A. Revenue Autonomy or Revenue Decentralization of DDCs

The financial autonomy or autonomy decentralization indicates that the local governments are not vulnerable to serve the people. The ratio's numerator is local government own-source revenues, and denominators are the total revenues or total expenditures. The percentage of financial independence measures the condition. It is also known as autonomy decentralization. The ratio is calculated by dividing own source revenue (OSR) by total revenue. The total revenue includes OSR, government grant, i.e., capital, recurrent, and LGCDP grant.

The financial independence of five fiscal years from FY 2011/12 to 2015/16 was calculated. The ratio of OSR of DDCs is measured in various groups such as below 10%, between 10 to 20 percent, between 20 to 30 percent, more than 30 percent. The Table shows that the share of OSR to total revenue of 36 DDCs (48%) was below 10 percent in FY 2011/12 whereas the percentage of DDCs having below 10 percent of OSR found decreased to 43 percent in FY 2013/14. Of the total 75 DDCs, 13 DDCs (17%) had more than 30 percent share of internal revenue to the total revenue in 2011/12, which was increased to 16 DDCs (22%) in FY 2012/13 (Table 5.2). The basic principle is that the lower the value of the ratios indicates less financial independence. In contrast, the higher the value of ratios means the more increased financial independence of DDCs. The ratio of own-source revenue of Mugu DDC was only 0.4 percent, whereas the percentage of

Rupandehi DDC was 65 percent in FY 2011/12. The percentage of the own-source income of Solukhumbu DDC was only 0.7 percent, whereas the ratio of OSR of Dhading DDC was 42 percent in FY 2015/16 (Annex 2, 3, 4, and 5).

Table 5.2: The Ratio of Own Source Revenue to the Total Revenue of DDCs

Ratio of OSR	2011/12	2012/13	2013/14	2014/15	2015/16
<10%	36 (48)	33 (44)	32 (43)	38 (51)	47 (63)
<20%>10%	17 (23)	16 (21)	19 (25)	13 (17)	13 (17)
<30%>20%	9 (12)	10 (13)	9 (12)	10 (13)	9 (12)
>30%	13 (17)	16 (22)	15 (20)	14 (19)	6 (8)
Total DDCs	75 (100)	75 (100)	75 (100)	75 (100)	75 (100)
Min	0.004	0.011	0.010	0.006	0.007
Max	0.658	0.595	0.605	0.646	0.421
Mean	0.156	0.168	0.176	0.163	0.107

Note: The numerical value in parenthesis is the percentage.
Source: Annexes 2, 3, 4 and 5

5.1.2 Analysis of Own Source Revenue of Municipalities

A. Revenue Autonomy or Revenue Decentralization of Municipalities

The revenue autonomy is derived from dividing Own Source Revenue by municipal's total revenue. The municipal's total revenue includes capital budget, recurrent budget, LGCDP budget, LDF budget, and OSR of the municipality. According to the data, there were three municipalities in FY 2011/12 that had more than 50 percent contribution of OSR in their total revenue. The number was increased to 13 in FY 2012/13. The contribution of OSR in total revenue of 40 municipalities had stood between 25-50 percent in FY 2014/15 (Table 5.3). There was highest 68.1 percent, 82.5 percent, 73.8 percent, and 79.5 percent contribution of OSR to total revenue of Bhaktapur municipality in FY 2011/12, 2012/13, 2013/14, and 2014/15. In contrast, the highest 64.4 percent contribution of OSR of Pokhara sub-metropolitan city in FY 2015/16. There was a minimum contribution (2.6 percent) of OSR in total revenue of Siraha municipality in FY 2011/12. There was a very minimum contribution of OSR of Gaur municipality. It was 14.6 percent, 6.1 percent, 11.6 percent in FY 2012/13, 2013/14, and FY 2014/15, respectively, whereas there was a 5.1 percent contribution of OSR of Dasrathchand municipality in FY 2015/16 (Annex 6, 7, 8 and 9).

Table 5.3: The Ratio of OSR of Municipalities to Total Revenue

The ratio of OSR of the total revenue	Fiscal years				
	2011/12	2012/13	2013/14	2014/15	2015/16
>50%	3	13	4	6	6
<50>25	14	32	37	40	27
<25>10	30	13	15	12	22
<10	11	0	2	0	3
Total No. of Municipalities	58	58	58	58	58
Maximum Contribution of OSR %	0.681	0.825	0.738	0.795	0.644
Minimum Contribution of OSR %	0.026	0.146	0.061	0.116	0.051
Average Contribution of OSR %	0.221	0.391	0.310	0.359	0.311

Source: Annex 6, 7, 8 and 9

B. Expenditure Capacity of Municipalities

Of the total 58 municipalities, only 24 municipalities had been able to spend more than 90 percent budget in 2011/12. But 57 municipalities were able to spend more than 90 percent budget in FY 2012/13 and FY 2013/14. On average, 89.9 percent budget of municipalities was spent in FY 2011/12, whereas 99.1 percent budget was spent in FY 2012/13 and 96.4 percent budget was spent in FY 2013/14 (Table 5.4).

Table 5.4: Expenditure Capacity of Municipalities

The ratio of Expenditure to Total Budget	Fiscal Years				
	2011/12	2012/13	2013/14	2014/15	2015/16
>90%	24	57	57	52	48
<90%>80%	31	0	0	2	3
<80>50%	3	1	1	4	7
Total No. of Municipalities	58	58	58	58	58
Maximum %	1.000	1.000	1.000	1.000	1.000
Minimum %	0.656	0.684	0.782	0.636	0.641
Average %	0.899	0.991	0.991	0.964	0.937

Annexes: 6, 7, 8 and 9

5.2 Regression Results and Interpretation

The OLS regression of cross-sectional data has been used for regression analysis.

5.2.1 Regression on District Level Data

The dependent Variable is HDI_2014, and predictor variables are per capita income index (PCII), human poverty index (HPI), and average district expenditure (ADE), seven provinces, and three ecological zones are used as dummy variables. The result of regression analysis is presented in Tables 5.5 and 5.6.

Table 5.5: Descriptive Statistics of Model (Dependent Variable: HDI_2014)

	Mean	Std. Deviation	N
HDI_2014	.467587	.0560169	75
HPI	.338067	.0766345	75
PCII	.385613	.0580829	75
ADE (Rs. in billion)	3.96408	13.394065	75
ED1	.25	.438	75
ED2	.32	.470	75
PD1	.19	.392	75
PD2	.11	.311	75
PD3	.17	.381	75
PD4	.15	.356	75
PD5	.15	.356	75
PD6	.12	.327	75

The descriptive statistics are presented in Table 5.5 shows the mean value and standard deviation of the variables and the number of total observations.

Table 5.6: Coefficients (Dependent Variable: HDI_2014)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.450	.021		21.153	.000		
HPI	-.410	.033	-.561	-12.265	.000	.281	3.561
PCII	.410	.040	.425	10.302	.000	.345	2.898
ADE	.001	.000	.073	2.574	.012	.739	1.353
ED1	-.017	.004	-.132	-4.137	.000	.575	1.741
ED2	-.011	.004	-.089	-2.804	.007	.582	1.718

(Table continued)

(Table 5.6 continued)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
PD1	.008	.006	.053	1.231	.223	.315	3.174
PD2	.003	.007	.017	.427	.671	.383	2.608
PD3	.013	.006	.089	2.088	.041	.327	3.060
PD4	.006	.007	.035	.806	.423	.311	3.212
PD5	-.006	.006	-.041	-1.132	.262	.444	2.255
PD6	.005	.006	.031	.904	.369	.490	2.040

Note: R^2= 0.963, adjusted R^2= 0.957, DW=1.723, F-value = 149.059, Sig (F)= 0.001

Interpretation of the Results

The R^2 value shows that PCII, HPI and ADE can jointly explain 96.3 percent to human development index (HDI).

The F-test for overall significance has the following two hypotheses:

- The null hypothesis: No independent variables fit the data as well as the model.
- The alternative hypothesis: The model fits the data better than the intercept-only model.

The F-test is highly significant because the significance value is 0.001 (i.e., p = .000), which is below 0.05. Thus sample data provide sufficient evidence to conclude that the regression model fits the data better than the model with no independent variables. It means that the independent variables in the model improve the fit or the model shows a good fit.

The value of R is the square root of R-Squared, and it represents the simple correlation between observed and predicted values of the dependent variable. The R-Square is the proportion of variance in the dependent variable which can be predicted from the independent variables. The R square (0.963) implies that eleven predictor variables jointly explain 96.3 percent variation in the total variation of HDI. But R square is an optimistic measurement. It increases with an increase of predictors, so it is better to use an adjusted R square (0.957). It implies that the eleven predictor variables jointly explain the HDI by 95.7 percent in its total variation after adjusting the sample size and number of predictors. (Table 5.6).

The average HDI of all 75 districts is 0.467, whereas the province-wise lowest average HDI of Karnali Province is 0.409, Sudurpaschhim Province is 0.416, and Province Two is 0.421. The regression result shows a significant positive relationship between the per capita income index and average district expenditure on HDI. It means that the increase of per capita income and average district expenditure leads to an increase in the HDI. This finding is in line with the result produced by Rahayu, Raviyanti, and Mahardika (2016) and Fattah and Muji (2012) that the increase in government expenditure on education and infrastructure development contributes to increasing HDI. But there is a negative relation of the human poverty index on HDI. It means that the higher the human poverty index lowers the HDI and vice versa.

We can compare the magnitude of the Beta value of the standardized coefficients to see which one has more of an effect. We also notice that the more significant betas are associated with, the larger t-values. The coefficient of average district expenditure can be interpreted that every unit (Rs. one billion) increase in expenditure predicts a 0.001 unit increase in HDI, holding all other variables constant. Similarly, the coefficient of the per capita income index can be interpreted that every unit increase in the per capita income index predicts a 0.410-unit increase in HDI. The coefficient of the human poverty index can be interpreted that every unit increase in the human poverty index indicates a 0.410 unit decrease in HDI. The mean HDI of mountain and Terai districts was found lower than Hill districts (reference category/base group) by 0.017 and 0.011, respectively. Moreover, all eleven predictors do not have the same contribution to change in HDI. Based on the standardized coefficients of the predictors, the human poverty index (beta 0.561) has the greatest contribution among all predictors, whereas the beta value of the per capita income index is 0.425, and the beta value of average district expenditure is 0.073. The result suggests that human poverty has a strong negative association with HDI (Table 5.6).

Diagnostic Test of Assumptions OLS Result of Model One

The diagnostic test of assumptions OLS result of model one has been done as follow:

(i) No Multicollinearity

The values of the variance inflation factor (VIF) of eleven independent variables are less than 10, so there is no multi-collinearity problem. In other words, there is no linear

relationship between the independent variables. More specifically, there is sufficient variation in the independent variables.

(ii) No Autocorrelation

Model eleven (n=75 observations and k=number of predictors=11)

Durbin-Watson (DW) = 1.723 (estimated value)

DW Table value at 5 percent significant point = d_L= 1.308; d_U=1.970

The estimated/computed d value (1.723) lies between lower (dL= 1.308) and upper (d_u= 1.970) limit. It means that there is inconclusive evidence regarding the presence or absence of positive first-order serial correlation. Therefore, to confirm the serial autocorrelation, the non-parametric run test is used.

Run Rest: Non-parametric Test

The null hypothesis of the run test is that the number of runs is (asymptotically) normally distributed with mean. The p-value of the studentized residual is found greater than 5 percent, meaning that the null hypothesis can't be rejected. So, it can be confirmed that there is no serial correlation in the residuals.

(iii) Normal Distribution of Residuals

The normality assumption says that the error has a normal distribution.

The hypotheses of the normality test of the residuals are as follows:

H_0: Residual is normally distributed
H_1: Residual is not normally distributed

The method used for the normality test of residuals is as follows.

Under unstandardized and standardized residual

H_0: Skewness = 0 vs. H_1: Skewness $\neq$ 0 $\left|1.635\right|$<1.96 = (0.453/0.277)
H_0: Kurtosis = 0 vs. H_1: Kurtosis $\neq$ 0 $\left|0.832\right|$<1.96 = (0.456/0.548)

The absolute value of the Z test (Statistic value divided by Std. Error) in skewness and Kurtosis was found less than 1.96. It means that residuals may follow the approximately normal distribution. The p-value of the Kolmogorov-Smirnov and Shapiro -Wilk test is greater than 5 percent, meaning the null can't be rejected, meaning the residual is normally distributed (Table 5.7).

Table 5.7: Normality Test of Residuals

Residuals	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	Sig.	Statistic	Sig.
Unstandardized	.097	.076	.975	.153
Standardized	.097	.076	.975	.153

(iv) Homoscedasticity

The null hypothesis is that the error variances are all equal, and the alternative hypothesis is that the error variances are not equal. More specifically, as Y increase, the variances increase (or decrease). In other words, the null hypothesis is that heteroscedasticity is not present in the model. Breusch-Pagan and Koenker's test is carried out to check the hypothesis. The Lagrange multiplier (LM) of the Breusch-Pagan (BP) test is 6.974 (sig. 0.801), and the LM of the Koenker test is 5.943 (sig. 0.877). The significance level of both tests found greater than 5 percent significance level. So, both tests suggest that null hypothesis can't be rejected at alpha 5 percent level, meaning that the disturbances appearing in the population regression function are homoscedastic; that is, they all have the same variance.

5.2.2 DDCs' Expenditure and Human Development Index (HDI)

Under this model (two), HDI-2014 is used as the dependent variable, and DDCs expenditure such as capital and LGCDP expenditure, Own Source Revenue, and population density are used as independent variables. The dummy variables have been generated for three ecological regions (Mountain, Hill, and Terai) and seven Provinces. The model's objective is to assess the relationship between HDI and DDCs' expenditure and Own Source Revenue. The independent variables are five years' total capital expenditure, LGCDP expenditure, OSR of DDCs, and district level population density.

Table 5.8: Descriptive Statistics

Variables	**Mean**	**Std. Deviation**	**N**
HDI_2014	.46759	.056017	75
Cap_Exp_Billion	.123742972	.0584406369	75
LGCDP_Exp_Billion	.109178052	.0430095495	75
OSR_Billion	.118455080	.1651220529	75
ED1	.25	.438	75
ED2	.32	.470	75
PD1	.19	.392	75
PD2	.21	.622	75

(Table continued)

(Table 5.8 continued)

Variables	Mean	Std. Deviation	N
PD3	.52	1.143	75
PD5	.73	1.781	75
PD6	.72	1.963	75

The total capital expenditure of DDCs found significant at a one percent significance level. The adjusted R-value (0.772) suggests that the independent variables can jointly explain 77.2 percent variation in HDI. The F-test is highly significant because the significance value is 0.001 (i.e., p = .000), which is below 0.05. (Table 5.9).

Table 5.9: Coefficients of Multiple Regression (Dependent variable: HDI_2014)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.439	.016		27.276	.000		
Cap_Exp_Billion	.336	.084	.350	3.976	.000	.484	2.066
LGCDP_Exp_Billion	-.455	.098	-.349	-4.656	.000	.669	1.496
OSR_Billion	.040	.028	.117	1.407	.164	.540	1.850
ED1	-.026	.009	-.207	-2.819	.006	.697	1.434
ED2	-.024	.011	-.200	-2.110	.039	.419	2.386
PD1	.074	.013	.516	5.766	.000	.470	2.129
PD2	.013	.009	.145	1.508	.136	.408	2.453
PD3	.028	.005	.572	5.975	.000	.410	2.440
PD4	.023	.003	.581	6.780	.000	.512	1.952
PD5	.004	.003	.134	1.508	.136	.479	2.089
PD6	-.002	.002	-.056	-.673	.503	.545	1.834

Note: R^2= 0.763, adjusted R^2= 0.722, DW=1.663, F-value = 18.471, Sig (F)= 0.001
Source: Annex 2, 3 and 5

Interpretation of the Result of Model Two

The capital expenditure was found significant to explain HDI. This result is more or less consistent with Devkota's (2014) findings that fiscal decentralization has a significant positive impact on economic growth. Own Source Revenue not found significant to explain HDI. The LGCDP expenditure of DDCs found significant, but the coefficient was found negative. It means that higher the LGCDP expenditure lowers the HDI. It might be the cause that the LGCDP budget (budget of a development partner and government of Nepal) used to spend on capacity development of local governments rather in education and health sector promotion. This finding is very close to the result produced

by Agree (2000) that aid is not reaching the target group, so development partners' support is not productive and not producing the desired result. Similarly, PD2, PD5, and PD6 were found insignificant at a 10 percent level of significance, meaning that there is more or less equal HDI with reference category province seven. All predictors do not have the same contribution to change in HDI. Based on the standardized coefficients of the predictors, PD4 (beta 0.581) has the greatest contribution amongst all predictors. It is followed by PD3 (beta 0.572) and PD1 (0.516). The beta value of capital expenditure is 0.350, beta value of LGCDP expenditure is 0.349, Own Source Revenue (beta=0.117) and ED1 (beta=-0.207) and ED2 (beta=0.200). The increase in capital expenditure of DDCs by one billion contributes to increasing HDI by 0.336. On average, the HDI of Province One is greater by 0.074 than that of Province Seven, which is the base group of the benchmark group of dummy variables (Table 5.9). The results show that the p-value of own-source revenue was found insignificant to explain HDI. The insignificant contribution of own-source revenue to HDI might be the cause that the own source revenue was generally used for recurrent expenditure (administrative expenditure) rather than capital and development expenditure by almost all of DDCs. Therefore, the result of regression analysis is rational and normal.

Diagnostic Test of Assumptions of Ordinary Least Squares (OLS) of Model Two

The diagnostic test of assumptions OLS result of model two have been done as follow:

(i) No Multicollinearity

It is recommended that if the value of variance inflation factor (VIF) of predictors is found less than 10, it can be confirmed that there is no problem of multicollinearity (Gujarati, Porter, and Gunasekar, 2015). The collinearity statistics say that the VIF value of independents variables are presented in Table 5.9.

(ii) No Autocorrelation

Durbin-Watson d statistic, which is used as the most celebrated test was developed by statistician Durbin and Watson for detecting serial autocorrelation. It is the ratio of the sum of squared differences in successive residuals to the residual sum of squares (RSS). This is a test for autocorrelation in the residuals from a statistical regression analysis. It will always have a value between 0 and 4. A value of 2.0 means that there is no autocorrelation detected in the sample. Values from 0 to less than 2 indicate positive autocorrelation and values from 2 to 4 indicate negative autocorrelation. The disturbance term relating to any

observation is not influenced by the disturbance term describing to another observation (Gujarati et al., 2015).

For this study, the model has 75 observations (n) =75; the number of predictors (k) =11, and the calculated/estimated Durbin-Watson (DW) = 1.663.

The DW table value at 5 % significant point= d_L= 1.308; d_U=1.970

The calculated d value lies between the lower and the upper limit; there is inconclusive evidence regarding the presence or absence of positive first-order serial correlation.

Run Rest: Non-parametric Test

The null hypothesis of the run test is that the number of runs is (asymptotically) normally distributed with mean. The p-value of the studentized residual is found greater than 5 percent, meaning that the null hypothesis can't be rejected. So, it can be confirmed that there is no serial correlation in the residuals.

(iii) Normal Distribution of Residuals

The normality assumption says that the error has a normal distribution.

The hypotheses of the normality test of the residuals are as follows:

H_0: Residual is normally distributed
H_1: Residual is not normally distributed

The method used for the normality test of residuals is as follows.

The Skewness and Kurtosis of both standardized and unstandardized residuals are as follow.

H_0: Skewness = 0 vs. H_1: Skewness $\neq$ 0 $\left|1.635\right| < 1.96 = (0.176/0.277)$
H_0: Kurtosis = 0 vs. H_1: Kurtosis $\neq$ 0 $\left|1.127\right| < 1.96 = (0.618/0.548)$

The absolute value of the Z test (Statistic value divided by Std. Error) in both (Skewness and Kurtosis) above cases are found less than 1.96. It means that residuals may follow the approximately normal distribution.

The p-value of Kolmogorov-Smirnov (p=2.00) and Shapiro-Wilk (p=.446) is more significant than 5 percent, meaning the null can't be rejected, meaning the residual is normally distributed (Table 5.10).

Table 5.10: Normality Test of Residuals

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	.070	75	.200*	.984	75	.446
Unstandardized Residual	.070	75	.200*	.984	75	.446

(iii) Homoscedasticity

The null hypothesis is that the error variances are all equal and the alternative hypothesis is that the error variances are not equal. More specifically, as Y increase, the variances increase (or decrease). In other words, the null hypothesis is that heteroscedasticity is not present (homoscedasticity) in the model. Breusch-Pagan and Koenker's test is carried out to check the hypothesis. The LM of the BP test is 5.175 (sig. 0.922), and the LM of the Koenker test is 7.704 (sig. 0.740). The p-value of both tests found greater than 5 percent significance level, so both tests suggest that null hypothesis can't be rejected at alpha 5 percent level, meaning that the disturbances appearing in the population regression function are homoscedastic; that is, the error variance are all equal or all have the same variance.

5.2.3 Ordinal Logistic Regression Model of DDCs Data

The main objective of this analysis is to predict the outcome of performance measurement results with the recurrent, capital, and LGCDP expenditure and Own Source Revenue of DDCs. The ordinal logistic regression model is used to analyze the five fiscal years' panel data of 75 DDCs from 2011/12 to 2015/16. The following model is considered:

$$Y_{it} = \beta_1 + \beta_2 CAPEXP_{it} + \beta_2 \mathrm{RECEXP}_{it} + \beta_3 \mathrm{LGCDPEXP}_{it} + \beta_4 \mathrm{OSR}_{it} + \beta_5 \mathrm{Dummy1}_i + \beta_6 \mathrm{Dummy2}_i + u_{it} \quad (1)$$

i= 1, 2, …,75 (DDCs)

t= 1,2, …,5 (Five Fiscal Years)

But, in practice, the intercept of the different subjects may be different due to the special feature of the subjects, such as managerial style, managerial philosophy, etc. In literature, model two is known as the fixed effects (regression) model (FEM). The term 'fixed effects' is because, although the intercept may differ across subjects, each entity's

intercept does not vary over time that; it is time-invariant. Here, β_{1it} suggests that the intercept of each entity or individual is time-variant. It may be noted that the FEM given in equation (2) assumes that the (slope) coefficients of the regressors do not vary across individuals or over time.

$$Y_{it} = \beta_{1it} + \beta_2 CAPEXP_{it} + \beta_2 RECEXP_{it} + \beta_3 LGCDPEXP_{it} + \beta_4 OSR_{it} + \beta_5 Dummy1_i + \beta_6 Dummy2_i + u_{it} \quad (2)$$

Of the total 375 valid observations (75*5), 35 were found to have poor performance, 192 having moderate performance, and 148 having better performance (Table 5.11).

Dependent Variable: The dependent variable, sometimes called an outcome variable. It is the categorical variable that is further categorized as an ordinal variable. The scale (1-3 scale) of performance measurement of 75 DDCs of five fiscal years is used as a dependent variable where 1 means the DDCs having lost 100% minimum grant due to failing in minimum condition; 2 means the DDCs having lost 10-20% grant and 3 means the DDCs having received an additional 10-20% grant from the government of Nepal.

Explanatory variables: Capital expenditure, recurrent expenditure, LGCDP expenditure, and Own Source Revenue of DDCs are used as explanatory variables and three ecological regions (Mountain, Hill, and Terai) as a dummy variable. The amount is expressed in millions. The case processing summary tells that the proportion of cases falling at each level of the dependent variable. The model fitting information containing the -2-log likelihood for an intercept only (for null) model and the full model (including the full set of predictors). There is also a likelihood ratio chi-square test to test whether there is a significant improvement in the fit of the final model relative to the intercept-only model. In this case, there is a substantial improvement in the fit of the final model over the null model where chi-square =61.183, $\rho<0.001$ (Table 5.11).

Table 5.11: Panel Regression Case Processing Summary and Model Fitting

		N	Marginal Percentage
PM_Scale	Poor performance (1)	35	9.3%
	Moderate performance (2)	192	51.2%
	Better performance (3)	148	39.5%
Ecology	Hill	160	42.7%
	Mountain	95	25.3%
	Terai	120	32.0%
Valid		375	100.0%
Missing		0	
Total		375	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	698.267			
Final	637.084	61.183	6	0.000

Link function: Logit.

The goodness of fit contains Pearson's chi-square statistic for the model (as well as another chi-square statistic based on the deviance). The statistics are intended to test whether the observed data are consistent with the fitted model.

The null hypothesis is that the fit is good. The hypothesis can't be rejected because the significant ρ-value is greater than 0.05. So, it can be concluded that the data and the model predictions are similar and that model is a good fit. On the other hand, the non-significant test results are indicating that the model fits the data well. In this analysis, both Pearson chi-square test [χ^2 (742) =714.624, ρ=0.759], and, the deviance test [χ^2 (742) =637.084, ρ=0.998] were both the non-significant. These results suggest a good model fit (Table 5.12).

Table 5.12: Goodness of Fit (Link function: Logit.)

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	714.624	742	0.759
Deviance	637.084	742	0.998

Nagelkerke R^2 indicates explanatory variables explain 17.8 percent variance in development variable.

Pseudo R-Square	
Cox and Snell	0.151
Nagelkerke	0.178
McFadden	0.088

Source: Researcher's calculation

In the parameter estimate table, we see that the coefficients, their standard errors, the Wald Chi-Square test, and associated p-value, and the 95 percent confidence interval of the coefficients. Both OSR and recurrent expenditure were found significant at one percent significance level, whereas capital expenditure, and LGCDP expenditure were found not significant. So, for a one-unit increase (one million Rupees) in OSR (going from 1 to 2), we expect 0.012 increases in the expected value of performance in the ordered log odds of being in a higher level of performance, given that all other variables in the model are held constant. There is a negative relationship between recurrent expenditure and performance of DDCs, so we would say that for a one-unit increase in recurrent expenditure, we would expect a 0.088 decrease in the log odds of being in a higher level of performance, given that all of the other variables in the model are held constant. (Table 5.13).

Table 5.13: Parameter Estimation of Ordinal Logistic Regression Model

Parameter		B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold	[PM_rescale=1]	-3.208	.6179	-4.419	-1.997	26.958	1	.000	.040	.012	.136
	[PM_rescale=2]	-.170	.5839	-1.315	.974	.085	1	.771	.844	.269	2.650
[Ecology=Hill]		1.498	.2756	.958	2.038	29.560	1	.000	4.474	2.607	7.678
[Ecology=Mountain]		.064	.3177	-.558	.687	.041	1	.840	1.066	.572	1.988
[Ecology=Terai]		0[a]	.	.	.	.	.	.	1	.	.
OSR_Million		.012	.0042	.004	.021	8.519	1	.004	1.012	1.004	1.021
Cap_Exp_Million		-.001	.0086	-.018	.016	.006	1	.940	.999	.983	1.016
Rec_Exp_Million		-.088	.0256	-.138	-.037	11.685	1	.001	.916	.871	.963
LGCDP_Exp_Million		.019	.0129	-.007	.044	2.111	1	.146	1.019	.993	1.045
(Scale)		1[b]									

Notes:

Dependent Variable: PM_rescale

Model: (Threshold), Ecology, OSR_Million, Cap_Exp_Million, Rec_Exp_Million, LGCDP_Exp_Million

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

Source: Researcher's calculation

The Exp(B) column contains odds ratios reflecting the multiplicative change in the odds of being in a higher category on the dependent variable for every one-unit increase on the independent variable, holding the remaining independent variable constant. An odds ratio is greater than one (odds ratio >1), i.e., Exp(B) of OSR_Million is 1.012 that suggests an increased probability of being at a higher level on the dependent variable as the value on an independent variable increases, whereas an odds ratio is less than one (odds ratio <1), i.e., Exp(B) of Rec_Exp_Million is 0.916 that suggests a decreasing probability with increasing values on an independent variable. Similarly, if the odds ratio is equal to one (odds ratio =1) indicates no predicted change in the likelihood of being a higher category as values on an independent variable increase. In other words, for OSR, it can be said that for a one-unit increase in PM rescale, i.e., going from 1 to 2, the odds of high PM rescale versus the combined middle and low categories are 1.012 greater, given that all of the other variables in the model are held constant.

The positive value of Exp(B) suggests for every one-unit increase on an independent variable, there is a predicted increase (of a certain amount) in the log odds of falling at a higher level of the dependent variable, or, as score increase on an independent variable, there is an increased probability of falling at a higher level on the dependent variable. The negative value of Exp(B) suggests for every one-unit increase on an independent variable, there is a predicted decrease (of a certain amount) in the log odds of falling at a higher level of the dependent variable. More generally, as scores increase on an independent variable, there is a decreased probability of losing at a higher level on the dependent variable (Table 5.14).

The odds ratio is equal at each threshold because the ordinal model has constrained it to be so through the proportional odds (PO) assumption. The appropriateness of this assumption is evaluated through the 'test of parallel lines. This test compares the ordinal model, which has one set of coefficients for all thresholds (labeled Null Hypothesis), to a model with a separate set of coefficients for each threshold (labeled General). The null hypothesis of the chi-square test is that there is no difference in the coefficients between models. It is hoped to get a non-significant result. The hypothesis is that the location parameters (slope coefficients) are the same across response categories can't be rejected

because the significance level is greater than 0.05 (ρ>0.05) of the tests of Parallel lines. The assumption is not violated (Table 5.14).

Table 5.14: Test of Parallel Lines (Link function: Logit)

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	637.084			
General	625.218	11.865	6	.065

Note: The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
Source: Researcher's calculation

5.2.4 Panel Regression of Municipal Level Data

A fixed-effects model is a statistical model in which the model parameters are fixed or non-random quantities. This is in contrast to random-effects models and mixed models in which all or some of the model parameters are considered as random variables. In many applications, including econometrics and biostatistics, a fixed-effects model refers to a regression model in which the group means are fixed (non-random) as opposed to a random-effects model in which the group means are a random sample from a population. Generally, data can be grouped according to several observed factors. The group means could be modeled as fixed or random effects for each grouping. In a fixed-effect model, each group means a group-specific fixed quantity.

In panel data where longitudinal observations exist for the same subject, fixed effects represent the subject-specific means. In panel data analysis, the term fixed effects estimator (also known as the within estimator) is used to refer to an estimator for the coefficients in the regression model, including those fixed effects (one time-invariant intercept for each subject).

Panel, Least Squares method, is applied. The five fiscal years' data from 2011/12 to 2015/16 of 58 municipalities are used. The panel (balanced) observation is (58*5) 290. The panel data has been analyzed using EViews 9 (x64) software. The following three models have been estimated:

(i) Pooled Regression Model

In the pooled regression model, all observations are pooled together and run a regression model neglecting the cross-section and time-series nature of data. The major problem in this model is that it does not distinguish between the various municipalities. In other words, by combining all municipalities by pooling. The heterogeneity or individuality that may exist among all 58 municipalities is denied. The regression model is run, supposing that all municipalities are the same, but usually, all 58 municipalities should not be the same all the time.

The probability value of per capita LGCDP expenditure, per capita internal revenue or own source revenue per capita recurrent expenditure, per capita LDF expenditure, and per capita capital expenditure are found significant because the p-value of all variables is less than 5 percent ($p<0.05$). Nevertheless, all 58 municipalities are assuming the same, but usually, it does not happen, so the result of the pooled regression model cannot be accepted. However, the probability value (F-statistic) is less than ($p<0.05$) 5 percent, which means the chances of error are low, and we can conclude that combined effect is significant and considerable (Table 5.15).

(ii) Fixed Effect or LSDV Model

The fixed effect of the Least Square Dummy Variable (LSDV) model allows for heterogeneity or individuality among all 58 municipalities by allowing having its intercept value. The term fixed effect is because although the intercept may differ across municipalities, intercept does not vary over time; that is, it is time-invariant, assuming that all 58 municipalities should be individual.

The probability value of per capita LDF expenditure and per capita capital expenditure are found significant at a 5 percent significance level because the p-value of both variables is less than 5 percent ($p<0.05$). However, recurrent expenditure was also significant at a 10 percent significance level ($p=0.507$). The probability value of per capita LGCDP expenditure and per capita internal revenue/own source revenue was found insignificant because the p-value of these variables is more than 5 percent ($p>0.05$). So out of five independent variables, only per capita LDF and capital expenditure are significant to explain the value of performance measures of municipalities. The coefficient of per capita internal revenue or own source revenue and per capita LDF expenditure are negative, meaning an inverse relationship between the score of performance measurement and per

capita internal revenue, per capita recurrent expenditure, and per capita LDF expenditure. If per capita internal revenue increases by one unit, the performance score decreases by 0.003 units. The probability value (F-statistic) is less than ($p<0.05$) 5 percent, meaning that the chances of error are low, and we can conclude that the combined effect is significant and considerable (Table 5.15).

(iii) Random Effect Model

The intercept in the random effect model assumes that all selected firms are different. The difference in intercept is due to the randomness of the sample, unlike in the fixed-effect model, which believes that the difference is due to different factors like capital, production, etc. All 58 municipalities have a common mean value for the intercept. Under the random effect model, the per capita recurrent expenditure, per capita LDF expenditure, and per capita capital expenditure are significant at a 5 percent level. But, per capita, LGCDP expenditure, and per capita internal revenue are not found significant. The F statistic shows the combined effect of all independent variables on the dependent variable. The probability value (F-statistic) is less than ($p<0.05$) 5 percent, meaning that the chances of error are low, and we can conclude that the combined effect is significant and considerable (Table 5.15).

(iv) Results of Panel Regression Analysis

The model of panel data is $Y_{it} = \alpha + \beta X_{it} + e_{it}$. The panel regression result of pooled, fixed effect, and random effect models are presented in Table 5.15.

Table 5.15: Panel Regression Results of Municipalities

Variables	Pooled Model		Fixed Effect Model		Random Effect Model	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	64.33499	0.0000	73.92209	0.0000	69.98329	0.0000
	(26.97)		(17.511)		(23.081)	
PCLGCDPEXP	-0.025905	0.0374	0.010022	0.3144	-0.001364	0.8820
	(-2.090)		(1.008)		(-0.148)	
PCINTREV	0.006650	0.0012	-0.003773	0.1497	0.000557	0.7972
	(3.280)		(-1.445)		(0.257)	
PCLDFEXP	-0.014248	0.0423	-0.009759	0.0419	-0.009842	0.0350
	(-2.040)		(-2.046)		(-2.118)	
PCCAPEXP	0.025860	0.0000	0.012642	0.0002	0.014698	0.0000
	(5.454)		(3.825)		(4.553)	
PCRECEXP	-0.041899	0.0266	-0.54130	0.0507	-0.42574	0.0214
	(-2.229)		(-1.964)		(-2.313)	
R-squared	0.154358		0.760085		0.082894	

(Table continued)

(Table 5.15 Continued)

Variables	Pooled Model		Fixed Effect Model		Random Effect Model	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
Adjusted R-squared	0.139470		0.694557		0.066748	
S.E. of regression	13.19721		7.862561		8.074417	
Log likelihood	-1156.662		-973.9898			
F-statistic	10.36788		11.59947		5.133982	
Prob(F-statistic)	0.000000		0.000000		0.000159	
Mean dependent var	68.85517		68.85517		22.93783	
S.D. dependent var	14.22653		14.22653		8.358181	
Akaike info criterion	8.018360		7.151654		18515.73	
Schwarz criterion	8.094289		7.948904			
Hanan-Quinn criter.	8.048781		7.471072			
Durbin-Watson stat	0.658039		1.885075		1.470332	

Note: The numerical values in parenthesis are t-Statistics

(v) Hausman Test

Hausman test is run to check which model (Random Effect or Fixed Effect) is suitable to accept. The hypotheses are;

Null hypothesis (H_o) = Random effect model is appropriate

Alternative hypothesis (H_1) = Fixed effect model is appropriate

The probability value of the Hausman Test is statistically significant ($p<.0.05$), so, the null hypothesis is rejected, meaning that the alternative hypothesis is accepted. It means that the fixed effect model is appropriate (Table 5.16).

Table 5.16: Hausman Test, Test Cross-section Random Effects,

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		20.510906	5	0.0010
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var (Diff.)	Prob.
PCLGCDPEXP	0.010022	-0.001364	0.000015	0.0028
PCINTREV	-0.003773	0.000557	0.000002	0.0029
PCRECEXP	-0.054130	-0.042574	0.000420	0.5730
PCLDFEXP	-0.009759	-0.009842	0.000001	0.9391
PCCAPEXP	0.012642	0.014698	0.000001	0.0038

(Table continued)

(Table 5.16 continued)

Total panel (balanced) observations: 290

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.92209	4.221262	17.51185	0.0000
PCLGCDPEXP	0.010022	0.009941	1.008167	0.3144
PCINTREV	-0.003773	0.002610	-1.445610	0.1497
PCRECEXP	-0.054130	0.027553	-1.964534	0.0507
PCLDFEXP	-0.009759	0.004769	-2.046351	0.0419
PCCAPEXP	0.012642	0.003305	3.825201	0.0002

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.760085	Mean dependent var	68.85517
Adjusted R-squared	0.694557	S.D. dependent var	14.22653
S.E. of regression	7.862561	Akaike info criterion	7.151654
Sum squared resid	14033.11	Schwarz criterion	7.948904
Log likelihood	-973.9898	Hannan-Quinn criter.	7.471072
F-statistic	11.59947	Durbin-Watson stat	1.885075
Prob(F-statistic)	0.000000		

(vi) Panel Unit Root Test

The objective of the panel unit root test is to test whether the variable has a unit root or not. The panel unit root test of PM Score is estimated as follows

Data is at the level and individual and intercept, and Schwarz Info Criterion is assumed as a benchmark. From the probability value, it can be checked whether the panel data have unit root or not. Levin, Lin, and Chu (2002) assume a common unit root process for null hypothesis: the panel data have a unit root. Im, Pesaran, and Shin (2003) assume individual unit root process (non-stationary). Fisher type test using ADF and PP test Maddala and Wu (1999) and Choi (2001) assume individual unit root process.

The p-value of Levin, Lin, and Chu is less than 5 percent, so the null hypothesis is rejected, meaning that panel data does not have a unit root. In other words, the PM score variable at Level does not have a unit root. The p-value of Im, Pesaran, and Shin W-stat and PP - Fisher Chi-square and ADF - Fisher Chi-square is less than 5 percent. All the methods say that the dependent variable (PM scores) does not have a unit root at Level (Table 5.17).

Table 5.17: Panel Unit Root Test on PM Scores at Level

Method	Statistic	Prob.**	Cross-sections	Obs
Null: unit root (assumes common unit root process)				
Levin, Lin and Chu t*	-35.2413	0.0000	58	232
Null: unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-9.25241	0.0000	58	232
ADF - Fisher Chi-square	211.514	0.0000	58	232
PP - Fisher Chi-square	251.970	0.0000	58	232

** Probabilities for Fisher tests are computed using an asymptotic Chi-Square distribution. All other tests assume asymptotic normality.

(vii) Robustness Test

The robust least-squares method is used to estimate the robustness of the model. The result of the robustness test says that four variables are significant to explain the performance score of municipalities, whereas only per capita LGCDP expenditure is not significant (Table 5.18). This finding justifies the result of the empirical finding of Khanal (2016) that there is a significant positive relationship between revenue decentralization and municipal performance in Nepal.

Table 5.18: Result of Robustness Test

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	65.08646	2.390819	27.22350	0.0000
PCLGCDPEXP	-0.018441	0.012419	-1.484868	0.1376
PCINTREV	0.006020	0.002032	2.962617	0.0031
PCRECEXP	-0.043874	0.018840	-2.328741	0.0199
PCLDFEXP	-0.013869	0.007001	-1.981078	0.0476
PCCAPEXP	0.025620	0.004752	5.391409	0.0000
Robust Statistics				
R-squared	0.116377	Adjusted R-squared		0.100821
Rw-squared	0.157780	Adjust Rw-squared		0.157780
Akaike info criterion	249.5854	Schwarz criterion		274.7792
Deviance	42904.84	Scale		13.34938
Rn-squared statistic	46.32502	Prob (Rn-squared stat.)		0.000000
Non-robust Statistics				
Mean dependent var	68.85517	S.D. dependent var		14.22653
S.E. of regression	13.23087	Sum squared resid		49715.91

5.2.5 Contribution of LGCDP Support for Local Bodies' Performance

The result of ordinary logistic regression analysis of 75 DDCs and panel regression analysis of 58 municipalities show no significant contribution of LGCDP support to increase and enhance the performance of DDCs and municipalities in Nepal. The progress report of LGCDP (MoFAGA, 2016) clearly explained that the main support of LGCDP was for social mobilization (SM), which was recognized as a mainstay of community development. The social mobilization had created 31,280 Ward Citizen Forums (WCFs) in almost all Village Development Committees (VDCs) and Municipalities. A total of 771,355 citizens (46 % women and 54 % men) were directly engaged in WCF's activities like project planning, monitoring, and evaluation; social development; advocacy; coordination with service providers, engaging in disaster and environment protection activities, and helping communities in economic development opportunities. The Civic Society Organizations (CSOs) were mobilized to carry out downward accountability activities at the local levels, such as compliance monitoring and conduction of social audits.

The LGCDP program had trained staff on accounting software, public procurement and initiated e-bidding; and established an internal audit section, etc. MoFALD had amended the Local Body Revenue Administration Regulation and prepared necessary guidelines for local bodies. This program has also supported in the area of improving information dissemination ICT capacity building, use of information and communication technology (ICT) tools, geographic information system (GIS), and creation of increasingly information technology (IT) aligned working environment. The performance of DDCs and municipalities are measured based on various indicators such as planning and budgetary management, resource mobilization and financial management, budget release, expenditure, and program implementation, monitoring and evaluation, communication and evaluation, organizational management, and functional assignment and urban basic service management. The areas of LGCDP support and the indicators of performance measurement seem the same direction. However, the regression analysis shows an insignificant relationship means the LGCDP support was not correctly used or underused to enhance the performance of the DDCs and municipalities. The MoFAGA report 2016 also highlighted the following operational issues and challenges faced by the program during program implementation.

- There is a lack of arrangement of required resources for capacity-building
- Lack of Capacity in Local Bodies, mainly in public financial management.
- No proper allocation of Local Bodies' staff duties
- Poor organizational and Human Resource Management at the local bodies.
- Capacity development activities are less prioritized in both MoFALD and Local Bodies.
- Lack/limited access to Internet connectivity.

5.2.6 Analysis of Efficiency of DDCs

The service efficiency of District Development Committees of Nepal is measured by applying the Data Envelopment Analysis technique using Performance Improvement Measurement (PIM) Software.

Charnes, Cooper, and Rhodes (1978) introduced the ratio model in the Data Envelopment Analysis (DEA), also known as the 'CCR' model of efficiency of DMUs. This model (without the convexity constraint) estimates the gross efficiency of a DMU. This efficiency comprises technical and scale efficiency. Technical efficiency describes the efficiency in converting inputs to outputs. In contrast, scale efficiency recognizes that economies of scale cannot be attained at all scales of production. There is one most productive scale size, where the scale efficiency is maximum at 100 percent.

Banker, Charnes, and Cooper (1984) developed the BCC model. A model with variable returns to scale (VRS) is known as the BCC model. The BCC model considers the variation of efficiency to the scale of operation and hence measures pure technical efficiency. The CCR or CRS, or GTE efficiency of a firm is always less than or equal to the pure technical efficiency of BCC or VRS or LPTE (Ramanathan, 2003).

(a) DDCs' Relative Efficiency

Output oriented approach is used to measure the relative efficiency of 75 DDCs. The per capita capital expenditure, per capita recurrent expenditure, and per capita LGCDP expenditure have been used as input variables, and per capita, own-source revenue, and PM scores (0-100) have been used as output variables. The five fiscal years' data from FY 2011/12 to 2015/16 has been used to analyze the relative efficiency of DDCs.

Kirigia et al. (2008) say that efficiency change is a product of pure efficiency change and scale efficiency change. The pure efficiency change index is greater than, equal to, and less than unity if the relative efficacy has increased, remained the same, or decreased between the period t and t+1. The Parbat DDC has the pure efficiency change value of 1.71, the highest among sample DDCs (Annex 15). If the pure efficiency change is greater than the scale efficiency change, then inefficiency is caused by scale inefficiency. The study found the average pure efficiency change value was 1.00 while scale efficiency change values were 1.10, meaning that average pure efficiency change is less than scale efficiency change. This result showed that, on average, the main source of inefficiency was the inefficient (sub-optimal) use of resources from FY 2014/15 to 2015/16.

The average technical efficiency scores under the VRS model in the sample was 82.37 percent in FY 2011/12, 84.36 percent in FY 2012/13, 80.84 percent in FY 2013/14, 76.30 percent in FY 2014/15, and 74.42 percent in 2015/16. On average of five fiscal years, the technical efficiency score is 79.66 percent. At the same time, 12 (16%) DDCs were found 100 percent technically efficient in 2011/12, whereas only 11 (15%) DDCs were technically efficient in 2015/16 (Table 5.19). On average of five fiscal years, only 2 (3%) DDCs, namely Rupandehi and Banke, are found technically efficient. The remaining ones are technically inefficient (Annex 13).

Table 5.19: Result of Relative Efficiency Scores of DDCs

Summary results	**2011/12**	**2012/13**	**2013/14**	**2014/15**	**2015/16**	**Average**
No. of efficient DDCs	12	16	18	12	11	2
Efficient DDCs (%)	16	21	24	16	15	3
Mean efficiency	82.37	84.36	80.84	76.30	74.42	79.66

Note: Calculated by Researcher using PIM DEA ver 3.2

Source: Annex 13

(b) Productivity Growth

The Malmquist Index (MI) analyzes the temporal differences in productivity from time t to t+1. If MI/TFP>1, total factor productivity (TFP) increases from one time to another time. If MI/TFP <1, then TFP decreases from one time to another time.

Of the total 75 DDCs, 30 (40%) DDCs have improvements in productivity since they have Malmquist indices greater than unity (1); on the other hand, 40 (60%) DDCs have Malmquist indices less than unity (1), indicating/implying deterioration in performance over time from FY 2011/12 to 2012/13 (Table 5.20). On average, three DDCs had MI of unity (equal to one), which had signified stagnation (Annex 14). On average, productivity increased by 1 percent over the 2011/12-2012/13 period, but it was decreased by 12 percent (100-88) over the FY 2012/13-2013/14 for the DDCs (Table 5.20). The results of MI of the remaining periods can be interpreted accordingly.

Table 5.20: Malmquist Index (MI) of DDCs

Summary of results	**2011/12 to 2012/13**	**2012/13 to 2013/14**	**2013/14 to 2014/15**	**2014/15 to 2015/16**	**Average**
No. of DDCs having MPI >1	30	22	28	48	41
Percentage of DDCs having MPI>1	40	29	37	64	55
Mean	1.01	0.88	0.96	1.21	1.02

Note: Calculated by the Researcher using PIM DEA ver 3.2

Source: Annex 14

(C) Target of Outputs

The PM score of Taplejung DDCs was 65, and per capita OSR was Rs. 153 in 2015/16. So, this DDC was found inefficient. The appropriate measure must be taken to improve performance. The target value indicates that from the available inputs, the Taplejung DDC could have been improved at least 88.44 (36.07% gain) PM score from 65 and per capita OSR Rs. 208.18 (36.07% gain) from per capita OSR Rs. 153 (Annex 16). A similar interpretation of the actual and target values can be made for the remaining DMUs.

5.2.7 Analysis of Relative Efficiency of Municipalities

The output-oriented method is used to analyze the relative efficiency of the 58 old municipalities of Nepal. The scores of performance measurement and per capita own-source revenue (OSR) have been used as an output variable, and per capita, LDF expenditure, per capita LGCDP expenditure, per capita recurrent expenditure, and per capita capital expenditure of municipalities have been used as input variables. The Data

Envelopment Analysis (DEA) technique has been applied to analyze relative efficiency data covering the period FY 2011/12 to 2015/16 of 58 municipalities of Nepal.

The Rajbiraj municipality has the pure efficiency change value of 1.70, the highest in the sample municipalities from FY 2014/15 to 2015/16 period. If the pure efficiency change is greater than the scale efficiency change, then inefficiency is caused by scale inefficiency. The study found the average pure efficiency change value was 1.07 while scale efficiency change values were 1.02, meaning that average pure efficiency change is greater than scale efficiency change. This result showed that, on average, the main source of inefficiency was the scale inefficiency from FY 2014/15 to 2015/16 (Annex 19).

The average technical efficiency scores under the VRS model in the sample municipalities was 83.97 percent in FY 2011/12, 79.50 percent in FY 2012/13, 78.29 percent in FY 2013/14, 79.15 percent in FY 2014/15, and 82.84 percent in FY 2015/16. On average of five fiscal years, the technical efficiency score is 80.75 percent (Table 5.21 and Annex 17). At the same time, 9 (12%) municipalities were 100 percent technically efficient in FY 2011/12, whereas only 14 (19%) municipalities were technically efficient in FY 2015/16. On average of five fiscal years, only 4 (5%) municipalities found technically efficient. The remaining are technically inefficient (Table 5.21).

Table 5.21: Relative Efficiency Scores under VRS Model of Municipalities

Results	**2011/12**	**2012/13**	**2013/14**	**2014/15**	**2015/16**	**Average**
No. of efficient Municipalities	9	6	10	10	14	4
Efficient Municipalities (%)	12	8	13	13	19	5
Mean	83.97	79.50	78.29	79.15	82.84	80.75

Note: Calculated by the Researcher using PIM DEA ver 3.2
Source: Annex 17

(a) Productivity Growth

Of the total 58 municipalities, 51 (88%) municipalities have improvements in productivity since they have Malmquist indices greater than 1 (Table 5.22), on the other hand, 4 (7%) municipalities had Malmquist indices less than unit (1), indicating/implying deterioration in performance over time from FY 2011/12 to 2012/13. Three municipalities

had MI of unity (equal to one), which had signified stagnation. On average, productivity increased by 27 percent over the FY 2011/12-2012/13 period, but it was decreased by 31 percent (100-69) over the FY 2012/13-2013/14 for the municipalities (Annex 18). The results of MI of the remaining periods can be interpreted accordingly.

Table 5.22: Malmquist Index (MI) of Municipalities

Summary of Results	**2011/12 to 2012/13**	**2012/13 to 2013/14**	**2013/14 to 2014/15**	**2014/15 to 2015/16**	**Average**
Number of Municipalities having MI >1	51	1	31	27	26
Percent of Municipalities having >1	88	2	53	47	45
Mean	1.27	0.69	1.05	1.07	1.02

Note: Calculated by the Researcher using PIM DEA ver 3.2

Source: Annex 18

(b) Target of Outputs

The actual PM score of Ilam municipality was 73, and per capita OSR was Rs. 5,171 in FY 2015/16. According to the efficiency score, this municipality is found inefficient. The target value indicates that from the available inputs, the Ilam municipality could have been improved at least 85.85 (17.6% gain) PM score from 73 and per capita OSR Rs. 6,081.27 (17.6% gain) from per capita OSR Rs. 5,171.00 (Annex 20). A similar interpretation of the actual and target values of PM score and OSR can be made for the remaining DMUs.

(C) Factors contributing the inefficiency of DDCs and Municipalities

There might be so many factors contributing inefficiency of DDCs and Municipalities. The study has tried to evaluate the efficiency of DDCs and Municipality with the certain inputs and outs variables. Based on these variables the contributing factors of inefficiency were due to the low performance of collecting own source revenue and getting low marks in the evaluation of the minimum condition and performance measurement. So, local governments have to be more serious for maximum utilization of fiscal authority. The local government should have their revenue improvement action plan,

separate revenue section and dedicated staff, effective role of local revenue advisory committee, more tax education, focus on increasing coverage of tax base instead increasing tax rates, etc. Underperformance measurement, the inefficient local government's meat they have not perfectly complied with the rule and regulation, less fiscal discipline, inefficiency in planning and budgetary management, low quality of expenditure and program implementation, and less efficient monitoring and evaluation communication and transparency. Therefore, the inefficient local government should have been improved in the areas mentioned above to be relatively efficient.

CHAPTER VI: PEOPLE'S PERCEPTION ON LOCAL GOVERNMENT'S SERVICE DELIVERY: A COMPARATIVE ANALYSIS

This Chapter is designed to address the fourth objective of the study. The researcher has compared the perception and expectation of the people about the service quality of local governments before and after the local election of Nepal in 2017. The sample districts and local governments were purposively selected considering that the district chosen will represent all ecological zones, Mountain, Hill, and Terai, and urban municipalities and rural municipalities. Uttargaya rural municipality of Rasuwa represents the Mountain region, Besisahar municipality of Lamjung represents the Hilly region and local urban level, and Bindyabasini rural municipality of Parsa represents the Terai region and rural municipality as well. In total, 282 respondents were asked to collect the primary information using the structured questionnaires. The set of questionnaires are presented in annex 23. The data were collected from August 20 to September 30, 2018.

6.1 Measurement of Service Quality of Local Governments

The mean scores of various dimensions such as Responsiveness, Tax Policy, and Basic Service are compared to address the fourth objective of the study. At the same time, the mean scores of Expectations and Perceptions of citizens about the service quality of the local government of Nepal before and after the Government policy intervention, i.e., local election after the restructuring of the local bodies in Nepal in 2017.

Demographic Characteristics of the Respondents

Three districts, namely Rasuwa, Lamjung, and Parsa, were purposively selected from Mountain, Hill, and Terai region, respectively, for the field survey. Uttargaya rural municipality from Rasuwa, Besisahar Municipality from Lamjung, and Bindabasini rural municipality from Parsa district was purposively selected for the fieldwork. The primary data were collected from three Provinces, i.e., Province Two, Bagmati Province, and Gandaki Province, that were represented by one local government in each Province. The demographic characteristics of the respondents are presented in Table 6.1.

Table 6.1: Demographic Characteristics of the Respondents (n=282)

SN	Variables	Descriptions	Number	Percent
1	Sex	Male	213	75.5
		Female	69	24.5
2	Marital status	Married	250	88.7
		Unmarried	32	11.3
3	Landowner	Yes	224	79.4
		No	58	20.6
4	Ethnicity	Indigenous	69	24.5
		Chhetri/Bhramin	117	41.5
		Dalit	9	3.2
		Madhesi	87	30.9
5	Profession	Farmer	116	41.1
		Business-person	40	14.2
		Employee	44	15.6
		Student	22	7.8
		Social worker	21	7.4
		Teacher	25	8.7
		Self-employed	10	3.5
		Unemployed	4	1.4
6	Literacy	Illiterate	36	12.8
		Literate	69	24.5
		Secondary Level	66	23.4
		College level	81	28.7
		Master degree and above	30	10.6
7	Age (Year)	≤ 25	33	11.7
		26-50	159	56.4
		> 50	90	31.9
8	Province	Two	87	30.9
		Bagmati	40	14.2
		Gandaki	155	55.0
9	Palika	Rural municipality	87	30.9
		Municipality	195	69.1
10	Ecology	Mountain	40	14.2
		Hill	155	55.0
		Terai	87	30.9

Source: Field survey, 2018.

6.2 Analysis of Citizens' Satisfaction Level before and after Local Election

The objective of the analysis is to compare the mean scores measured before and after the intervention, i.e., the local election of Nepal in 2017.

Use of Cronbach's Alpha

It is used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept. Cronbach's alpha is one way of measuring the strength of that consistency. It is not a statistical test, but it is a coefficient of reliability (or consistency). It is computed by correlating the score for each scale item with the total score for each observation (usually individual survey respondents or test-takers) and then comparing that to the variance for all individual item scores. The formula for Cronbach's alpha is as follow:

$$\alpha = \frac{N.\bar{c}}{\bar{v} + (N-1).\bar{c}}$$

Where;

K refers to the number of scale items

$\bar{c}$ refers to the average of all covariance between items

$\bar{v}$ refers to the average variance of each item

One can see from this formula that if you increase the number of items, you increase Cronbach's alpha.

Additionally, if the average inter-item correlation is low, the alpha value will be low. As the average inter-item correlation increases, Cronbach's alpha increases as well (holding the number of items constant). A reliability coefficient is a measurement of how well a test measures achievement. Cronbach's alpha is the most widely used internal-consistency coefficient. The minimum scale of the coefficient of Cronbach's alpha should be greater than 0.7 (Nunnally, 1978).

Reliability Test

Reliability refers to whether or not to get the same answer using an instrument while measuring something more than once. It is the degree to which the research method produces a stable and consistent result. A measure is said to have high reliability if it

produces similar results under constant conditions every time. Before the reliability test of the constructs/factors, the basic analysis is also carried out to check whether there is an outlier or missing data or not to ensure the consistency of statements. The reliability test is done to ensure the internal consistency of the Likert scale.

Table 6.2 shows that the overall Cronbach's alpha for before 0.804 and after 0.821 meant that there is the internal consistency of the Likert scale. The province-wise Cronbach's alpha for before 0.615 and for 0.674, which is less than 0.7, whereas the Cronbach's alpha of Bagmati Province for before election is 0.787 and for after election is 0.809 and Gandaki Province before the election is 0.847 and for after election is 0.860. This indicates an internal consistency in Bagmati Province and Gandaki Province, but no consistency is found in Province two.

Table 6.2: Overall and Province-wise Result of Reliability Test

Variables	**Overall**	**Province 2**	**Province 3**	**Province (Gandaki)**
Case Processing	282	87	40	155
Before				
Cronbach's Alpha	0.804	0.615	0.787	0.847
Mean	31.50	32.02	32.40	30.98
Variance	28.073	11.372	18.349	39.591
Std. Deviation	5.298	3.372	4.284	6.292
N of Item	10	10	10	10
After				
Cronbach's Alpha	0.821	0.674	0.809	0.860
Mean	31.05	30.63	34.255	30.46
Variance	32.898	18.049	15.833	42.835
Std. Deviation	5.736	4.248	3.979	6.545
N of Item	10	10	10	10

Source: Field Survey, 2018

Table 6.3 shows that the Cronbach's alpha of Responsiveness for before 0.830 and after 0.809, of Tax policy for before 0.699 and after 0.751, and Basic service for before 0.846 and after 0.866. These indicate an internal consistency in all three constructs before and after the local election in 2017.

Table 6.3: The Value of Cronbach's Alpha

Results	Responsiveness	Tax-Policy	Basic Services
Before Local Election			
Case Processing	282	282	282
Cronbach's Alpha	0.830	0.699	0.846
Mean	10.44	7.11	13.95
Variance	5.102	1.852	13.239
Std. Deviation	2.259	1.361	3.639
N of Item	3	2	5
After Local Election			
Cronbach's Alpha	0.809	0.751	0.866
Mean	10.84	5.74	14.47
Variance	3.826	3.381	15.339
Std. Deviation	1.956	1.839	3.916
N of Item	3	2	5

Source: Field Survey, 2018.

Normality Test Various Dimensions of Service Delivery

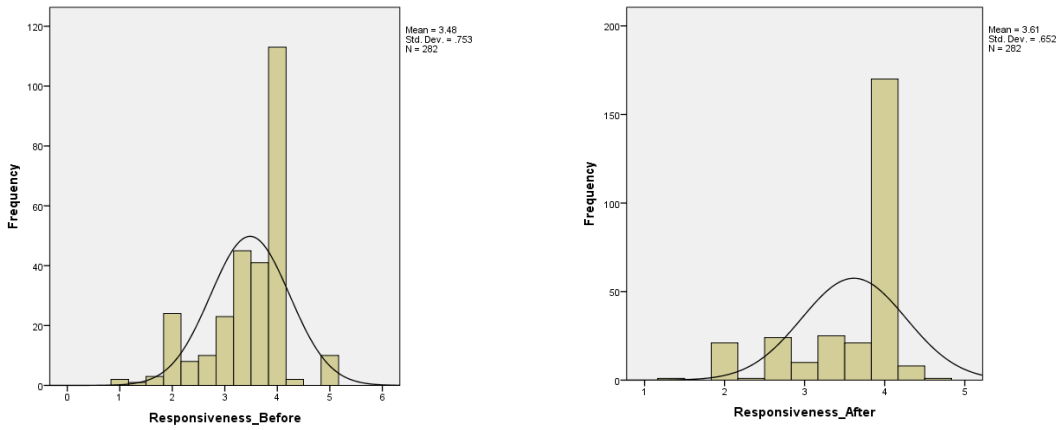
No variables are found to be normal as all the p-values are less than 5 percent. So, it suggests applying a non-parametric approach (Table 6.4).

Table 6.4: One-Sample Kolmogorov-Smirnov Test

		Responsiveness		Basic Service		Tax Policy	
		Before	After	Before	After	Before	After
N		282	282	282	282	282	282
Normal Parameters	Mean	3.48	3.61	2.79	2.89	3.56	2.87
	Std. Deviation	.753	.652	.728	.783	.680	.919
Most Extreme Differences	Absolute	.203	.357	.154	.107	.324	.161
	Positive	.203	.245	.154	.101	.240	.161
	Negative	-.198	-.357	-.104	-.107	-.324	-.152
Kolmogorov-Smirnov Z		3.405	6.003	2.587	1.800	5.444	2.712
Asymp. Sig. (2-tailed)		.000	.000	.000	.003	.000	.000
a. Test distribution is Normal.							
b. Calculated from data.							

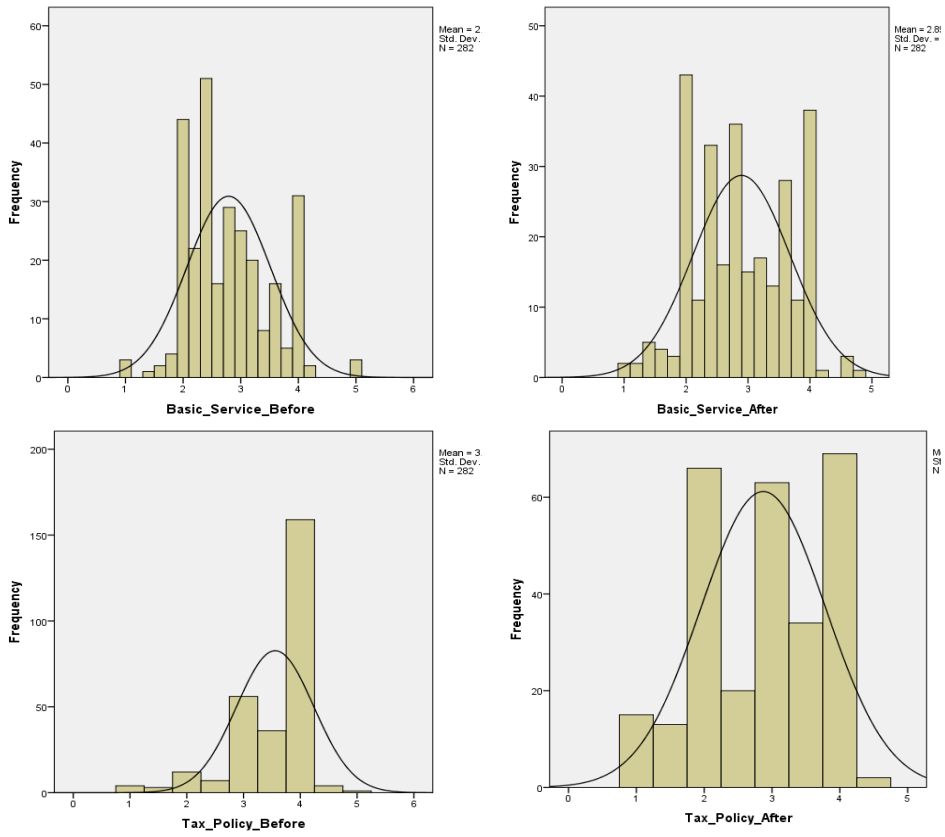
Source: Researcher's calculation, 2018.

All the normality plots with histograms almost show approximately normal. So, further analysis may be based on the parametric approach (Figure 6.1 and 6.2)



Graph 6.1: Normal Curve of Responsiveness before and after Local Election

The normal curve of basic service and tax policy before and after the local election is presented in Graph 6.2 below.



Graph 6.2: Normal Curve of Responsiveness before and after Local Election

Comparison of Citizens Perception on Service Delivery

Through the people's movement in 2006/07, the political change from unitary to federal government system has been established with the promulgation of the new constitution in Nepal. The local government restructuring process has been completed, and the government of Nepal had held the local governments' election. Therefore, the study aims to compare the perception of people on the service delivery of local governments before and after the local election held in 2017 under the new structure of local government units. Before the local election, local governments were run by the centrally deputed bureaucrats, whereas after the local election, local government is being led by the elected representatives. The following three dimensions of service delivery of local governments have been analyzed and compared before and after the local election in 2017.

(a) Responsiveness

The responsiveness is the key component of the good governance and service delivery system of local governments. The behavior of the personnel, proximity, and timely service are the key aspects of responsiveness of local government for providing services. Therefore, these three features are asked to the respondents to get their opinion about the responsiveness of the local governments.

(b) Basic Service

According to the law, the key responsibility of the local government is to provide basic services to the citizen at the grass-root level such as basic health, primary education, agriculture and livestock, construction of road, bridges, building, etc., other general services such as vital registration (civil registration) and various recommendations. Therefore, the respondents were asked about their satisfaction levels of the above-mentioned basic service delivery from the local governments.

(c) Tax Policy

Local governments are given the responsibility to generate and mobilize own-source revenue from areas specified by law such as property tax, land revenue, business tax, service charge, and so on. They are also accountable for preparing and implementing the tax policy at the local level. The canon of taxation says that tax policy should be based on equality or ability, certainty, convenience, simplicity, and economy. These aspects were

asked to the taxpayers to measure the level of satisfaction of the tax policy of the local government, which is very crucial to generate own-source revenue, which contributes to delivering basic services to the citizen.

We proceed to determine whether there are changes on responsiveness, basic service, and tax policy because of the local election. The statistical investigation was done on the perception of people to examine if there were any changes. The results are as follows:

6.3 Results of the Analysis

The results of the field survey analysis are presented as follows:

Overall Result

The paired t-test calculates the difference within each before-and-after pair of measurements, determines the mean of these changes, and reports whether this mean of the differences is statistically significant or not.

Hypotheses

- Null hypothesis (H_0): There is no significant difference in the mean scores of satisfaction levels of service delivery before and after the local election.
- The alternative hypothesis (H_1): There is a significant difference in the mean scores of satisfaction level of service delivery before and after the local election.

OR,

H_0: $\mu_1 = \mu_2$ ("the paired population means are equal")

H_1: $\mu_1 \neq \mu_2$ ("the paired population means are not equal")

OR

H_0: $\mu_1 - \mu_2 = 0$ ("the difference between the paired population means is equal to 0")

H1: $\mu 1 - \mu 2 \neq 0$ ("the difference between the paired population means is not 0")

Where;

- μ_1 is the population mean of variable 1 (before the local election), and
- μ_2 is the population mean of variable 2 (after the local election).

Table 6.5 shows that the responsiveness (For before, mean = 3.48, SD = 0.753; for after, mean = 3.61, SD = 0.652) seems to be positive due to election and similarly basic service (For before, mean = 2.79, SD = 0.728; for after, mean = 2.89, SD = 0.783) is also tending towards the improvement due to the same cause though the people seem not very

satisfactory. However, Tax policy (For before, mean = 3.56, SD = 0.680; for after, mean = 2.87, SD = 0.919) has some different scenario. Moreover, the election has seemed to affect a negative impact on the taxpayers due to the new tax policy implemented by the local government.

Table 6.5: Paired Samples Statistics

Constructs		**Mean**	**N**	**Std. Deviation**	**Std. Error Mean**
Pair 1	Responsiveness (BE)	3.48	282	.753	.045
	Responsiveness (AF)	3.61	282	.652	.039
Pair 2	Basic Service (BE)	2.79	282	.728	.043
	Basic Service (AF)	2.89	282	.783	.047
Pair 3	Tax Policy (BE)	3.56	282	.680	.041
	Tax Policy (AF)	2.87	282	.919	.055

Note: BE= Before local election and AF = After local election in 2017

The paired t-tests show a significant difference between each pair of responsiveness (t = -2.516, p= 0.012), basic service (t=-2.493, p=0.013) and tax policy (t=10.593, p< 0.001). The p-value of each dimension is less than 5 percent significant level. It means the null hypothesis is rejected, and the alternative hypothesis is accepted. So, these tests indicate that there is a statistically significant difference between the mean value of before and after the local election. The t-scores for responsiveness and basic service are negative, while that of tax policy is positive. The satisfaction level of the people about the responsiveness of local government has increased an average of 0.134 points and basic service by 0.104 points. Still, the satisfaction level on tax policy has decreased by 0.686 points after the local election (Table 6.6).

Table 6.6: Paired Samples Test

Constructs		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Responsiveness (BE) Responsiveness (AF)	-.134	.891	.053	-.238	-.029	-2.516	281	.012
Pair 2	Basic Service (BE) Basic Service_(AF)	-.104	.702	.042	-.187	-.022	-2.493	281	.013
Pair 3	Tax Policy (BE) Tax Policy (AF)	.686	1.088	.065	.559	.814	10.593	281	.000

Note: BE= Before local election and AF = After local election in 2017

Table 6.7 displays the correlation between three different pairs. Though the correlation coefficients for responsiveness (r=0.201) and tax policy (r=0.100) are relatively small, they are positive and linear, and significant too. It indicates that people have been experiencing those aspects in the local government almost similar behavior. The people seem to experience a small change in behavior in the part of responsiveness and tax policy. The correlation coefficient of a pair of basic services has more strength (r=0.570) and is significant too. The basic service pattern at the local level has no drastic change after the local election.

Here we see that the p values of responsiveness (p=.001) and basic service (p=001 are less than 0.05, and therefore, we can reject the null hypothesis that the correlation is zero. But, the p-value of tax policy is .094) which is more than 0.05. Therefore, we cannot reject the null hypothesis that the correlation is zero (Table 6.7).

Table 6.7: Paired Samples Correlations

Constructs		N	Correlation	Sig.
Pair 1	Responsiveness (BE) & Responsiveness (AF)	282	.201	.001
Pair 2	Basic Service (BE) & Basic Service (AF)	282	.570	.000
Pair 3	Tax Policy (BE) & Tax Policy (AF)	282	.100	.094

Note: BE= Before local election and AF = After local election in 2017

Provincial/District/Ecological Level Result

(a) Province Two

The paired sample t-test of Province Two shows that there is a significant difference between each pair of responsiveness (t = 2.387, p= 0.019), and tax policy (t=4.519, p< 0.001) at a 5 percent level. But there is no basic significant difference between each pair of basic services (t=-.290, p=0.773). These tests indicate a significant change due to the impact of the election on responsiveness and tax policy. The t-scores for basic service are negative, while that of responsiveness and tax policy are positive. The 'lower' and 'upper' limits of the 95% confidence interval tell us that we can be 95% confident that the population meanss the difference between before and after are in between .036 and .393 for responsiveness; -0.163 and -0.121 for basic service and .238 and .612 for tax policy (Table 6.8).

Table 6.8: Paired Samples Test of Province Two

Constructs		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Responsiveness (BE) Responsiveness (AF)	.215	.838	.090	.036	.393	2.387	86	.019
Pair 2	Basic Service (BE) Basic Service_(AF)	-.021	.665	.071	-.163	.121	-.290	86	.773
Pair 3	Tax Policy (BE) Tax Policy (AF)	.425	.878	.094	.238	.612	4.519	86	.000

Note: BE= Before local election and AF = After local election in 2017

Further the responsive (For before, mean = 3.79, SD = 0.479; for after, mean = 3.57, SD = 0.661) seems to be negative impact due to local election. The basic service (For before, mean = 2.66, SD = 0.516; for after, mean = 2.68, SD = 0.635) is tending towards the improvement due to the local election though the people seem not very satisfactory. Similarly, Tax policy (For before, mean = 3.68, SD = 0.424; for after, mean = 3.25, SD = 0.803) has some different scenario. Moreover, the election has seemed to affect the negative impact on the tax payers due to new tax policy (Table 6.9).

Table 6.9: Paired Samples Statistics of Province Two

Constructs		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Responsiveness (BE)	3.79	87	.479	.051
	Responsiveness (AF)	3.57	87	.661	.071
Pair 2	Basic Service (BE)	2.66	87	.516	.055
	Basic Service (AF)	2.68	87	.635	.068
Pair 3	Tax Policy (BE)	3.68	87	.424	.045
	Tax Policy (AF)	3.25	87	.803	.086

Note: BE= Before local election and AF = After local election in 2017

Table 6.10 displays the correlation between three different pairs. The correlation coefficients for responsiveness (r=-0.57) are relatively small and negative, and no significant. The tax policy (r=0.080) is also reasonably small, and it is positive but not significant. But the people seem to experience a small change in behavior in responsiveness and tax policy. The correlation coefficient of the pair of basic services has more strength (r=0.346) and is significant too. Service pattern has no drastic change before and after the election. Here we see that the p values of responsiveness (p=.597) and tax policy (p=.464) are more than 5 percent level, and therefore, we cannot reject the null hypothesis that the

correlation is zero. But, the p values of basic service (p=.001) are less than 0.05; therefore, the null hypothesis can be rejected that the correlation is zero.

Table 6.10: Paired Samples Correlations of Province Two

Constructs		N	Correlation	Sig.
Pair 1	Responsiveness (BE) & Responsiveness (AF)	87	-.057	.597
Pair 2	Basic Service (BE) & Basic Service (AF)	87	.346	.001
Pair 3	Tax Policy (BE) & Tax Policy (AF)	87	.080	.464

Note: BE= Before local election and AF = After local election in 2017

(b) Bagmati Province/Rasuwa District/Mountain

The paired sample t-test of Bagmati Province shows that there is a significant difference between each pair of responsiveness (t = -2.756, p= 0.009) and Basic service (t=-3.235, p< 0.001) at a 5 percent level. But there is no basic significant difference between each pair of tax policies (t= .621, p=0.538). There is strong evidence that there is a significant change due to the impact of the election on responsiveness and tax policy. The t-scores for basic service are negative, while that of responsiveness and tax policy are positive. The 'lower' and 'upper' limits of the 95 percent confidence interval tell us that we can be 95 percent confident that the population mean difference between before and after is between -.433, and -.067 for responsiveness; -.382, and -.088 for basic service and -0.085, and 0.160 for tax policy (Table 6.11).

Table 6.11: Paired Samples Test of Province Three

Constructs		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Responsiveness (BE) Responsiveness (AF)	-.250	.574	.091	-.433	-.067	-2.756	39	.009
Pair 2	Basic Service (BE) Basic Service (AF)	-.235	.459	.073	-.382	-.088	-3.235	39	.002
Pair 3	Tax Policy (BE) Tax Policy (AF)	.038	.382	.060	-.085	.160	.621	39	.538

Note: BE= Before local election and AF = After local election in 2017

Table 6.12 indicates that there is an improvement of satisfaction level for responsiveness (3.85-3.60=.25), for basic service (3.22-2.98=.235), and tax policy (3.30-3.34=-0.38).

Table 6.12: Paired Samples Statistics of Province Three

Constructs		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Responsiveness (BE)	3.60	40	.595	.094
	Responsiveness (AF)	3.85	40	.282	.045
Pair 2	Basic Service (BE)	2.98	40	.649	.103
	Basic Service (AF)	3.22	40	.675	.107
Pair 3	Tax Policy (BE)	3.34	40	.365	.058
	Tax Policy (AF)	3.30	40	.405	.064

Note: BE= Before local election and AF = After local election in 2017

The paired sample correlation table shows that there is a significantly positive correlation between the two paired variables. The correlation coefficients of responsiveness (r=-0.312), tax policy (r=0.512) and basic service (r=0.760) reported. The p-value describes whether the correlation is statistically significantly different from zero. Here we see that the p-value is less than 0.05, and therefore, we can reject the null hypothesis that the correlation is zero (Table 6.13).

Table 6.13: Paired Samples Correlations of Province Three

Constructs		N	Correlation	Sig.
Pair 1	Responsiveness (BE) & Responsiveness (AF)	40	.312	.050
Pair 2	Basic Service (BE) & Basic Service (AF)	40	.760	.000
Pair 3	Tax Policy (BE) & Tax Policy (AF)	40	.512	.001

Note: BE= Before local election and AF = After local election in 2017

(c) Gandaki Province/Lamjung District/Hill

It is seen that there is a significant difference between each pair of responsiveness (t = -3.979, p= 0.001), and tax policy (t=10.358, p=001) at 1 per cent level. But the Basic service (t=-1.902, p< 0.059) indicates a significant difference between the pair of basic services at a 10 percent level. The 'lower' and 'upper' limits of the 95 percent confidence interval tell us that we can be 95 percent confident that the population mean difference between before and after is between -.447 and -.151 for responsiveness; -.239, and -.005 for basic service and .809, and 1.191 for tax policy (Table 6.14).

Table 6.14: Paired Samples Test of Gandaki Province

Constructs		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Responsiveness (BE) Responsiveness (AF)	-.299	.935	.075	-.447	-.151	-3.979	154	.000
Pair 2	Basic Service (BE) Basic Service (AF)	-.117	.768	.062	-.239	.005	-1.902	154	.059
Pair 3	Tax Policy (BE) Tax Policy (AF)	1.000	1.202	.097	.809	1.191	10.358	154	.000

Note: BE= Before local election and AF = After local election in 2017

The paired sample statistics (Table 6.15) indicate that there is an improvement in satisfaction level for responsiveness (3.58-3.28=.299), for basic service (2.93-2.81=.117), and tax policy (2.55-3.55=-1.00).

Table 6.15: Paired Samples Statistics of Gandaki Province

Constructs		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Responsiveness (BE)	3.28	155	.848	.068
	Responsiveness (AF)	3.58	155	.704	.057
Pair 2	Basic Service (BE)	2.81	155	.831	.067
	Basic Service (AF)	2.93	155	.852	.068
Pair 3	Tax Policy (BE)	3.55	155	.830	.067
	Tax Policy (AF)	2.55	155	.951	.076

Note: BE= Before local election and AF = After local election in 2017

The paired sample correlation table shows that there is a significantly positive correlation between the two paired variables. The correlation coefficients of responsiveness (r= 0.285), basic service (r=0.583) and tax policy (r=0.094). The p-value describes whether the correlation is statistically significantly different from zero. Here we see that the p-values of responsiveness and basic service are less than 0.05, and therefore, we can reject the null hypothesis that the correlation is zero. But, the p-value of tax policy is more than 0.05; therefore, we cannot reject the null hypothesis that the correlation is zero (Table 6.16).

Table 6.16: Paired Samples Correlations of Gandaki Province

Constructs		N	Correlation	Sig.
Pair 1	Responsiveness (BE) & Responsiveness (AF)	155	.285	.000
Pair 2	Basic Service (BE) & Basic Service (AF)	155	.583	.000
Pair 3	Tax Policy (BE) & Tax Policy (AF)	155	.094	.244

Note: BE= Before local election and AF = After local election in 2017

Reliability Test of Expectation and Perception

The table shows the overall reliability test of mean expectation and perception of service quality, i.e., Cronbach's alpha for expectation 0.830 and perception 0.866, indicating that there is internal consistency (Table 6.17).

Table 6.17: Results of the Overall Reliability Test

Results	**Expectation**	**Perception**
Case processing	282	282
Cronbach's alpha	0.830	0.866
Mean	11.67	8.00
Variance	2.961	6.644
Std. deviation	1.721	2.578
No. of Item	3	3

Source: Field Survey, 2018

Normality Test of Expectation and Perception

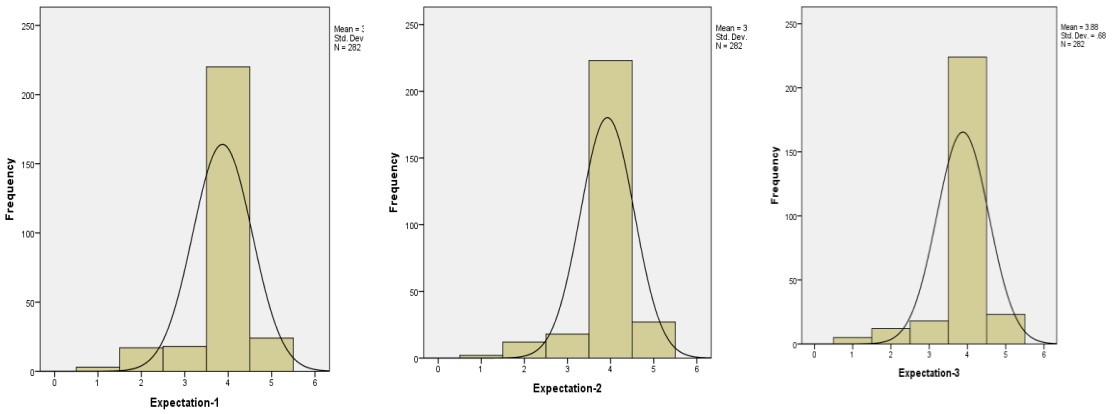
No variable found to be normal as the p values are of all variables is less than 5 percent. These results suggest applying a non-parametric approach to the normality test (Table 6.18).

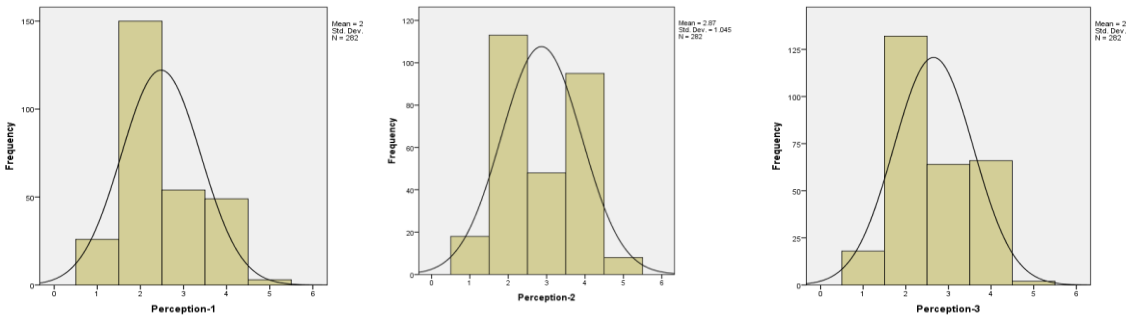
Table 6.18: One-Sample Kolmogorov-Smirnov Test

		Expectations			Perceptions		
		E (1)	E (2)	E (3)	P (1)	P (2)	P (3)
N		282	282	282	282	282	282
Normal Parameters[a, b]	Mean	3.87	3.93	3.88	2.48	2.87	2.65
	Std. Deviation	.686	.624	.680	.921	1.045	.932
Most Extreme Differences	Absolute	.441	.434	.446	.323	.261	.290
	Positive	.339	.357	.348	.323	.261	.290
	Negative	-.441	-.434	-.446	-.209	-.226	-.178
Kolmogorov-Smirnov Z		7.408	7.288	7.494	5.416	4.378	4.871
		Expectations			Perceptions		
		E (1)	E (2)	E (3)	P (1)	P (2)	P (3)
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
a. Test distribution is Normal.							
b. Calculated from data.							

Note: E= (Expectation) and P= (Perception), N=Number of observations

The normality plots with the histograms almost showed approximately normal. So, further analysis may be based on the parametric approach (Graph 6.3).





Graph 6.3: The Normality plots of expectations and perception of the citizen

The paired sample t-test of expectation and perception shows that there is a significant difference between each pair of expectation (1) and perception (1) (t = 22.330, p= 0.001), expectation (2) and perception (2) (t=15.864, p=001) and expectation (3) and perception (3) (t= 18.636, p< 0.001), it indicates that there is a significant difference between pair of expectations and perception at a 1 percent level.

It means that the quality-of-service delivery of local government is lower compared to the expectation before the local election. The 'lower' and 'upper' limits of the 95% confidence interval tell us that we can be 95 percent confident that the population mean difference between expectation (1) and perception (1) is between 1.268 and 1.513, expectation (2) and perception (2) is between 0.929 and 1.192, and expectation (3) and perception (3) is between 1.097 and 1.357 (Table 6.19).

Table 6.19: Paired Samples test of Expectation and Perception

Paired Expectation and Perception		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Expectation (1) Perception (1)	1.390	1.045	.062	1.268	1.513	22.330	281	.000
Pair 2	Expectation (2) Perception (2)	1.060	1.122	.067	.929	1.192	15.864	281	.000
Pair 3	Expectation (3) Perception (3)	1.227	1.106	.066	1.097	1.357	18.636	281	.000

Source: Field Survey, 2018

The paired sample statistics say that there is a negative between expectation and perception about the service quality of local government. The gap between perception (1)

and expectation (1) is 2.48-3.87=-1.390, perception (2) and expectation (2) are 2.87-3.93=-1.060 and perception (3) and expectation (3) are 2.65-3.88=-1.227 (Table 6.20).

Table 6.20: Paired Samples Statistics of Expectation and Perception

Paired Expectation and Perception		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Expectation (1)	3.87	282	.686	.041
	Perception (1)	2.48	282	.921	.055
Pair 2	Expectation (2)	3.93	282	.624	.037
	Perception (2)	2.87	282	1.045	.062
Pair 3	Expectation (3)	3.88	282	.680	.040
	Perception (3)	2.65	282	.932	.055

Source: Field survey, 2018

The paired sample correlation Table shows that there is a significantly positive correlation between the two paired variables. The correlation coefficients of expectation (1) and perception (1) is r= 0.179; of expectation (2) and perception (2) is (r=0.170); and of expectation (3) and perception (3) is r=0.085. Here we see that the p values of pair 1 (r=003) and pair 2 (p=.004) are less than 0.05, and therefore, we can reject the null hypothesis that the correlation is zero. But, the p-value of pair 3 (0.153) is more than 0.05. Therefore, we cannot reject the null hypothesis that the correlation is zero (Table 6.21).

Table 6.21: Paired Samples Correlations of Expectation and Perception

Paired Expectation and Perception		N	Correlation	Sig.
Pair 1	Expectation (1) Perception (1)	282	.179	.003
Pair 2	Expectation (2) Perception (2)	282	.170	.004
Pair 3	Expectation (3) Perception (3)	282	.085	.153

Source: Field Survey, 2018

In the Paired Samples Statistics Box, the mean score for the perception is 2.6655, an unsatisfactory level, and the mean of expectation is 3.8913. The standard deviation of perception and expectation is .85921 and .57357, respectively (Table 6.22).

Table 6.22: Paired Samples Statistics of Mean Expectation and Perception

Paired Expectation and Perception		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Mean perception	2.6655	282	.85921	.05116
	Mean expectation	3.8913	282	.57357	.03416

Source: Field Survey, 2018

The mean scores of perceptions and expectations are weakly and positively correlated (r=0.117). Here we see that the p values (p=.050) are less than 0.05, and therefore, we can reject the null hypothesis that the correlation is zero (Table 6.23).

Table 6.23: Paired Samples Correlations of Mean Score Perception and Expectation

Mean Perception and Expectation		N	Correlation	Sig.
Pair 1	Mean perception & Mean expectation	282	.117	.050

Source: Field Survey, 2018

There was a significant difference between the mean score of expectation and perception (t = -21.097, p < 0.001). The p-value is less than 0.05. It means the null hypothesis ($\mu_1 = \mu_2$) or the paired population means are equal and are rejected, and the alternative hypothesis is accepted. Because of this, it can be concluded that there is a statistically significant difference between the mean for the perception and expectation of the quality-of-service delivery from local levels. The mean number of expectations is greater than the mean for perception; we can conclude that the quality-of-service delivery is poor as compared to the expectation of the respondents. On average, the perception score is lower (2.6655-3.8913= -1.22577) than the expectation scores. It means that the local governments have not delivered services as expected by the citizen before the local election.

The 'lower' and 'upper' limits of the 95 percent confidence interval tell us that we can be 95% confident that the difference between mean expectation and mean perception is between -1.34014 and -1.11140 (Table 6.24).

Table 6.24: Paired Samples Test

Mean Perception and Expectation		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Mean perception - Mean expectation	-1.22577	.97571	.05810	-1.34014	-1.11140	-21.097	281	.000

Source: Field Survey, 2018

6.4 General Observation of Both Supply and Demand Side

The open-ended questions were prepared and asked to respondents regarding the various aspects of service delivery at local level. The general observations of the field survey of both supply and demand sides of the service delivery are presented as follows.

6.4.1 Beshisahar Municipality of Lamjung District

The Lamjung is one of the hill districts of Gandaki Province (Province-4). There are eight local levels where four are rural municipalities, and the remaining four are municipalities. Of the total eight local levels, the Beshisahar municipality is chosen purposively as a sample for the study. This municipality is divided into 11 Wards. According to the population census of 2011, there is 39,356 population, and geographical area coverage is 128 square kilometers. The interview with Mayor, Deputy Mayor, Chief Administrative Officers, and few Ward Chairs was taken to receive the ground reality of the service delivery of the municipality. The key observation of Besisahar Municipality from the supply side perspective is presented in Box 6.1 below.

Box 6.1: Key Observation of Beshisahar Municipality (Supply Side)

- Door to door program is going to be implemented for the collection of business registration which will be helpful to expand the tax coverage.
- The terms of reference of member of municipal executive not clearly defined as a result it has hampered to utilize the expertise of the elected representative for service delivery.
- There is a problem of mutual trust between elected representatives and staff working in municipality and ward office which has resulted in a problem to fully exploit the expertise of staff.
- Revenue is being collected only from municipal office but not collected from ward office. It has created bit difficulties for taxpayers to reach municipal office from remote settlement of the different wards.
- Approved positions for the municipality not fulfilled yet and it has a negative effect to the implementation of development activities and basic service delivery from ward office. Only 5 ward secretaries have to work for 11 wards in partial basis.
- The available budget in the name of equalization grant is not sufficient to address the demand of citizen collected from the planning processes.
- Due to the lack of sufficient rooms in the rented buildings (not own office building), efficiency of service delivery has not been as effective as expected.
- There is an urgency of the implementation of need-based training/orientation to the elected representatives and staff of the municipality.
- Establishment of divisional offices of federal and provincial government at the district level will affect the pace and spirit of service delivery of local government.
- The amount of development activities to be implemented by the provincial government is much bigger than that of the municipality. The provincial government will directly implement development activities of amounting NRs. 600 million while municipality receiving only NRs. 10 million grants from provincial government. It will make the local government weaker and unable to address the need of citizen.

Box 6.2: Key Observation of Beshisahar Municipality (Demand Side)

- Leakage of fund reduced as compared to the period of having no elected representatives in the municipality.
- Participatory planning processes is in place for selecting programs from settlement level.
- District level Nepal Chamber of Commerce and Industry is very much positive to cooperate municipality for the collection and revenue from business tax and implementation of public private partnership program for employment generation through economic activities.
- Most of the budget of municipality is spent only for infrastructure development i.e. road and drainage construction. Consequently, there is less focus on social such as inclusive development of women, children, dalit/different capacity, disabled, aged citizen and so on and economic aspect i.e. massive income generating activities in agriculture and livestock and small and cottage industry.
- There is a substantial declining in the services of agriculture and livestock sector relative to previous practice from the same sector.
- There is a less focus of municipality on poor target program
- There is, to some extent, doubtfulness of transparency of revenue and expenditure.
- Adequate budget not allocated for particular projects rather less budget is distributed among many projects which results in insufficient budget to complete the initiated projects.
- The role of consumer group is not positive and effective to utilize the available resources. So, there is an earnestness of alternative selection of consumer/user group.
- There is a high rate of property valuation and tax amount of less productive slope land.
- There is no opportunity for opposition party to be involved in decision making process in the municipal level.
- Provision of ex-officio chairmanship of Ward Chair in School management committee is the indication of political interference of municipal executive.
- Monitoring mechanism of municipality is not effective.
- Municipality has not heard the grievance of hotel entrepreneur to open hotel till 10 pm.
- Municipal has not prepared individual tax payer's profile and assessed the tax payers' affordability.
- There is not any benefit package available for tax payers as a return back of the tax paid.
- There is no improvement in quality of education in government schools.
- There is a strong dissatisfaction of citizen getting financial facility by the municipal executive members and ward members from the money generated by the internal revenue (local tax and non-tax revenue).

6.4.2 Uttargaya Rural Municipality of Rasuwa District

The Rasuwa is one of the mountain districts of Province Three. There are five rural municipalities. Of the total five rural municipalities, the Uttargaya is taken purposively as a sample for the study. This rural municipality is divided into five wards. According to the population census of 2011, there is 8255 population, and geographical area coverage is 104.51 square kilometers. The interview with Vice-Chair, Chief Administrative Officers, and few Ward Chairs was administered to receive the ground reality of the service delivery of the rural municipality (Box 6.3).

Box 6.3: Key Observation of Uttargaya Rural Municipality (Supply Side)

- The tax collection status is very satisfactory where NRs. 0.75 million was collected of the total proposed NRs. 0.9 million in 2016/17. However, there is no database of tax payers.
- NRs. six million is allocated to each ward equally for the development activities. Based on that amount, demands are collected from the settlement level.
- There is a demand of ward chairs to utilize certain portion of amount of revenue collected from the respective ward office.
- Monitoring committee is not so effective for field observation of the implemented programs.
- There is a need of model laws from federal and provincial government so that rural municipalities can develop upon their necessity. It is because there is no adequate capacity in the rural municipality to prepare laws and guidelines.
- Due to the absence of legal advisor, there is high risk and challenge to effectively activate the judiciary committee under the vice-chair of a rural municipality.
- The terms of reference of member of municipal executive not clearly defined. As a result, it has hampered to utilize the expertise of the elected representative for service delivery.
- There is a problem of mutual trust between elected representatives and staff working in rural municipality and ward office as a result it has hampered to fully exploit the expertise of staff.
- Approved position of necessary staff not fulfilled yet so it has affected to implement the development activities and basic service delivery from ward office. Additional 20-25 staff is required to make the rural municipality fully functional.
- The available budget in the name of equalization grant is not sufficient to address the demand of citizen collected from the planning processes.
- There is an urgency of the implementation of need-based training/orientation to the elected representatives and staff of the rural municipality.
- Establishment of divisional offices of federal and provincial government at the district level will affect the pace and spirit of service delivery of local government.

Box 6.4: Key Observation of Uttargaya Rural Municipality (Demand Side)

- Participatory planning processes is in place for selecting programs from settlement level.
- Most of the budget of rural municipality is spent only for infrastructure development i.e., road and drainage construction. Consequently, there is less focus on social such as inclusive development of women, children, dalit/different capacity, disabled, aged citizen and so on and economic aspect i.e. massive income generating activities in agriculture and livestock and small and cottage industry.
- There is a substantial declining in the services of agriculture and livestock sector relative to previous practice from the same sector.
- There is a less focus of rural municipality on poor target program.
- There is, to some extent, doubtfulness of transparency of revenue and expenditure.
- Adequate budget has not been allocated for big projects. Rather less budget has been distributed among many projects which is not sufficient to complete the initiated projects.
- The role of consumer group is not positive and effective to utilize the available resources. So, there is an earnestness of alternative selection of consumer/user group.
- People are not actually aware about the property tax and they have not yet paid any tax in the name of property tax for rural municipality.
- Provision of ex-officio chairmanship of Ward Chair in School management committee is the indication of political interference of municipal executive.
- Monitoring mechanism of rural municipality is not effective.
- Rural municipality does not have individual tax payer's profile and assessed the tax payers' affordability.
- There is not any benefit package available for tax payers as a return back of tax paid.
- There is no improvement in quality of education in government schools.
- There is a strong dissatisfaction of citizen getting financial facility by the municipal executive members and ward members from the money generated by the internal revenue (local tax and non-tax revenue).

6.4.3 Bindabasini Rural Municipality of Parsa District

Parsa is one of the districts of province number two. There are fourteen local governments with one metropolitan city, three municipalities, and ten rural municipalities. Of the total fourteen palikas, the Bindabasini rural municipality had been purposively taken as a sample for the study. This rural municipality formed merging then five VDCs, namely Amarpatti, Jhuwaguthi, Parsauni Bhatha, and Bahuarwa Bhatha are divided into five wards. According to the population census of 2011, there is 24468 population, and the geographical area is 26.04 square kilometers. The interview with Chairperson, Chief Administrative Officers, and few Ward Chairs was taken to receive the ground reality of the service delivery of the rural municipality (Box 6.5).

Box 6.5: Key Observation of Bindabasini Rural Municipality (Supply Side)

- Approved position of necessary staff not fulfilled yet so it has affected to implement the development activities and basic service delivery from ward office.
- The efficiency of personnel working in rural municipality was not satisfactory
- There is a problem of mutual trust between elected representatives and staff working in rural municipality and ward office as a result it has hampered to fully exploit the expertise of staff.
- Due to internal political problem, the rural municipality had not been able to call upon the annual assembly meeting to pass annual programme and budget of 2018/19.
- There is no good relationship between rural municipality and civil society organizations
- The tax collection status is not satisfactory. There are no any programs to motivate and sensitize tax payers.
- The Local Revenue Advisory Committee, Judiciary Committee and Monitoring committee were found not effective for to accomplish the assigned responsibilities.
- There is a need of model laws from federal and provincial government so that rural municipality can develop upon their necessity. It is because there is no adequate capacity in rural municipality to prepare laws and guidelines.
- The terms of reference of member of rural municipality executive not clearly defined as a result it has hampered to utilize the expertise of the elected representative for service delivery.
- The available budget in the name of equalization grant is not sufficient to address the demand of citizen collected from the planning processes.
- There is an urgency of the implementation of need-based training/orientation to elected representatives and staff of rural municipality.
- Establishment of divisional offices of federal and provincial government at the district level will affect the pace and spirit of service delivery of local government.

Box 6.6: Key Observation of Bindabasini Rural Municipality (Demand Side)

- Participatory planning processes is in place for selecting programs from settlement level.
- Most of the budget of rural municipality is spent only for infrastructure development i.e., road and drainage construction. Consequently, there is less focus on social such as inclusive development of women, children, dalit/different capacity, disabled, aged citizen and so on and economic aspect i.e. massive income generating activities in agriculture and livestock and small and cottage industry.
- There is a substantial declining in the services of agriculture and livestock sector relative to previous practice from the same sector.
- There is a less focus of rural municipality on poor target program.
- There is to some extend doubtfulness of transparency of revenue and expenditure.
- Adequate budget not allocated for the particular project rather less budget is distributed in many projects which is not sufficient to complete the initiated projects.
- The role of consumer group is not positive and effective to utilize the available resources. So, there is an earnestness of alternative selection of consumer/user group.
- People are not actually aware about the property tax and they have not yet paid in the name of property tax for rural municipality.
- Provision of ex-officio chairmanship of Ward Chair in School management committee is the indication of political interference of municipal executive.
- Monitoring mechanism of rural municipality is not effective.
- Rural municipality does not have individual tax payer's profile and assessed the tax payers' affordability.
- There is no any benefit package available for tax payers as a return back of tax paid.
- There is no improvement in quality of education from government schools.

6.4.4 Causes of Service Delivery Inefficiency in Local Level

There was a long gap of elected representatives in local bodies, i.e., Village Development Committees and Municipalities in Nepal, from July 2002 till the last local election held in 2017. During this period, all-party mechanisms and civil servants were legally responsible for administrative affairs and service delivery to the local level. There was a citizen awareness center (CAC) provision to ensure the accountability mechanism and Ward Citizen Forum (WCF) to bridge the demand between citizens and local bodies. But people were not fully satisfied with this temporary arrangement to continue and sustain the governance system and service delivery mechanism intact. So, people were a high

expectation of more efficient, transparent, and timely service from the local bodies. The people also had full hope that after the election of local governments under the newly restructured framework in 2017.

Based on the interaction with professionals and senior government officials residing in Kathmandu, the major causes of service delivery inefficiency have been identified. The crux of the experts' opinion is that the local government has not been able to deliver the services to the extent of citizen expectation because of the lack of experienced and well-trained personnel and lack of existence of necessary federal and provincial law. The local governments are not adequately oriented about their role and responsibilities and to maintain a transparent, accountable, and responsive local governance system and mechanism. The participatory planning process has not been properly followed by the elected representatives while preparing their annual program and budget. The local people have not got the opportunity to actively participate and put their own demands during the period of formulating annual plan and budget.

Moreover, it was seen that there is a political conflict between Mayor and Deputy Mayor and Chair and Vice-Chair in some Municipalities and Rural Municipalities, respectively. It has been hampering to hold annual assembly; as a result, they have not been able to pass their annual program and budget as per the legal provision by 16 July of each fiscal year. These are few but very critical issues facing by local governments that have hampered to delivery of good services to the citizen in time

Furthermore, lack of availability of a qualified number of staff, no deputation of Chief Administrative Officer (CAO) for a long time, frequent transfer of CAO, not clear demarcation of exclusive and concurrent responsibilities (such as basic health and sanitation services, basic and secondary education, local, rural, and agricultural roads, local service management, collection of taxes on natural resources, rental tax, business tax, etc.) of three levels of government viz. federal, provincial and local, etc. are the major causes of hindering the effectiveness of public service delivery at the local level. Besides, the people have also expressed their perception that the elected representatives and civil servants are also involved in the misuse of available resources and authorities. In some cases, the weak service delivery at the local level is the result of dishonesty, unjust, and fraudulence at the

local government system. Because of the lack of effective coordination among federal, provincial, and local government, there is also overlap and duplication of implementation of programs such as road and bridge construction, health and education sectors, service delivery system at the local level has been severely hampered. In the starting years, local governments focused on increasing tax rates rather than increasing tax coverage. It was the main cause of dissatisfaction of people towards local governments performance. Although there is a provision that local governments must follow the inclusive, participatory process while collecting demand and program for annual program and budgeting from the grassroots level (community/settlement level), there is very little practice of this provision. People do not have the opportunity to express their needs, necessities, and complaints and provide suggestions for the better improvement of service delivery mechanism.

The Federal and Provincial governments have provided sufficient equalization grants to local governments to implement the projects selected through the local planning process. Now, the budget is not a constraint for local governments to spend on development activities. The local governments must be more serious about the formulation and implementation of sound policies to address the need and expectations to enhance the satisfaction level of the citizen.

CHAPTER VII: FINDINGS, CONCLUSION, AND POLICY IMPLICATION

This chapter briefly explains the summary of findings, conclusion, policy implications, and areas of future research. The researcher has described the answer to the study's research questions and conceptual hypotheses in this chapter. The details of each section are presented as follows.

7.1 Summary of Findings

Local governments (LGs) are the key actors to contribute to public well-being by executing policies and delivery of public services. The local governments can be the most transparent and accountable in providing services to the citizens. Local governments always seek to enhance the well-being of their citizens through the provision of public services consistent with the goal of people.

The major focus and the crux of this study are to examine the relationship between financial resources and service delivery of the DDCs and municipalities in Nepal during the period from FY 2011/12 to 2015/16, where there were no elected representatives at the local levels. District level HDI of 2014 has been taken as an output variable (dependent) for regression analysis for which average district expenditure for the period from FY 2009/10 to 2013/14, human poverty index, and per capita income index have been used as independent variables in model one. Similarly, in model two, the capital expenditure, LGCDP expenditure, and Own Source Revenue of DDCs have been used as independent variables and HDI 2014 as the dependent variable to analyze the effect of DDCs expenditure on HDI. For both models, three geographic zones and seven provinces are used dummy variables. In models three and four, the effect of DDCs and municipality expenditure on their annual performance has been examined. The relative efficiency of DDCs and municipality has been assessed using the DEA method in models five and six, respectively.

The OLS assumptions such as multicollinearity, autocorrelation, normal distribution of residual, and homoscedasticity have been tested. All the assumptions are met. Three geographic zones regions and seven Provinces have been used as dummy variables in this study. The revenue autonomy of DDCs and municipality and expenditure

capacity of the municipality have been measured in this study. The major findings of the study have been presented as follows.

7.1.1 Influence of District Expenditure, HPI and PCII on HDI

It was found that there is a significant positive effect of the per capita income index and average district expenditure on HDI. It means that the increase of per capita income and average district expenditure leads to an increase in the HDI. This result is in line with the finding of Fattah and Muji (2012). The per capita income (PCI) is also an important factor to positively influence the HDI. There is a negative impact of the human poverty index (HPI) on HDI. It means that higher human poverty lowers the HDI and vice versa. Prasad (2015) claimed that after the 1950s, Nepal had achieved considerable successes in the political and administrative decentralization practices. However, fiscal decentralization practices have been stagnant. Similarly, Shah (2016b) argued that the budgetary decentralization initiatives for nearly 240 years of a unitary system of governance in Nepal had not reduced the political, social, economic, regional, and ethnic inequalities inherent.

7.1.2 Influence of DDCs' Expenditure on HDI

To estimate the contribution of DDCs' spending on HDI, five years' total expenditure of DDCs in capital expenditure, LGCDP expenditure, and OSR have been used as predictor variables. Moreover, three ecological regions and seven provinces were also used as dummy variables. The OLS assumptions such as no multi-collinearity, no autocorrelation, normality, and homoscedasticity are fulfilled.

The capital expenditure and LGCDP expenditure of DDCs found significant, but the Own Source Revenue of DDCs was not found effective to explain human development. Rahayu et al. (2016) also focused that decentralized local government can arrange a budget to finance capital expenditure that helps to increase HDI. This finding also suggests that the federal government has to transfer more funds to local government to achieve a higher level of human development. The coefficient of LGCDP expenditure was found negative, meaning that higher the LGCDP expenditure was not contributing to HDI. LGCDP had aimed to support strengthening both the demand and supply side of the local governance mechanism. The program had envisaged empowering community people by engaging them actively with local governments. This program had also focused on increasing the service

delivery capacity of local governments. It had also supported institutionalization of inclusive and equitable processes in local governments, besides strengthening the institutional framework for decentralization, devolution, and community development. The HDI is more related to the improvement of health, education, and living standard of the people. Therefore, principally there was no meaningful contribution of the LGCDP program for health and education. As a result, the LGCDP program could not contribute to HDI.

7.1.3 Contribution of DDCs' Expenditure on Performance

In the parameter estimate table, we see the coefficients, standard errors, Wald test and associated p-value (Sig.), and the 95 percent confidence interval of the coefficients. OSR, recurrent expenditure, and Hill are statistically significant, but capital expenditure, LGCDP expenditure, and Mountain are not. So, for a one-unit increase (one million Rupees) in OSR, it is expected that about 0.012 increases in the expected value of performance in the ordered log odds of being in a higher level of performance, given that all other variables in the model are held constant.

The Odds Ratio is equal at each threshold because the ordinal logistic regression model has constrained it through the proportional odds (PO) assumption. The appropriateness of this assumption is evaluated through the 'test of parallel lines.' This test compares the ordinal logistic regression model, which has one set of coefficients for all thresholds (labeled Null Hypothesis), to a model with a separate set of coefficients for each threshold (labeled General). The hypothesis is that the location parameters (slope coefficients) are the same across response categories can't be rejected because the significance level is more significant than 0.05 ($p>0.05$) of tests of Parallel lines. The assumption is not violated (Table 5.13).

7.1.4 Municipal Expenditure and Performance

All 58 municipalities have a common mean value for the intercept. Under the random effect model, the per capita recurrent expenditure, per capita LDF expenditure, and per capita capital expenditure are significant at 5% level. But, per capita, LGCDP expenditure, and per capita OSR (Own Source Revenue or Internal Revenue) are not significant (Table 5.15).

The probability value of the Hausman Test is statistically significant ($p<0.05$). So, the null hypothesis is rejected, meaning that the alternative hypothesis is accepted. It meant that the fixed effect model is appropriate (Table 5.16). So, the fixed-effect model has been run again.

The p-value of Levin, Lin, and Chu (2002) is less than 5 percent, so the null hypothesis is rejected, meaning that panel data does not have a unit root. In other words, the PM score variable at Level does not have a unit root. The p-value of Im, Pesaran, and Shin W-stat and PP - Fisher Chi-square and ADF - Fisher Chi-square is less than 5 percent. All the methods say that the dependent variable (PM scores) does not have a unit root at the level (Table 5.17).

7.1.5 The Relative Efficiency of DDCs and Municipalities

The result of relative efficiency assessment of DDCs show that the mean efficiency was 82.37 percent in 2011/12 where only 12 (16%) DDCs, i.e., Terhathum, Dhankuta, Morang, Siraha, Sindhupalchock, Bhaktapur, Makawanpur, Bara, Nawalparasi, Rupandehi, Kapilbastu, and Banke were found efficient and remaining 63 (84%) DDCs were found relatively inefficient in the same period. There was an inconsistency of efficiency rate of 21 percent, 24 percent, 16 percent, 15 percent of DDCs in FY 2012/13, 2013/14, 2014/15, and FY 2015/16, respectively (Table 5.19). The Malmquist Index indicates that 40 percent of DDCs had improved productivity from FY 2011/12 to 2012/13, and 48 percent of DDCs had improved their productivity from FY 2014/15 to 2015/16 (Table 5.20).

In FY 2011/12, the mean efficiency rate of the municipality was 83.97 percent, and nine municipalities, i.e., Damak, Kathmandu, Bhaktapur, Bharatpur, Butwal, Pokhara, Ghorahi, Gulariya, and Tikapur, were found efficient in the same period. The mean efficiency rates are 79.50 percent, 78.29 percent, 79.15 percent, and 82.84 percent in FY 2012/13, 2013/14, 2014/15, and 2015/16, respectively (Table 5.21). Of the 58 old municipalities, 51 (88%) municipalities had improved their productivity from FY 2011/12 to 2012/13 because the Malmquist indices of 51 municipalities found greater than unity. But only the Kathmandu metropolitan city improved productivity from FY 2012/13 to 2013/14 (Table 5.22).

7.1.6 Local Governments' Service Delivery and Citizen Satisfaction

A comparative analysis has been carried out to estimate the satisfaction level of service quality of local governments before and after the local election of 2017. The service quality of local governments has been assessed by three dimensions, i.e., responsiveness, basic service, and tax policy. Total 282 respondents had responded to the set questionnaires from three local governments (Palikas). The paired samples statistics show that the mean value of responsiveness before the local election is 3.48, whereas after the local election is 3.61, which means that there is an improvement after the election. It indicates there is a positive impact of local polls for the responsiveness dimension. However, the mean value of basic service is 2.79 and 2.89 before and after local elections, but people seem not very satisfactory because the mean value is less than 3. Moreover, the election has seemed to affect a negative impact on the taxpayers due to the new tax policy implemented by the local government. It is because the mean value of tax policy was 3.56 before the local election, but it is decreased to 2.87 after the local election (Table 6.5).

The satisfaction level of the people about the responsiveness of local government has increased an average of 0.134 points and basic service by 0.104. Still, the satisfaction level on tax policy has decreased by 0.686 points after the local election (Table 6.6). In the case of Province Two, the responsiveness and tax policy of local government seemed to be a negative impact due to the local election. However, the mean scores of basic service increase after the local election, the people seem not very satisfied because the mean score is below three. There is strong evidence that there is a significant positive change due to the impact of local elections on responsiveness and basic service delivery in Province Three. The pair samples statistics of Province Three say that there is an improvement in satisfaction level for responsiveness, but satisfaction level is declined on tax policy. In the case of Gandaki Province, the satisfaction level in responsiveness is increased after the local election. However, the satisfaction level on basic services is also increased, but people are not very much satisfied with the basic services provided by the local government.

On the other hand, the mean score of tax policy is decreased (AF 2.55 < BE 3.55) after the local election meaning that there is a negative impact of local election on tax policy (Table 6.15). There was a significant difference between the mean score of expectation and perception of citizens about the service quality of the local governments.

The paired samples statistics indicate that the mean score of perception is 2.6655, whereas the mean score of expectation is 3.8919 (Table 6.22). It shows that the local governments have not been able to address and meet the citizen's expectation. There is a vast and vast gap between expectation and perception.

7.1.7 Areas of Improvement for Effective Service Delivery

Based on the opinions expressed by both supply and demand-side respondents, the following areas need to be addressed for effective service delivery at the local level.

1. The role of executive board members of Municipalities and rural municipalities has not been clearly defined by the law. So, they have not been more responsive to the citizen to effectively implement the assigned tasks to the local governments by the constitution.
2. It was found that the revenue collection mechanism and system need to be more decentralized at the ward level, not to limit within the Palika level. The Palikas should be more serious about increasing or enhancing the tax coverage and improving the revenue administration instead than increase the tax rate. There is much dissatisfaction of the citizen on the tax rates.
3. Due to the lack of necessary capable human resources (staff) and less orientation to the newly elected representatives, available financial resources have not been adequately utilized to meet the service expectation of the citizen by the local governments.
4. Due to the lack of necessary federal and provincial laws, the local governments have not properly coordinated and implemented the sectoral responsibilities, i.e., basic health and sanitation, basic and secondary education, agriculture, livestock, cooperatives, and local market management, and environment protection, etc.
5. The partnership of local governments with private sectors and civil society, including NGOs, has not been adequately established and institutionalized. As a result, joints efforts on investment of key stakeholders at the local level for service delivery such as economic and social development have not been materialized.
6. The participatory local planning process from the settlement level has not been effectively practiced by the local governments, so there are citizen complaints and

dissatisfaction towards the performance of the elected representatives and the bureaucrats working at local levels.

7.2 Conclusion

After the promulgation of the new Constitution of Nepal, the political dimension of Nepal has wholly changed from a unitary to federal system. The Constitution has recognized municipality and rural municipality as local governments with legislative, executive, and semi judiciary rights. However, former DDCs have been renamed as District Coordination Committee, and the executive role has completely been curtailed and limited only in coordination function. According to the new act, namely the Local Government Operation Act, 2017 now, local governments are being led by the elected representatives.

Nonetheless, this study is based on the available data of past municipalities and DDCs from FY 2011/12 to 2015/16. The district-level expenditure is assumed proxy of fiscal decentralization and used as an input or predictor variable, and HDI is used as output or dependent variable in the study. Moreover, the score of performance measurement of DDCs and the municipalities is also used as an output or dependent variable. But, understanding the satisfaction level and expectation and perception of the citizen from the service delivery perspective of the local government before and after the local election under the new constitution of Nepal have been conducted through the survey questionnaires.

The study concludes that there was a vast gap in per capita capital and recurrent expenditure from Rs. 170.13 to Rs. 1,513.07 during the study periods incurred by the DDCs. At the same time, the ratio of Own Source Revenue (OSR) of DDCs found significantly different in the study period. For example, in FY 2015/16, the influence of OSR of 47 DDCs (63%) in total revenue is less than 10 percent, but there were only 6 DDCs (8%) having the contribution of OSR more than 30 percent in the total revenue in the same period. The scenario of the municipality seemed a bit different. Of the total 58 municipalities, on average, the influence of OSR to total revenue of municipalities ranged from 22.1 percent to 39.1 percent. The expenditure capacity of the municipality seemed satisfactory. On average, 89.9 percent allocated budget was spent in 2011/12, whereas 99.1 percent budget was spent in FY 2012/13 and 2013/14 by municipalities.

There was the greatest contribution of Province One amongst seven and Hill amongst three ecological regions on HDI. The average district expenditure and per capita income were found to have a significant contribution to HDI, meaning that fiscal decentralization and economic growth have a positive impact on human development. There was a negative association between the human poverty index and the human development index. The conclusion of the findings is that centralization of fiscal authority, and human poverty is the major obstacle to Nepal's human development. The OSR and LGCDP expenditure has a positive relationship with the performance of DDCs. However, LGCDP expenditure was not found significant to explain the performance of DDCs. The contribution of the LGCDP program could not be instrumental in increasing the performance of local government in Nepal. However, the scenario in the municipality was found a little bit different. The per capita LGCDP expenditure of the municipality was not found significant; however, per capita capital expenditure and per capita OSR has a positive contribution to the performance score of municipalities.

The cause of the inefficiency of DDCs and municipalities was due to scale inefficiency, meaning that the size of the operation is not optimal. In other words, the inefficiency DDCs and municipalities were over/under dimensioned. So, it is important that some modifications to its size are required to make inefficient DDCs and municipalities efficient. The application of DEA provides an avenue to assess the relative efficiency of local government in the future. Due to the new constitutional provision, District Coordination Committees have been limited to coordinate district-level program, and they do not have the executive power. Therefore, policy implication related to DDCs has not been recommended here.

7.3 Policy Implications

This study seeks to understand the relationship between fiscal decentralization and service delivery. The HDI has been assumed as a service delivery output at the district level. Moreover, the study pursues the association between fiscal decentralization and the performance of local government in Nepal. The empirical evidence suggests that there are many problems and restrictions at the local government level. Human development index can be increased and enhanced through capital and recurrent expenditure on economic and

social sectors and basic service delivery at the local government level. The study suggests the following areas of policy implications.

a) The regression results suggest that fiscal decentralization does have a positive impact on the human development index at the district level. Therefore, the policy should be in line with the effective implementation of revenue decentralization through the improvement of the service delivery capacity of the local governments.
b) The service delivery performance of municipalities is possible through capital expenditure at the municipal levels. Therefore, to improve the service delivery at the local level, the policy may be designed to increase equalization grants and conditional grants for capital and development expenditure to the local governments.
c) The recurrent expenditure of municipalities has a positive impact on improving service delivery performance. So, the policy may be designed to expand the recurrent budget to improve the institutional capacity of the local governments.
d) The LSGA had provided substantial revenue power to municipalities. But in practice, this authority was not implemented effectively. Therefore, there was a vast gap in revenue collection through own-source revenue. As a result, the regression result also proves that own-source revenue does not enhance service delivery efficiency. Now, the new constitution of Nepal has given more revenue power to local governments. Therefore, policy intervention should improve the local governments' capacity for proper utilization of financial authority and responsibility at the local level.
e) The DEA analysis results prove that there was no equal performance efficiency of sampled 58 municipalities. The cause of inefficiency of municipalities was due to scale inefficiency, meaning that the size of the operation is not optimal. In other words, the inefficiency of municipalities was over/under dimensioned. So, the policy may be designed to implement the measurement of performance indicators and link the performance result with the grant. That can help to increase the level of inefficiency of local governments.
f) The regression results prove that the HDI in Province Two, Karnali Province, and Far western Province found less than other Provinces. Therefore, the policy may be

designed to improve the HDI of Province Two, Karnali, and Sudurpaschim Provinces.

g) There is a high dissatisfaction of citizens about the current tax policy of local governments. Therefore, the tax policy may increase the tax base/coverage and improve the revenue administration rather than tax rate augmentation.

h) For the institutionalization and materialization of the joint investment mechanism in economic and social development sectors, the policy may be designed to implement the public-public and public-private partnership at the local level.

i) Due to the lack of the necessary federal and provincial laws, the local governments have not been adequately coordinated to implement sectoral responsibilities, i.e., primary health and education, agriculture, and livestock. Therefore, the necessary federal and provincial laws need to be promulgated as soon as possible.

j) The study on sectoral service delivery such as education, health, infrastructure development, solid waste management, etc., would be a very important contribution for policymakers for that the disintegrated data of each sector needs to be developed/prepared by each local government.

7.4 Areas of Future Research

The finding of this study suggests that the support of development partners is not significant to enhance the performance of local governments. The future research can focus on how support of development partner can be more effective to enhance local government performance. Similarly, future research can seek the answer to why the local government service delivery system is not effective? Due to the lack of data of individual output produced by the spending of DDCs and municipalities, the study has not been able to compare the relative efficiency of the expenditure on the specific output areas such as length of road construction, drinking water, and sanitation coverage, coverage of electrification, the enrollment rate of primary and secondary education, etc. This study has not been able to verify whether all the DDCs and municipalities had the same standards in terms of revenue and expenditure capacity, qualification, and experience of staff and the other conducive environment. This study has also not analyzed the contribution of I/NGOs, CSOs, COs, and private sectors for effective public service delivery at the local level.

Another area of future research is to utilize more disaggregated data to identify more specific sources of inefficiency in local public services. This study has assumed that all the DDCs and municipalities are relatively homogenous, but typically, all local governments should not be the same all time. The comparison of relative efficiency can be measured by grouping local governments having similar characters and capacity in terms of human and financial capability. A future study about the relative efficiency of service delivery can incorporate variables about social and political dimensions such as citizen participation in the election process, political competition, and population diversity at the local level. Another crucial area for the future study would be the service delivery status of local government regarding the specific sectors such as infrastructure development (road, bridge, and buildings), basic health, education, transportation infrastructure, drinking water, waste management, etc.

ANNEXES

Annex 1: Total District Expenditure (Amount in Rs.), and HDI, HPI, and PCII

SN	Districts	2009/10	2010/11	2011/12	2012/13	2013/14	Average of Five Years	HDI_ 2014	HPI-2014	PCII-2014
1	Taplejung	1214955150	1378278682	1527521323	1407275091	1722754787	1450157007	0.494	0.264	0.43
2	Panchthar	1253956882	1543371240	1871982735	1691894591	1935948593	1659430808	0.498	0.337	0.398
3	Illam	1856591490	1966697686	2270697463	2190578623	2656941402	2188301333	0.526	0.27	0.423
4	Jhapa	3368044198	3692093684	4166670562	3983966264	4982192704	4038593482	0.518	0.218	0.418
5	Shankhuwasabha	1055675128	1277574845	1509220476	1478591259	1991623441	1462537030	0.488	0.336	0.422
6	Terhathum	814713333	941331339	1078966143	992141300	1257225915	1016875606	0.527	0.33	0.43
7	Bhojpur	1215390258	1425177722	1644951919	1539184683	1916160928	1548173102	0.479	0.33	0.384
8	Dhankuta	1961441215	1942333691	2188112620	2032000650	2459614634	2116700562	0.517	0.276	0.423
9	Sunsari	3065435308	3956419640	4551266088	4374367186	5528863789	4295270402	0.496	0.265	0.401
10	Morang	4369022804	4492604581	5623404597	5413965176	6535012674	5286801966	0.513	0.253	0.422
11	Solukhumbhu	1058906851	1130463347	1299585165	1235121137	1873609361	1319537172	0.502	0.325	0.486
12	Khotang	1406584515	1687839001	1924213519	1854266831	2259538015	1826488376	0.494	0.295	0.405
13	Udayapur	1587097115	1830211283	2147872769	2009357561	2536910469	2022289839	0.475	0.297	0.37
14	Okhaldhunga	1394731452	1659061894	1814162122	1672201140	2146817752	1737394872	0.468	0.356	0.377
15	Saptari	2633663693	2720069993	3090750036	2957828714	3577006990	2995863885	0.437	0.383	0.347
16	Siraha	2275632142	2311911023	2723330875	2827808904	3126351682	2653006925	0.408	0.426	0.322
17	Dhanusha	3554259154	3626662523	3728046006	4200445801	4934023404	4008687378	0.431	0.417	0.374
18	Mahottari	2180354938	2466650011	2953331745	2655599929	3199239809	2691035286	0.388	0.448	0.32
19	Sarlahi	2698907752	2569528357	2665760046	2677769569	3243029175	2770998980	0.402	0.439	0.349
20	Sindhuli	1839684500	1929058203	2242481485	2038180004	2554026486	2120686136	0.44	0.38	0.352
21	Ramechhap	1406516017	1508049679	1665261317	1635014006	2175201117	1678008427	0.468	0.364	0.376
22	Dolakha	1537820152	1774639517	2027305389	1967545514	2330075313	1927477177	0.459	0.357	0.371
23	Sindhupalchok	1803544247	1995122231	2310506610	2220207421	2619890074	2189854117	0.455	0.38	0.402
24	Rasuwa	599898654	661110046	822205648	811260589	1022379945	783370976.4	0.461	0.422	0.454
25	Dhading	1721394223	1899332934	2110763801	2050113582	2414032798	2039127468	0.461	0.334	0.381
26	Nuwakot	1907902128	2193840471	2449348890	2294722363	2810205655	2331203901	0.466	0.357	0.398

SN	Districts	2009/10	2010/11	2011/12	2012/13	2013/14	Average of Five Years	HDI_ 2014	HPI-2014	PCII-2014
27	Kathmandu	95922015182	1.13701E+11	1.10815E+11	1.21969E+11	1.46505E+11	1.17782E+11	0.632	0.225	0.554
28	Lalitpur	8663609266	12566396236	8356169664	7880512867	11619059280	9817149463	0.601	0.192	0.491
29	Bhaktapur	1709008373	2001747045	2935833998	3706745583	4475305458	2965728091	0.573	0.194	0.438
30	Kavrepalanchok	2442622291	2692902729	3150636567	2952052574	3376211597	2922885152	0.52	0.273	0.44
31	Makwanpur	3254816699	3475393644	4187162846	4167012100	4788275722	3974532202	0.497	0.284	0.442
32	Rautahat	1894667031	2066427476	2384353806	2408091269	2759582138	2302624344	0.386	0.464	0.338
33	Bara	2530169004	2586011089	2779508892	2695859980	3371096210	2792529035	0.457	0.401	0.45
34	Parsa	2550725754	2845532140	3149199427	2977064469	3668849739	3038274306	0.464	0.364	0.418
35	Chitwan	3167488611	3807278240	4201116109	3905109006	5072304186	4030659230	0.551	0.248	0.456
36	Nawalparasi	2349072471	2568122901	2894709620	2708715413	3340631162	2772250313	0.493	0.28	0.409
37	Rupandehi	3675072538	4121727740	4842110952	4961320597	6203455850	4760737535	0.498	0.262	0.404
38	Kapilvastu	2067116713	2364451993	2618983221	2630040518	3183992848	2572917059	0.432	0.383	0.383
39	Arghakhanchi	1249572881	1372244961	1716720828	1744217027	2166379020	1649826943	0.482	0.274	0.368
40	Palpa	1837164334	2073327183	2490270174	2480087567	3050451546	2386260161	0.5	0.252	0.382
41	Gulmi	1627449594	1713897025	1956311672	1886189706	2342730478	1905315695	0.464	0.274	0.337
42	Syangja	1660926099	1904803941	2148846122	2078654484	2524580532	2063562236	0.527	0.253	0.417
43	Tanahun	2048260260	2239863783	2595463370	2531767205	3241069539	2531284831	0.506	0.298	0.396
44	Gorkha	2035640438	2303093581	2626231133	2627660260	3056599827	2529845048	0.481	0.336	0.391
45	Manang	411878161	444376912	602833352	556912000	517335815	506667248	0.568	0.255	0.577
46	Lamjung	1333277565	1458073240	1604773255	1524873431	1936659368	1571531372	0.507	0.27	0.413
47	Kaski	3678897998	4051036523	4662463467	4680846379	5766374151	4567923704	0.576	0.165	0.417
48	Parbat	1324463544	1554743309	1800721313	1716208757	1889244047	1657076194	0.51	0.246	0.386
49	Baglung	1842512271	2098632884	2387531423	2303495923	2739100458	2274254592	0.478	0.273	0.361
50	Myagdi	966658657	1050850754	1207277985	1133851493	1396230234	1150973825	0.49	0.285	0.389
51	Mustang	486104208	628337533	812020174	705232640	770466810	680432273	0.508	0.312	0.493
52	Mugu	745569112	1007690802	1006242718	917445788	1125483017	960486287.4	0.397	0.452	0.36
53	Dolpa	697633584	980631591	1023515834	930589381	1188806387	964235355.4	0.401	0.446	0.391

SN	Districts	2009/10	2010/11	2011/12	2012/13	2013/14	Average of Five Years	HDI_ 2014	HPI-2014	PCII-2014
54	Humla	757987747	952474087	1025427889	991606666	1336051471	1012709572	0.376	0.493	0.346
55	Jumla	1381623096	1894211870	2042227416	1767558032	2234629719	1864050027	0.409	0.421	0.385
56	Kalikot	1252891381	1414379451	1572303374	1384725790	1725959915	1470051982	0.374	0.452	0.293
57	Rukum	1232392432	1500034976	1855162009	1696806910	2023557067	1661590679	0.431	0.39	0.343
58	Rolpa	1324154104	1556856446	2000241603	1783724124	2201675176	1773330291	0.395	0.386	0.311
59	Pyuthan	1328479107	1409119281	1628984752	1671713850	2050154802	1617690358	0.413	0.339	0.32
60	Dang	3134483389	3568013634	4516347410	4058826421	5647307182	4184995607	0.485	0.349	0.404
61	Salyan	1251639952	1265749331	1648805793	1661320734	2188835755	1603270313	0.441	0.406	0.344
62	Banke	4387160626	4246155769	4664101737	5397435324	6452546376	5029479966	0.475	0.321	0.404
63	Bardia	1640402117	2133130908	2551450075	2547432383	2928972039	2360277504	0.466	0.323	0.398
64	Surkhet	3772246163	3712184461	4427886399	4396499867	5021433508	4266050080	0.476	0.364	0.369
65	Jajarkot	1087751787	1232837363	1473489741	1365080607	2020806238	1435993147	0.393	0.442	0.302
66	Dailekh	1313447077	1470694372	1666215235	1596091946	2195554986	1648400723	0.422	0.414	0.321
67	Kailali	3312277739	3833393788	4667779701	5370783680	6978388390	4832524660	0.46	0.295	0.374
68	Doti	1841687069	2116608959	2465016868	2359123010	2990704521	2354628085	0.407	0.436	0.341
69	Achham	1620109810	1736285615	1913947965	1871333556	2504445685	1929224526	0.378	0.467	0.28
70	Bajura	838061927	1020626542	1106624236	1033635422	1451836271	1090156880	0.364	0.433	0.276
71	Bajhang	1245512199	1416744545	1740765538	1775906399	2080615374	1651908811	0.365	0.453	0.264
72	Darchula	1041066521	1400971095	1882318616	1752547899	2048074842	1624995795	0.436	0.331	0.306
73	Baitadi	1853533182	1957895726	1931444088	1899242645	2325440877	1993511304	0.416	0.396	0.291
74	Dadeldhura	1255532100	1354261807	1404677280	1377424480	1570324752	1392444084	0.442	0.358	0.339
75	Kanchanpur	2429828862	2692291469	3301350503	3304340975	4365076024	3218577567	0.475	0.266	0.374

Notes:

- The amount of repayment is excluded from the Kathmandu district
- The absolute figure of average district expenditure has been transformed into billion in regression analysis.

Source: Consolidated Financial Statement Report of Various Years of Office of Financial General Comptroller Office, Government of Nepal, and UNDP (2014).

Annex 2: Own Source Revenue (OSR) of DDCs (Amount in Rs.)

SN	DDCs	2011/12	2012/13	2013/14	2014/15	2015/16	Average
1	Taplejung	2418000	2178000	4171000	3115000	4065000	3189400
2	Panchthar	11326000	8108000	7804000	8372000	7690000	8660000
3	Illam	19043000	18138000	16283000	7087000	13853000	14880800
4	Jhapa	55400000	37416000	60884000	49508000	85756000	57792800
5	Shankhuwasabha	4739000	5953000	8609000	14443000	4766000	7702000
6	Terhathum	2967000	1739000	3794000	3494000	4765000	3351800
7	Bhojpur	1465000	2224000	6237000	4167000	3580000	3534600
8	Dhankuta	6782000	10172000	12381000	12098000	12685000	10823600
9	Sunsari	26613000	41291000	32505000	32354000	31748000	32902200
10	Morang	74404000	77041000	110990000	101744000	132128000	99261400
11	Solukhumbhu	982000	706000	1365000	776000	693000	904400
12	Khotang	1943000	1051000	2642000	2097000	2383000	2023200
13	Udayapur	14111000	9323000	16244000	1152000	12738000	10713600
14	Okhaldhunga	2726000	724000	938000	10252000	1400000	3208000
15	Saptari	8921000	9323000	26095000	4206000	8439000	11396800
16	Siraha	7800000	31094000	43224000	14636000	11494000	21649600
17	Dhanusha	17652000	11717000	22087000	36537000	23748000	22348200
18	Mahottari	1384000	12949000	10017000	10898000	13147000	9679000
19	Sarlahi	47427000	36672000	16107000	13629000	9592000	24685400
20	Sindhuli	25213000	18084000	25219000	29850000	20968000	23866800
21	Ramechhap	3652000	2208000	2346000	2984000	4497000	3137400
22	Dolakha	8724000	9911000	11531000	12599000	13214000	11195800
23	Sindhupalchok	49871000	46967000	42483000	59567000	101644000	60106400
24	Rasuwa	338000	901000	488000	368000	1000000	619000
25	Dhading	123141000	94492000	80899000	231421000	214396000	148869800
26	Nuwakot	27756000	21369000	33746000	88746000	67658000	47855000
27	Kathmandu	64677000	40909000	69349000	56865000	44630000	55286000
28	Lalitpur	32541000	35265000	38636000	48015000	29414000	36774200
29	Bhaktapur	22912000	32167000	42131000	43985000	28557000	33950400
30	Kavrepalanchok	67482000	49924000	56676000	62498000	99712000	67258400
31	Makwanpur	118443000	12006000	114432000	95623000	98036000	87708000
32	Rautahat	19909000	19973000	23298000	15196000	20191000	19713400
33	Bara	43915000	37397000	50903000	36783000	31966000	40192800
34	Parsa	22013000	10500000	19286000	22147000	23046000	19398400
35	Chitwan	15560000	63748000	21312000	37580000	27495000	33139000
36	Nawalparasi	13379000	46167000	74909000	164408000	31301000	66032800
37	Rupandehi	213739000	149969000	179193000	157961000	182303000	176633000
38	Kapilvastu	95524000	38860000	105387000	112549000	56985000	81861000
39	Arghakhanchi	19602000	12763000	7384000	11978000	7995000	11944400
40	Palpa	12341000	28488000	18419000	15764000	19788000	18960000
41	Gulmi	9368000	5375000	4855000	7093000	6384000	6615000
42	Syangja	6207000	8704000	11845000	17844000	12485000	11417000
43	Tanahun	13969000	26393000	47675000	39604000	39940000	33516200
44	Gorkha	6674000	9509000	10308000	9875000	9179000	9109000
45	Manang	1348000	1437000	1846000	1557000	1936000	1624800
46	Lamjung	5512000	3590000	8102000	3881000	5017000	5220400
47	Kaski	29825000	24031000	82260000	103491000	109917000	69904800
48	Parbat	1833000	9950000	10583000	11159000	10632000	8831400
49	Baglung	3232000	2795000	5413000	5054000	2357000	3770200
50	Myagdi	869000	2331000	2424000	1681000	2789000	2018800
51	Mustang	1479000	3413000	2517000	1960000	3130000	2499800
52	Mugu	153000	2420000	4226000	3270000	1230000	2259800
53	Dolpa	1009000	734000	1407000	1058000	1000000	1041600
54	Humla	361000	1729000	863000	1608000	3038000	1519800
55	Jumla	4782000	2660000	3690000	4583000	1342000	3411400
56	Kalikot	252000	1015000	1826000	1004000	1226000	1064600
57	Rukum	1136000	1684000	711000	1812000	2546000	1577800

SN	DDCs	2011/12	2012/13	2013/14	2014/15	2015/16	Average
58	Rolpa	4675000	5000000	5312000	2386000	3057000	4086000
59	Pyuthan	2382000	6913000	4620000	6861000	5201000	5195400
60	Dang	14470000	8870000	28263000	42904000	36153000	26132000
61	Salyan	4063000	4476000	7444000	9166000	8637000	6757200
62	Banke	34314000	31637000	34194000	54513000	68283000	44588200
63	Bardia	3919000	13636000	12277000	18304000	23054000	14238000
64	Surkhet	8770000	5867000	7863000	5496000	8046000	7208400
65	Jajarkot	2401000	4482000	2404000	2493000	4006000	3157200
66	Dailekh	1410000	1927000	2817000	2972000	2663000	2357800
67	Kailali	34465000	40199000	70550000	49586000	68518000	52663600
68	Doti	1631000	2077000	3598000	5750000	4718000	3554800
69	Achham	2620000	2920000	5526000	3250000	3088000	3480800
70	Bajura	297000	1529000	474000	671000	1424000	879000
71	Bajhang	1269000	1215000	2813000	2496000	2358000	2030200
72	Darchula	5538000	763000	1178000	1561000	680000	1944000
73	Baitadi	3661000	1317000	1755000	2247000	4490000	2694000
74	Dadeldhura	9127000	7913000	6050000	3213000	2064000	5673400
75	Kanchanpur	27277000	29650000	32714000	28576000	39658000	31575000

Source: Various Years' Financial Analysis Report published by LBFC, Government of Nepal.

Annex 3: Capital Budget and Expenditure of DDCs (Amount in Rs.)

SN	DDCs	Capital Budget (Rs.)					Capital_Expendiutre (Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Taplejung	7209000	14195000	19793000	21356000	51288645	6600392	14195000	18945725	17447005	51288645
2	Panchthar	30709000	11394000	21916000	19647000	15323000	22852597	11368868	20849137	19255496	15253376
3	Illam	36137000	17390000	27344000	28057000	14489000	27049142	17390000	27341686	28057000	14488529
4	Jhapa	67986000	34050000	64945000	61243000	7375000	50680176	34049580	63535752	61054003	7375000
5	Shankhuwasabha	23159758	15417000	25926000	20771000	34441429	22772784	15034419	25225761	18200863	21188435
6	Terhathum	14764000	10517000	16570000	12822000	9684000	12111664	10512788	13919756	12073430	8180047
7	Bhojpur	26882000	11501000	23962000	26538000	15436000	20506390	11501000	21527149	26538000	14878703
8	Dhankuta	22896000	11978000	24624000	19494000	11965000	18060101	11978000	23214000	19494000	11965000
9	Sunsari	50544000	34348000	43286000	57212000	27838000	37243312	34348000	43149493	56495169	27838000
10	Morang	80529000	43442000	79055000	79084000	40983000	60996326	42551714	79055000	74443327	40052493
11	Solukhumbhu	19206000	13422000	16848000	9316000	22703830	15089988	13422000	16848000	9075861	16584766
12	Khotang	38346000	17120000	25048000	20875000	14189000	28581654	14461191	22474370	19256308	14189000
13	Udayapur	32484000	16352000	28616000	28811000	18433000	24610668	15321240	27990791	28477924	17736519
14	Okhaldhunga	27329000	13186000	22287000	13482000	24270943	20803082	13186000	22287000	13482000	20767370
15	Saptari	15146000	21060000	36495000	29737000	25181000	14238168	19034906	36495000	29737000	25181000
16	Siraha	7381000	6071000	43553000	30567000	23350000	7381000	6071000	35939519	27797695	23350000
17	Dhanusha	41602036	13706000	51646000	13036000	31219000	12545681	13706000	51646000	13036000	30436790
18	Mahottari	10965000	9985000	33011000	51814000	31212000	10965000	9985000	31416283	51814000	31212000
19	Sarlahi	20461000	10171000	32171000	58543000	35543000	19955811	7936096	30069929	57155306	35543000
20	Sindhuli	35096000	17569000	24789000	26266000	50637479	25859667	16578047	23000888	23025745	24371500
21	Ramechhap	32323000	5812000	25302000	23273000	34545463	24226444	5238867	19522671	20405874	29095111
22	Dolakha	33081000	15301000	21320000	22676000	17232000	24927609	15205255	19368988	22676000	17231144
23	Sindhupalchok	12539000	21865000	29012000	32374000	47417944	12539000	21865000	27407742	31125675	38338261
24	Rasuwa	14551000	8949000	12604000	12024000	38096000	11532910	8934138	12576589	9679993	22522721
25	Dhading	49914000	26079000	23906000	33242000	45983769	37642823	26079000	23906000	28384689	25420136
26	Nuwakot	42847000	22665000	43797000	31441000	64764850	33431122	22665000	41452346	27081333	33600101
27	Kathmandu	53477000	44491000	160258000	92989000	63076887	41588101	40407904	160258000	92989000	36820077
28	Lalitpur	30592204	28159000	39119000	38648000	72940445	26692297	26996046	36932012	27738023	31360432
29	Bhaktapur	29693000	27524000	39222000	32106000	23774000	26271567	27389780	38743042	28799192	22458685
30	Kavrepalanchok	41356000	19087000	37856000	36539227	36114840	30006656	19041168	33413866	32109758	28756068
31	Makwanpur	46936000	25053000	36866000	39055000	26576648	33351269	24558341	35500510	35142335	19416890
32	Rautahat	13757000	22778000	40213000	50233000	27998000	13417787	22778000	31041359	49641108	27615705
33	Bara	17477000	32963000	50025000	41033000	33370000	9074527	29562154	26137043	33135774	27261160
34	Parsa	47988968	38667000	57534000	53673000	34864000	47988635	37736056	56626532	50557011	27722974
35	Chitwan	45857000	8550000	40000000	40602000	19213000	35132876	8550000	39931000	38722089	18121974
36	Nawalparasi	17111000	33327000	55475000	57469000	26065000	15177284	33274892	53672662	54381772	25565000
37	Rupandehi	51118000	39667000	59918000	70222000	31275000	35063715	33439243	50737448	50959146	29411247
38	Kapilvastu	14513000	29315000	42189000	48578000	23303000	11661947	20108562	39926993	43159897	20536466
39	Arghakhanchi	30761000	14691000	19255000	21784000	14344000	23397884	14610538	19142337	20692488	13728286

SN	DDCs	Capital Budget (Rs.)					Capital_Expendiutre (Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
40	Palpa	34974000	16654000	27495000	28162000	17983000	26459964	16654000	27181757	25310912	17514825
41	Gulmi	39897000	18032000	34455000	29630000	31038000	29902188	18032000	34455000	29411264	30858000
42	Syangja	34385000	15434000	33507000	25051000	17620000	25883494	13589827	32204862	25027873	17506484
43	Tanahun	38192000	18016000	39052000	27245000	19105000	28063252	17928172	37837089	26012576	17775444
44	Gorkha	9071000	18016000	34426000	26409000	18656826	8720263	16680574	31538613	21080464	14978163
45	Manang	10335894	7768000	10028000	11637000	7582000	10335894	7717500	9600854	10694367	7582000
46	Lamjung	27240000	14508000	23471000	21901000	12721186	20288234	14156345	23405596	21901000	11027285
47	Kaski	35043000	13510000	43701000	37402000	19731000	28853288	13510000	43701000	35375307	19554283
48	Parbat	22867000	11655000	25755000	19502000	9983000	17757982	11655000	24490621	19502000	9983000
49	Baglung	35949000	16916000	31470000	28254000	17006000	25756940	15169457	30665165	26485196	16035542
50	Myagdi	23968000	12473000	15268000	16200000	10669000	17817755	11123186	14866362	13498427	9960397
51	Mustang	17452000	10587000	14310000	13374000	9461000	14134878	10583381	13833468	13374000	9402910
52	Mugu	16148000	12061000	12482000	8576000	10138000	16148000	12061000	12482000	4250000	9572000
53	Dolpa	22258000	4530000	14983000	15994000	13139000	16108144	4530000	14890774	15994000	13105571
54	Humla	27239000	14658000	18416000	8416000	41034070	20445152	14658000	18416000	8168277	37483356
55	Jumla	24993000	14130000	14500000	14122000	10572000	18994920	14130000	14500000	14122000	10572000
56	Kalikot	25139000	4530000	9905000	14198000	12742000	18139424	4530000	9781939	14048000	11533576
57	Rukum	35136000	17937000	23422000	24325000	15672000	25499462	17920377	23422000	24325000	14921690
58	Rolpa	35948000	17574000	22280000	23683000	15895000	23840941	16794000	22280000	22045465	14914133
59	Pyuthan	34096000	17108000	24919000	23947000	17720000	23343737	15351663	24399814	23096175	16251705
60	Dang	12187000	20580000	46236000	90474000	84521000	10318794	19351076	45525683	87508792	81957659
61	Salyan	37114000	19055000	21270000	22634000	5750000	22946346	17878094	21232919	20991730	5355351
62	Banke	33090000	30107000	47251000	107158000	26964000	26232678	27873460	43070814	100040274	24927103
63	Bardia	31827300	20909000	30089000	110689000	56577038	30772805	17651818	29041060	95224462	55132673
64	Surkhet	36075000	14627000	32388000	128870000	20360000	26956044	14081000	32388000	121663710	20360000
65	Jajarkot	27463000	15683000	17253000	22286000	14569000	20663813	15683000	16719843	20650707	14569000
66	Dailekh	32170000	13406000	24103000	24801000	20975000	23634322	12997494	23690616	24790213	20975000
67	Kailali	62547000	33455000	54517000	51803000	25938000	39015889	29295995	53041339	46938973	25161946
68	Doti	26472000	11981000	22827000	20325000	13863000	19590273	11626479	22522727	19587664	13863000
69	Achham	38662000	5380000	23522000	23156000	9127000	26039893	5380000	23337349	21299525	6128628
70	Bajura	24012000	10650000	18557000	14115000	15170000	18112000	10650000	16019863	12729944	11065564
71	Bajhang	23345000	4810000	23041000	24707000	15781000	16315325	4808350	20832522	22877826	13579279
72	Darchula	19040000	10938000	18008000	14852000	4900000	15571830	10688000	16927392	14460447	4762991
73	Baitadi	34157000	13767000	24073000	22474000	28368000	25780562	13767000	24073000	22474000	28368000
74	Dadeldhura	7567000	10196000	11858000	15146000	13768000	6108758	9519662	10617901	14638762	12586141
75	Kanchanpur	12244000	20910000	38981000	36969000	16463000	10952051	20397327	38527268	36370307	15491676
	Total	**2243027160**	**1340368000**	**2423575000**	**2555119227**	**1888079292**	**1707533354**	**1279494029**	**2302749587**	**2379266928**	**1611678986**

Source: Various Years Reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 4: Recurrent Budget and Expenditure of DDCs (Amount in Rs.)

SN	DDCs	Recurrent Budget					Recurrent Expenditure				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Taplejung	12332000	20523000	26046000	31539000	32351425	18166526	20523000	25005849	27726774	32351425
2	Panchthar	12426000	17940000	22308000	24814000	27769080	16003404	17559493	17807347	20991827	22249338
3	Illam	17180000	21469000	26774000	27115000	32496545	19313828	21469000	26631667	27115000	26767947
4	Jhapa	21383000	28979000	33636000	34242000	35897370	27345119	28979000	33636000	34242000	35897370
5	Shankhuwasabha	13354000	19228000	20537000	21531000	19743715	16965000	19207527	20537000	19424045	19335421
6	Terhathum	13129000	17265000	22009000	21415000	26093730	15067051	17265000	20935769	21412800	24162348
7	Bhojpur	17095000	25737000	28837000	30293000	35167575	22931529	24123680	26588110	30293000	34472925
8	Dhankuta	17331000	21228000	22941000	26163807	26717130	19082481	21223799	22941000	24191545	25950000
9	Sunsari	20651000	27940000	39735000	33631000	36720150	20651000	27940000	39735000	33631000	32073262
10	Morang	21852000	29448000	35711000	35987000	34543713	16875388	29116295	35711000	35983490	34543713
11	Solukhumbhu	11368000	19801000	23361000	28404000	27440690	17387342	19801000	22817668	28381591	26624319
12	Khotang	18784000	33299000	33098000	39935000	42830335	30631046	35957809	33098000	38874368	42830335
13	Udayapur	16756000	20242000	25729000	25982000	31329905	16427805	20042378	23970988	25824344	27480079
14	Okhaldhunga	16179000	28311000	27817000	34991000	35268615	25732000	28311000	27817000	34991000	35268615
15	Saptari	27360000	34656000	41292000	42687000	44674680	32281753	32582872	41292000	42686000	44674680
16	Siraha	25243000	30610000	39643000	41514000	39740270	28362483	30610000	39643000	39598461	39740270
17	Dhanusha	25883000	31170000	40313000	39086000	38806000	27668425	31170000	38009489	39086000	35281756
18	Mahottari	20223000	22655000	34817000	39331000	39463000	20223000	22655000	34817000	39331000	33074000
19	Sarlahi	24288000	36000000	41457000	40352000	48246095	33270962	35553066	39649350	39200743	48246095
20	Sindhuli	17445000	18900000	23032000	31535000	34292045	19514164	18899833	22607275	28562485	33740868
21	Ramechhap	16343000	21470000	27186000	23682000	30737245	16343000	20942106	26498252	23513525	29238744
22	Dolakha	16681000	22697000	27471000	35453000	33817000	20281000	22640015	27469548	35453000	32065649
23	Sindhupalchok	20707000	23209000	38650000	38704000	38841000	29543655	23209000	37108256	37410037	31726064
24	Rasuwa	12059000	14146000	18903000	20296000	23364550	12059000	14139327	18903000	20249522	23065361
25	Dhading	14605000	18460500	27278000	27102000	32338105	14878861	18460500	27278000	27102000	26683760
26	Nuwakot	19582000	24142000	28633000	30926000	35944260	19582000	24142000	27854782	30028685	29319801
27	Kathmandu	20716000	30212000	31067000	34259000	12187000	27788211	30053129	31067000	34259000	12163724
28	Lalitpur	17723000	23189000	27793000	30443000	17432940	20927331	21115450	27741414	29947721	15616001
29	Bhaktapur	14510000	18085000	19195000	15695000	10163000	16149674	18085000	19191713	15555771	9454050
30	Kavrepalanchok	22251000	32003000	37403000	39140000	40519000	30085459	32003000	37403000	39140000	38165134
31	Makwanpur	17170000	23526000	26842000	28618000	28847575	17170000	22264348	26838517	28618000	28594422
32	Rautahat	23028000	32425000	34978000	36862000	40964580	29723765	32413907	34955000	36862000	37321474
33	Bara	23980000	28048000	41323000	40142000	44672215	23905996	26304806	40651919	37435809	33474651
34	Parsa	22646000	30311000	30609000	34542000	35619000	22645824	22758983	29092007	25396425	28933451
35	Chitwan	18755000	21709000	26177000	26899000	24443765	20527353	21709000	26177000	26399000	23512765
36	Nawalparasi	20723000	27245000	34485000	32861000	38633875	20723000	27216233	34230415	32584920	34798080
37	Rupandehi	23137000	31371000	33533000	34868000	32947320	23130612	30835263	33533000	34851260	31076376
38	Kapilvastu	22621000	25027000	30925000	30795000	33225245	22423848	23397736	27490286	28183567	27534713
39	Arghakhanchi	14064000	18601000	23530000	27087000	25203320	16703847	18600320	23370604	20527940	22897435

SN	DDCs	Recurrent Budget					Recurrent Expenditure				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
40	Palpa	18929000	25896000	31782000	34214000	38793035	23416483	25896000	31782000	34214000	34377267
41	Gulmi	18246000	27742000	32062000	31651000	39210380	24280209	27480000	32062000	31651000	39210380
42	Syangja	19014000	24940000	24846000	27385000	29085290	23139800	24940000	24846000	27385000	28652120
43	Tanahun	16863000	21139000	26582000	27669000	29596750	18999768	21128373	26567371	27563417	27216785
44	Gorkha	18757000	24442000	30156000	32751000	36930985	22013362	24429412	29963543	30641093	31153052
45	Manang	11962000	16180000	19394000	20692000	22413575	11176937	15862540	16506827	18052721	22151685
46	Lamjung	15465000	22201000	29954000	30048000	33432270	20047112	22165461	29661151	30048000	30758812
47	Kaski	19761000	24260000	27784000	32886000	28710720	19761000	24260000	27784000	32254305	28710720
48	Parbat	15754000	21561000	27853000	25412000	30083300	19188480	21561000	24737480	24455358	29797082
49	Baglung	18229000	25858000	30658000	34483000	37584865	23810512	25527826	30619100	32615778	34848532
50	Myagdi	14568000	19351000	23253000	19404000	21275900	13742185	19231300	22163615	19155303	18927189
51	Mustang	12115000	15258000	15520000	20306000	24161365	13293631	15099092	15304739	18083148	17543363
52	Mugu	13075000	17929000	22334000	24696000	23208000	13075000	17929000	21640408	23491278	21522562
53	Dolpa	12882000	21939000	20246000	26447000	26465945	19863449	21939000	20246000	24536402	26461850
54	Humla	13439000	20316000	22544000	28269000	28010000	18377283	20316000	22544000	27637247	27980300
55	Jumla	15761000	25546000	24210000	31309000	32449755	15761000	25546000	24210000	31309000	32449755
56	Kalikot	13504000	15388000	26619000	28524000	30441950	18917840	15388000	26220430	27139330	29998749
57	Rukum	15167000	20199000	25819000	32261000	31128070	15166798	20198055	25819000	32014025	30820310
58	Rolpa	14984000	20215000	23837000	28304000	31632625	18095843	20215000	23837000	28273149	30167805
59	Pyuthan	14725000	21730000	24673000	29132000	29837880	19379961	21730000	24632249	27863456	27511968
60	Dang	19642000	22681000	25353000	25901000	26222380	19642000	22391658	25353000	24919124	24424241
61	Salyan	15110000	20369000	26593000	28669000	30937715	18176080	19968604	26062312	26757100	27251304
62	Banke	23002000	25512000	27615000	27494000	28253775	23002000	25512000	27468449	27139178	27969843
63	Bardia	15304000	17471000	22210000	24583000	24293195	15304000	16741651	20743680	24297577	23933421
64	Surkhet	17734000	23508000	29176000	33735000	33663720	17734000	23508000	29176000	33735000	33512108
65	Jajarkot	13262000	19267000	22222000	25966000	28609125	13262000	19267000	22196201	24932699	28609125
66	Dailekh	16297000	23536000	30402000	36745000	36920045	20797000	23536000	30128851	34169814	36920045
67	Kailali	19044000	23423000	27649000	28345000	29790955	21089731	22944383	26244151	28193668	26402681
68	Doti	17321000	19560000	32572000	32073000	35138665	17302060	19269201	32571978	28973000	33772000
69	Achham	18963000	28147000	36429000	39343000	40163790	25728499	28147000	36337219	38495909	38246034
70	Bajura	13517000	17978000	20325000	25941000	26400910	15898698	17978000	19899077	25941000	24947144
71	Bajhang	15368000	26297000	28826000	30630000	34000855	23912371	25319341	27453162	28816998	32862508
72	Darchula	15267000	30785000	28570000	30244000	33378100	28003285	30785000	28398503	29331233	31472170
73	Baitadi	17129000	19577000	38096000	37079000	37210050	32193807	19577000	38096000	32520215	37210050
74	Dadeldhura	12853000	19180000	17860000	22625000	22823345	17011711	19010145	17849755	22624112	20537228
75	Kanchanpur	15947000	18666000	19652000	22706000	20714792	16734700	18666000	19652000	22706000	20714792
	Total	**1310523000**	**1759324500**	**2118750000**	**2276843807**	**2362467140**	**1545791338**	**1736742916**	**2078881479**	**2197001293**	**2209451402**

Source: Various Years Reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 5: LGCDP Budget and Expenditure of DDCs (Amount in Rs.)

SN	DDCs	LGCDP Budget					LGCDP Expenditure				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Taplejung	22495681	20310730	18231000	22626100	28980000	18038429	20149915	17651388	20589305	27450000
2	Panchthar	23433028	17880166	13983000	20654600	22425300	22416931	17572125	12222910	19159322	21062784
3	Illam	21832102	21183780	15265000	32135100	22295000	21387491	21183780	9977000	31950768	20622763
4	Jhapa	37956434	23646540	15482000	22866100	18542600	34400380	23646540	14901884	20802401	17834019
5	Shankhuwasabha	15790046	14535485	10918000	15636600	14305000	8140852	14535485	9859835	13865319	13047837
6	Terhathum	13051206	13596227	10335000	19598100	13462300	9311878	13594358	5899669	18501571	12148225
7	Bhojpur	22422357	28748698	20462000	27374600	27781000	20868700	28622787	19448212	27374600	19769655
8	Dhankuta	17911428	15682249	12459000	16029600	15621000	16867020	15682249	11759000	15978066	14551000
9	Sunsari	30909148	22602223	17023000	20007600	21644000	30909148	22602223	16868448	19630496	21437581
10	Morang	41134235	30334774	20618000	26254600	24680000	38971202	30233225	20618000	24510264	21760083
11	Solukhumbhu	12954240	14566867	10106000	18222100	15649899	10856128	14566867	10039000	16916957	13620519
12	Khotang	17027138	29326290	22968000	40686100	38680000	14567015	29252930	13508730	38459178	35020943
13	Udayapur	25786801	21028563	14330000	27085600	16433000	23851577	20990369	10448467	23815085	15229212
14	Okhaldhunga	22220045	23673648	18830000	49723100	41876000	19419445	23673648	18830000	48964706	36763301
15	Saptari	22856238	32357185	39701000	54045600	42537000	22847345	32357185	27185829	54045600	34582308
16	Siraha	21968928	38969910	35061000	54424600	35105000	19857948	38777908	22688000	51597384	34537000
17	Dhanusha	23150887	39677905	29593000	36115100	40996000	10706748	29250901	29593000	36115100	15581172
18	Mahottari	16137828	22096603	25253000	34859600	35399000	13037828	21974811	25253000	29057510	29039825
19	Sarlahi	20818528	42388579	33567000	55446100	44770000	20114212	41912372	22844883	55446100	39750000
20	Sindhuli	26840552	22946502	17238000	49702100	52791000	23290703	22692447	16878768	45817621	49781639
21	Ramechhap	26970698	22832016	18254000	50159600	47263542	26905511	22699028	17711966	46298576	43789515
22	Dolakha	22408344	22140487	16071000	47482100	49827000	17672801	22140487	15325454	47482100	43831997
23	Sindhupalchok	39106266	32244686	27249000	94236600	72156000	35473474	32184083	24439800	90900750	57169868
24	Rasuwa	8226048	7005253	5478000	28318100	21445000	7074184	7004179	4146867	26348087	18875824
25	Dhading	29303691	21804605	16938000	66627100	38412208	25062164	21704605	15964000	66627100	32309688
26	Nuwakot	24299318	25586496	19403000	84025600	45486000	21940773	25586496	15157248	79710339	38904042

SN	DDCs	LGCDP Budget					LGCDP Expenditure				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
27	Kathmandu	28695760	26797093	17620000	16783600	1476000	19811713	26793343	17620000	16783600	860449
28	Lalitpur	10961028	9749729	14965000	31529600	26822000	10961028	9749384	9717276	28994276	20528871
29	Bhaktapur	9466728	7700176	5412000	6629600	1606000	9465992	7700176	4456874	5747081	729581
30	Kavrepalanchok	36418697	35209306	28239000	75530600	61643000	28620407	31895689	27715614	72341665	52696378
31	Makwanpur	28660307	20973931	13956000	33766600	37005000	25303938	20964731	8960711	31368459	23470934
32	Rautahat	43830629	43339120	31937000	38744100	50891875	43050631	41718284	20496815	34262126	28355403
33	Bara	43494554	42633747	34787000	37453100	38013000	28747948	42633747	33794693	32673025	32373676
34	Parsa	40967220	35371408	26423000	36256600	39795000	21391205	35371408	25124202	34042901	34452308
35	Chitwan	23110861	16764568	12214000	17630100	9358208	22381909	16764568	11905661	15396780	7670231
36	Nawalparasi	33160287	34016769	25698000	29199100	26674720	27281831	33539094	23135059	26945305	24674720
37	Rupandehi	36968736	31026865	23506000	24246600	25830000	36506752	31026865	21723800	22656147	23575917
38	Kapilvastu	29197106	33909610	27641000	28053100	29476000	20858359	33513553	27051600	26127070	26057175
39	Arghakhanchi	21845766	19437674	14856000	17009600	18725490	21404726	19437154	13975600	16291431	17410245
40	Palpa	24345046	27941149	19953000	36633600	30044000	15254106	27539600	18769066	32492999	27827862
41	Gulmi	38070848	33374124	25017000	47057600	34888000	37871070	33370075	23072941	46464847	32567120
42	Syangja	30249028	24514539	19283000	30975600	27277000	21136581	24514539	17646100	30959722	26282469
43	Tanahun	19654834	20950827	15119000	25032600	18274000	19405028	20935700	12489090	23251322	15980470
44	Gorkha	31405492	25837719	20391000	85796100	65230550	25177001	25593908	16158000	69320511	55679285
45	Manang	7077385	5607717	4351000	10052600	7537800	6849548	5115326	3818437	8762793	5438633
46	Lamjung	22513498	25127684	21021000	30509600	25960000	14242355	25087912	20027597	30349574	24290385
47	Kaski	23303557	18140993	13714000	25602600	13909542	22185395	18140908	12912201	23191258	13180792
48	Parbat	24218728	20100016	16932000	25319100	22704000	13681533	20100016	16391271	24011033	22096767
49	Baglung	28247908	24871419	20984000	30248600	27572680	19000183	24604520	19287078	28036243	26070074
50	Myagdi	20798498	18264916	14218000	20149600	22438042	13517982	18182926	12546900	17819812	19602762
51	Mustang	9407938	7649864	5640000	10993600	10546000	7606945	7410957	4411340	9790119	9562942
52	Mugu	14310612	12985608	7645000	11477100	14233933	12100101	12985608	7525875	10959497	12750258
53	Dolpa	14616867	9069038	7262000	10957100	15706000	14197680	8989195	7146896	9493512	14206749
54	Humla	13210777	13515192	8244000	13614600	14500000	12053462	13515192	8244000	12255355	13242964
55	Jumla	16822875	14432588	11044000	12821600	15228000	16672034	14417945	11044000	12818590	14492890

SN	DDCs	LGCDP Budget					LGCDP Expenditure				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
56	Kalikot	11232838	13630463	10544000	15012600	15677000	11232838	13630463	10544000	14848600	14935100
57	Rukum	25292664	20735806	14614000	20216600	21870000	22302896	20469488	14174955	20216600	19875726
58	Rolpa	24302842	23111362	17364000	25042100	25889500	14937551	23047171	17270000	22670492	23321551
59	Pyuthan	22807875	23014848	16298000	19320600	23222000	15834779	22995790	14930122	18752727	20256686
60	Dang	29460042	19525402	14217000	16129100	15944400	28661433	19479861	14033653	15160065	14834907
61	Salyan	15400119	21883459	17182000	23895600	21828000	13381807	21360222	16555000	21262202	19028804
62	Banke	10107528	22172702	16299000	24194100	18759208	9277274	21958176	11068600	23736035	16137401
63	Bardia	21301051	15244845	11452000	14988600	15144708	20849097	15055839	10332831	14329621	13989862
64	Surkhet	28301472	22350418	17731000	22234100	22488875	25558134	22350418	17731000	21403200	21392000
65	Jajarkot	11601801	12743463	10894000	14346100	15644100	6493838	12362296	10054980	13942333	14493399
66	Dailekh	26081328	26683641	18247000	23231100	24717242	25789165	26683641	18247000	23198045	22959815
67	Kailali	36659938	20927424	13266000	22253100	15146000	34048326	20840835	12613069	21111044	14396728
68	Doti	26504112	21706980	14731000	30626100	24911000	16804286	21705044	14731000	29817855	23816000
69	Achham	34402883	32113033	21859000	27356600	32363000	25198675	31937560	21508947	27295469	29108132
70	Bajura	14529719	14418567	8069000	12971600	13738208	14135887	14418567	8069000	12178711	11865075
71	Bajhang	18861968	22347584	13532000	19493600	22465208	18824598	22227130	13077292	18494090	19869733
72	Darchula	14503738	17935354	12783000	18197100	23776000	12615985	17935354	12596000	17313904	20903810
73	Baitadi	28002274	26524503	18029000	26269600	28210000	26256747	26524503	18029000	26148460	28210000
74	Dadeldhura	19742819	35419455	8303000	10870600	11309000	16275301	32238881	8104179	10307900	9419228
75	Kanchanpur	41325635	10176500	12008100	5856000	13791194	13791194	38247112	8147260	11200071	5105043
	Total	**1792465431**	**1709145665**	**1300310100**	**2226920900**	**1988823332**	**1492997140**	**1711671677**	**1158207943**	**2106958780**	**1718518110**

Source: Various years reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 6: Capital Budget and Expenditure of Municipality (Amount in Rs.)

SN	Municipalities	Capital Budget, (Amount Rs.) 26321, 26322 (3658033)					Capital Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	19117000	10801000	12959000	13722000	16310000	18473800	10801000	12959000	12806200	16310000
2	Bhadrapur	15964200	9665000	15577000	22041000	18748000	15964200	9665000	15577000	22041000	18748000
3	Damak	38825000	21533000	34215000	27781000	64081000	30035800	20666000	34215000	27781000	29631000
4	Mechinagar	57772000	31025000	48544000	38000000	81922000	48922800	31025000	48544000	38000000	40922000
5	Khandbari	17198000	14355000	17599000	14811000	17495000	17198000	14355000	17599000	14810997	17495000
6	Dhankuta	23464000	13611000	15646000	17745000	28114000	18781080	13611000	15561000	17745000	20364761
7	Dharan Sub-Metro	98600000	43584000	63877000	57116000	89334000	77648600	43584000	63877000	56989902	65502350
8	Itahari Sub-Metro	42222000	20369000	32816000	33124000	72696000	33246000	20369000	32816000	33124000	72696000
9	Inaruwa	21346000	10563000	13815000	11983000	16700000	16931600	10563000	13812000	11983000	16700000
10	Biratnagar Sub-Metro	208601000	85366000	83010000	96889000	186496000	125887600	85366000	83010000	96889000	104150240
11	Triyuga	70287000	41481000	43833000	35254000	36894000	53357800	41481000	43833000	35254000	36894000
12	Rajbiraj	20321000	12934000	18539000	14178000	14640000	16524000	12934000	18539000	14178000	14640000
13	Lahan	23929000	7682000	18709000	17124000	29946000	20153000	7682000	18709000	17124000	29946000
14	Siraha	21081000	12657000	10075000	12408000	27326000	17035800	12657000	8714000	12408000	22590000
15	Janakpur Sub-Metro	63245000	29809000	46943000	51924000	55867000	49855646	29809000	46943000	51924000	55867000
16	Jaleshwor	17953000	11306000	16396000	17101000	15340000	17953000	5565777	16395000	12101000	15340000
17	Malangawa	7206000	5290000	14941000	11704000	13960000	7206000	5290000	14941000	11704000	13960000
18	Kamalamai	32987400	23213000	15226000	27371000	26145000	32896400	23181657	15226000	27093072	25885861
19	Bhimeshwor	21229200	13473000	8939000	14606000	18266000	21222867	13473000	8939000	9681350	17705600
20	Bidur	26608000	11055000	18894000	16673000	20890000	21616400	11055000	18894000	16673000	20890000
21	Kathmandu Metro	282846000	301215972	653018000	658576819	854028000	282846000	301215972	653018000	655474896	854028000
22	Kirtipur	36647000	19231000	28830000	34546000	35347000	30145400	19231000	28830000	34546000	35331000
23	Lalitpur	126542000	55547000	115390000	85119000	153241000	105077600	55547000	115390000	85119000	92117000
24	Bhaktapur	62571000	24882000	46570000	39752000	57002000	50959000	24882000	46547738	39752000	57002000
25	Madhyapur Thimi	45770000	19921000	33344000	28749000	46507000	35886971	19921000	33342200	23356551	44839594
26	Dhulikhel	22151000	11805000	18994000	15845000	26490000	19925000	11805000	18994000	15845000	26490000
27	Banepa	30613000	16054000	28945000	24802000	27370000	27123200	16054000	28945000	16475063	20478030

SN	Municipalities	Capital Budget, (Amount Rs.) 26321, 26322 (3658033)					Capital Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
28	Panauti	47937000	13990000	20088000	17743000	27510000	25581021	13990000	20088000	17743000	21813690
29	Hetauda Sub-Metro	73132000	31181000	50084000	44586000	78275000	70706200	31181000	50084000	44586000	76076812
30	Gaur	32260000	20270000	29676000	25213000	34690000	28818417	20270000	29676000	25213000	26479112
31	Kalaiya	25683000	14881000	20569000	23425000	20691000	20766600	14881000	20569000	23425000	20691000
32	Birgunj Sub-Metro	145373400	83926000	144967000	115553000	174935000	145373400	83926000	144967000	115553000	174935000
33	Bharatpur Sub-Metro	45235000	45324000	80467000	75137000	94753000	43818010	44807821	80467000	75137000	94753000
34	Ratnanagar	39632000	16737000	25537000	17403000	26611000	30506569	16737000	25537000	17403000	26611000
35	Ramgram	23118000	15411000	17811000	16694000	16500000	18483600	15411000	17811000	16694000	16500000
36	Butwal Sub-Metro	84078000	44093000	74710000	67767000	90680000	70218000	44093000	74649195	67764701	90680000
37	Siddharthanagar	57547000	30905000	47565000	40152000	44032000	48459000	30905000	47565000	40152000	44032000
38	Kapilvastu	26690000	17103000	19941000	14677000	20022000	21078800	17103000	19941000	14677000	20022000
39	Tansen	18012000	10748000	16446000	13210000	18641000	14660400	10748000	16446000	13210000	18641000
40	Waling	22022000	12427000	15593000	14437000	13490000	17332000	12427000	15593000	14437000	13490000
41	Putalibazar	25445000	14317000	17403000	16611000	19724000	19800000	14317000	17403000	16611000	18687778
42	Byas	25313000	14718000	21378000	21443000	23570000	20398600	14718000	21378000	20718494	23570000
43	Gorkha	24120000	11786000	10169000	16282000	22157000	19204800	11733671	10099611	13355987	21341156
44	Pokhara Sub-Metro	47395000	53049000	98477000	100389000	157377000	47395000	53049000	98477000	100389000	157377000
45	Lekhnath	37089000	14712000	26087000	26967000	54637000	26734307	14424646	25543041	22704584	50430146
46	Baglung	21239000	12166000	17947000	15341000	30509000	17189200	12138000	17897000	15324727	30474000
47	Ghorahi	48154000	26835000	38202000	33159000	33109000	37138000	26835000	38110318	33159000	33038492
48	Tulsipur	35190000	23181000	28938000	23977000	38406000	35190000	23181000	28938000	23977000	38406000
49	Nepalgunj Sub-Metro	47003000	23187000	39004000	42328000	48177000	40077000	23187000	39004000	42328000	48177000
50	Gulariya	35279000	34846000	35112000	67102000	50711048	27823242	34846000	32476240	67102000	47733949
51	Birendranagar	32653000	17705000	25564000	120201000	28966000	25692600	17705000	25563334	120200334	28966000
52	Narayan	27206000	13767000	27371000	32894000	29170000	20770854	13767000	27371000	29181680	27061223
53	Tikapur	9683000	23446000	29055000	33642000	26928000	9683000	23446000	29055000	33642000	23947999
54	Dhangadhi	59289000	39502000	52842000	45206000	40840000	47722200	39502000	52840332	45206000	40839998

SN	Municipalities	Capital Budget, (Amount Rs.) 26321, 26322 (3658033)					Capital Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
55	Dipayal Silgadhi	7601000	11591000	16416000	13520000	14330000	7601000	11591000	16416000	13520000	14330000
56	Dasharathchanda	17600000	10054000	12762000	15138000	15409000	14226200	10054000	12762000	15138000	15409000
57	Amargadhi	22438000	12827000	18655000	14935000	19545000	18017667	12827000	18655000	14935000	19545000
58	Bhimdatta	24083000	32836000	46807000	44884000	42913000	24083000	32836000	46807000	44884000	42913000
	Total	**2642595200**	**1625948972**	**2601287000**	**2608960819**	**3408463048**	**2227422251**	**1618426544**	**2596359009**	**2569250538**	**3113495791**

Source: Various Years Reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 7: Recurrent Budget and Expenditure of Municipality (Amount in Rs.)

SN	Municipalities	Recurrent Budget (Amount Rs.) 26311, 26312 (3658033)					Recurrent Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	3682000	3682000	10731000	4410000	5072000	3682000	3682000	10731000	4116000	5072000
2	Bhadrapur	4312000	4312000	5423000	5170000	5946000	4312000	4312000	5423000	5170000	5946000
3	Damak	4472000	4472000	5625000	5360000	6164000	4472000	4470000	5625000	5360000	6164000
4	Mechinagar	11485000	11485000	14446000	13770000	15836000	11485000	11485000	14446000	13770000	15836000
5	Khandbari	4993000	4993000	6281000	5990000	6889000	4993000	4993000	6281000	5989998	6889000
6	Dhankuta	3581000	3581000	4504000	4640202	4934000	3581000	3581000	4504000	4640202	4934000
7	Dharan Sub-Metro	11562000	11562000	14543000	13860000	15939000	11562000	11562000	14543000	13860000	15939000
8	Itahari Sub-Metro	5473000	5473000	6884000	6560000	7544000	5473000	5473000	6884000	6560000	7544000
9	Inaruwa	3510000	3510000	4415000	4210000	4842000	3510000	3510000	4413000	4210000	4842000
10	Biratnagar Sub-Metro	26840000	26840000	33760000	32170000	26200000	25979000	26840000	33760000	32170000	26200000
11	Triyuga	6008000	6008000	7557000	7200000	8280000	6008000	6008000	7557000	7200000	8280000
12	Rajbiraj	3878000	3878000	4891000	4660000	5359000	3878000	3878000	4891000	4660000	5359000
13	Lahan	4850000	4850000	6101000	5810000	6682000	4850000	4850000	6101000	5810000	6682000
14	Siraha	4512000	4512000	5675000	5410000	6222000	4512000	4512000	5675000	5410000	6220000
15	Janakpur Sub-Metro	10476000	10476000	13177000	12560000	14444000	10476000	10476000	13177000	12560000	14444000
16	Jaleshwor	4352000	4352000	5474000	5220000	6003000	3810000	4352000	5474000	5220000	6003000
17	Malangawa	3696000	3696000	4649000	4430000	5094000	3696000	3696000	4649000	4430000	5094000
18	Kamalamai	4790000	4790000	6024000	5740000	6601000	4790000	4790000	6024000	5740000	6601000
19	Bhimeshwor	4000000	4000000	5031000	4790000	5509000	4000000	4000000	5031000	4790000	5509000
20	Bidur	5133000	5133000	6456000	6150000	7073000	5133000	5133000	6456000	6150000	7073000
21	Kathmandu Metro	81889000	131889000	103000000	98070000	112781000	81889000	131889000	103000000	98070000	112781000
22	Kirtipur	6002000	6002000	7550000	7190000	8269000	6002000	6002000	7550000	7190000	8269000
23	Lalitpur	20504000	20504000	25790000	24580000	28267000	20504000	20504000	25790000	24580000	28267000
24	Bhaktapur	9334000	9334000	11740000	11190000	12869000	8885772	9055084	11740000	11190000	12869000
25	Madhyapur Thimi	6111000	6111000	7686000	7320000	8418000	6111000	6111000	7686000	7320000	8418000
26	Dhulikhel	6047000	6047000	7606000	7250000	8338000	6046334	6047000	7606000	7250000	8338000
27	Banepa	8463000	8463000	10645000	10140000	11661000	8463000	8463000	10645000	10140000	11661000

SN	Municipalities	Recurrent Budget (Amount Rs.) 26311, 26312 (3658033)					Recurrent Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
28	Panauti	4668000	4668000	5872000	5600000	6440000	4668000	4668000	5872000	5600000	6440000
29	Hetauda Sub-Metro	10126000	10126000	12736000	12140000	13961000	10126000	10126000	12736000	12140000	13961000
30	Gaur	8693000	8693000	10934000	10420000	11983000	8693000	8693000	10934000	10420000	11983000
31	Kalaiya	4994000	4994000	6281000	5990000	6889000	4994000	4994000	6281000	5990000	6889000
32	Birgunj Sub-Metro	40653000	40653000	51133000	48730000	56040000	40653000	40653000	51133000	48730000	56040000
33	Bharatpur Sub-Metro	14345000	14345000	18043000	17190000	19769000	14345000	14345000	18043000	17190000	19769000
34	Ratnanagar	4216000	4216000	5303000	5050000	5808000	4215627	4216000	5303000	5050000	5808000
35	Ramgram	3990000	3990000	5019000	4780000	5497000	3990000	3990000	5019000	4780000	5497000
36	Butwal Sub-Metro	14947000	14947000	18800000	17920000	20608000	14947000	14947000	18800000	17920000	20608000
37	Siddharthanagar	11119000	11119000	13985000	13330000	15330000	11119000	11119000	13985000	13330000	15330000
38	Kapilvastu	4101000	4101000	5159000	4920000	5658000	4101000	4101000	5159000	4920000	5658000
39	Tansen	3088000	3088000	3884000	3700000	4255000	3088000	3088000	3884000	3700000	4255000
40	Waling	3735000	3735000	4697000	4480000	5152000	3735000	3735000	4697000	4480000	5152000
41	Putalibazar	4227000	4227000	5317000	5070000	5831000	4227000	4227000	5317000	5070000	5827336
42	Byas	3722000	3722000	4682000	4460000	5129000	3722000	3722000	4682000	4460000	5129000
43	Gorkha	3443000	3443000	4331000	4130000	4750000	3432878	3432910	4313331	4097113	4736327
44	Pokhara Sub-Metro	17692000	17692000	22253000	21210000	24392000	17692000	17692000	22253000	21210000	24392000
45	Lekhnath	4296000	4296000	5403000	5150000	5923000	4296000	4296000	5403000	5150000	5923000
46	Baglung	3906000	3906000	4913000	4680000	5382000	3905998	3906000	4913000	4680000	5382000
47	Ghorahi	4777000	4777000	10108000	5730000	6590000	4777000	4777000	10075743	5730000	6526100
48	Tulsipur	5011000	5011000	6302000	6010000	6912000	5011000	5011000	6301333	6010000	6912000
49	Nepalgunj Sub-Metro	9625000	9625000	12106000	11540000	13271000	9625000	9625000	12106000	11540000	13271000
50	Gulariya	5659000	5659000	7118000	6780000	7797000	5659000	5659000	7118000	6780000	7797000
51	Birendranagar	4314000	4314000	5426000	5170000	5946000	4314000	4314000	5426000	5170000	5946000
52	Narayan	4507000	4507000	5669000	5400000	6210000	4360521	4507000	5669000	5400000	6210000
53	Tikapur	4520000	4520000	5685000	5420000	6233000	4520000	4520000	5685000	5420000	6233000
54	Dhangadhi	8322000	8322000	10468000	9980000	11477000	8322000	8322000	10467000	9980000	11475000
55	Dipayal Silgadhi	4758000	4758000	5984000	5700000	6555000	4758000	4758000	5984000	5700000	6555000

SN	Municipalities	Recurrent Budget (Amount Rs.) 26311, 26312 (3658033)					Recurrent Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
56	Dasharathchanda	4013000	4013000	5048000	4810000	5532000	4013000	4013000	5048000	4810000	5532000
57	Amargadhi	4440000	4440000	5585000	5320000	6118000	4440000	4440000	5585000	5320000	6118000
58	Bhimdatta	7388000	7388000	9293000	8890000	10224000	7388000	7388000	9293000	8890000	10224000
	Total	**503250000**	**553250000**	**643201000**	**603550202**	**682898000**	**501241131**	**552958995**	**643147408**	**603223313**	**682812762**

Source: Various Years Reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 8: LGCDP Budget and Expenditure of Municipality (Amount in Rs.)

SN	Name of Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	1561074	1279800	1303000	4959100	10385000	1561074	1279800	1303000	4959100	10273683
3	Bhadrapur	1768774	1446000	1560000	7351600	11111925	1768774	1446000	1560000	7351600	7691925
2	Damak	860174	455000	100000	5514100	21866400	860174	455000	100000	5418800	19712400
4	Mechinagar	844274	455000	275000	4598100	10104000	844274	455000	175000	4598100	7425600
5	Khandbari	3213414	3700600	2866000	9080600	5229000	3213414	3700600	2764906	8439789	4658087
6	Dhankuta	1721374	1506000	1525000	6669100	11295000	1471374	1506000	1435000	5449089	7435694
7	Dharan Sub-Metro	1850174	1379800	1203000	9860600	15836000	1850174	1379800	1203000	7161433	11894726
9	Itahari Sub-Metro	786574	455000	275000	5638100	16683000	786574	455000	275000	5638100	16683000
8	Inaruwa	2361074	2337000	3155000	7052100	5074000	1752100	2337000	2634000	6765407	5041984
10	Biratnagar Sub-Metro	2684274	2004600	2331000	7797600	6035000	2684274	2004600	2251000	4928403	5963046
11	Triyuga	4065714	4235400	3819000	10787600	5297000	4065314	4235400	3752990	10626693	5137000
12	Rajbiraj	2647874	2337000	2845000	7226500	3824000	2647784	2337000	2845000	6820831	2596164
14	Lahan	2640474	2337000	2845000	10457100	10025000	1574000	2337000	2845000	9941501	10025000
13	Siraha	2455174	2970800	1663000	8821000	8081000	2302099	2970800	1563000	8821000	5096000
15	Janakpur Sub-Metro	3214674	2609400	3066000	13804600	14409000	557525	2319900	2902000	13704600	8554898
16	Jaleshwor	3210874	3755600	3223000	9491100	7123000	3110665	3625600	2693000	8569075	5964804
17	Malangawa	2615374	3137000	2452000	8418100	4054208	2615300	3122700	2352000	7818100	3799000
18	Kamalamai	4179514	4586600	3933000	15015600	11431000	3663695	4552225	3820925	14496739	11044840
19	Bhimeshwor	2651974	2397000	2677000	10086100	8034000	1724722	2397000	2544400	8874349	7503400
20	Bidur	1907074	1672200	1824000	8685100	6832000	1271300	1672200	1824000	7580000	4717000
21	Kathmandu Metro	479000	455000	175000	14775100	10094042	293000	455000	175000	8433000	4185442
22	Kirtipur	1700874	1279800	1310000	10143600	9549000	708627	1279800	1310000	10068600	9509989
23	Lalitpur	1124574	455000	175000	12292600	10847000	1124574	455000	175000	11067600	9684913
24	Bhaktapur	944874	-	100000	7442600	-	188974	-	100000	3400000	-
25	Madhyapur Thimi	1701774	1279800	1310000	9567600	7437208	1316329	1279800	1179400	6260727	5588705

S N	Name of Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
26	Dhulikhel	1530074	1579825	1310000	9024100	5200000	1530074	1069800	1310000	6324100	5200000
27	Banepa	735174	455000	275000	6410100	6247000	397683	455000	275000	3101405	4052472
28	Panauti	1937174	1672200	1824000	8911100	6169210	1505104	1662000	1824000	7038322	4900179
29	Hetauda Sub-Metro	1704174	1279800	1310000	13476100	14108000	1544280	1279800	1259323	10476066	9501363
30	Gaur	3220074	3695600	2573000	8576100	4314000	2962286	3688387	2483132	7943556	3726891
31	Kalaiya	3081774	2789400	3366000	8529100	4588000	3081774	2789400	3366000	8042600	4588000
32	Birgunj Sub-Metro	3007274	2723200	3009000	14878600	11765575	3002474	2723200	2981713	14878600	11765575
33	Bharatpur Sub-Metro	1788374	1279800	1185000	8364100	10408000	1576174	1279800	964433	7460089	5871008
34	Ratnanagar	1638274	1219800	1310000	7208100	9399000	1636165	1219800	1310000	7208100	9399000
35	Ramgram	3212474	3695600	3411000	8791100	4039208	3123438	3695600	2971000	8503985	4039208
37	Butwal Sub-Metro	1759274	1314800	1263000	6451600	8790000	1500000	1314800	1263000	4757964	6572734
36	Siddharthanagar	2011074	1612200	1907000	6001100	4129000	2011074	1612200	1907000	4707676	3890396
38	Kapilvastu	3400174	3736800	3233000	10013100	5974000	2932431	3736800	2883000	9102620	5789000
39	Tansen	1608774	1154800	1338000	6741600	8383000	1608774	1154800	1338000	6741600	8383000
41	Waling	1738774	1381000	1620000	6661100	4678700	1738774	1381000	1412000	5753313	4667960
40	Putalibazar	1951114	1547200	1882000	6671100	4378100	1698434	1547200	1732000	6671100	4129480
42	Byas	1760174	1433000	1630000	6180100	6848000	1549340	1433000	1630000	4837430	4640855
43	Gorkha	2312074	2563200	1331000	10703100	8295000	1596955	460000	175000	4976458	5659300
44	Pokhara Sub-Metro	1070074	455000	275000	9535600	11895000	1069774	455000	275000	9535600	7809000
45	Lekhnath	1666174	1279800	1363000	6801600	8067800	1523427	1279800	1203000	3495660	5086770
46	Baglung	1573774	1279800	1363000	5365100	3742208	1417580	1279800	1303000	4719222	3736808
48	Ghorahi	1800974	1446000	1560000	5970100	8194660	1680974	1446000	1457667	4775947	7965862
47	Tulsipur	1470074	1161000	1510000	7195100	8226200	1470000	1161000	1510000	7195100	5978000
49	Nepalgunj Sub-Metro	2453374	2009600	1981000	10987600	11381000	2109362	2009600	1981000	9944907	8547829
50	Gulariya	3451774	3801800	3473000	9104100	5534042	3019058	3801800	3234400	8731600	5049905

SN	Name of Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
51	Birendranagar	1611674	1279800	1303000	8421600	9677000	1373000	1279800	1303000	8421600	9591000
52	Narayan	2445514	2910800	1663000	6709100	3665000	2445514	2910800	1663000	6709100	3118500
54	Tikapur	2495574	2970800	1788000	6944100	3215208	2495574	2970800	1788000	6821730	3005484
53	Dhangadhi	2287074	1778400	2074000	6812100	7158000	1774534	1778400	2074000	6019732	4305800
55	Dipayal Silgadhi	2661374	2337000	3245000	8287100	6173000	2269437	2298311	3195000	7472297	5944733
56	Dasharathchanda	3034574	2729400	3359000	9002100	4737542	2857574	2729400	3359000	8731134	4587542
57	Amargadhi	2291774	2004600	2456000	6645100	5037000	2291774	2004600	2456000	6169588	4469230
58	Bhimdatta	2701474	2170800	2888000	8863600	8639000	2409474	2170800	2888000	8863600	5628083
	Totala	**124602518**	**113274225**	**110088000**	**495770600**	**463713236**	**109158404**	**110136723**	**104557288**	**433324435**	**381788267**

Source: Various years reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 9: LDF Budget and Expenditure of Municipality (Amount in Rs.)

SN	Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	4964000	3362000	14530000	9880000	6310000	4964000	3362000	14530000	9221000	6310000
3	Bhadrapur	7834000	5349000	13320000	19770000	5140000	7834000	5349000	13320000	19770000	5140000
2	Damak	9364000	6118000	13330000	11370000	9710000	9364000	5251000	13330000	11370000	9710000
4	Mechinagar	34978000	23189000	42430000	37610000	24370000	34978000	23189000	42430000	37610000	24370000
5	Khandbari	9222000	6643000	12800000	10770000	5330000	9222000	6643000	12800000	10769997	5330000
6	Dhankuta	7331000	4970000	10110000	10660000	4880000	7330200	4970000	10110000	10660000	4880000
9	Dharan Sub-Metro	36544000	24077000	44140000	36950000	25780000	36544000	24077000	44140000	36845005	25753515
8	Itahari Sub-Metro	13152000	8636000	17610000	16930000	9340000	13152000	8636000	17610000	16930000	9340000
7	Inaruwa	5508000	3717000	8670000	7530000	6700000	5508000	3717000	8667000	7530000	6700000
10	Biratnagar Sub-Metro	93611000	62016000	108770000	90700000	65330000	93609000	62016000	108770000	90700000	65330000
11	Triyuga	16582000	11112000	20540000	17330000	14310000	16582000	11112000	20540000	17330000	14310000
12	Rajbiraj	6868000	4625000	12620000	8820000	4640000	6868000	4625000	12620000	8820000	4640000
13	Lahan	11516000	7599000	15400000	13070000	8100000	11516000	7599000	15400000	13070000	8100000
14	Siraha	7951000	5731000	11440000	9520000	7590000	7951000	5731000	10318000	9520000	7590000
15	Janakpur Sub-Metro	32297000	35052000	39190000	42860000	22660000	32297000	35052000	39190000	42860000	22660000
16	Jaleshwor	8088000	5505000	14010000	15000000	5340000	7546001	3495000	14009000	10000000	5340000
17	Malangawa	5969000	4053000	11200000	7980000	3960000	5969000	4053000	11200000	7980000	3960000
18	Kamalamai	11946000	8033000	15310000	12990000	8090000	11855000	8001657	15310000	12990000	8003000
19	Bhimeshwor	6826000	4886000	9640000	8380000	8010000	6826000	4886000	9640000	6743850	7560000
20	Bidur	10509000	7179000	14360000	14320000	10890000	10509000	7179000	14360000	14320000	10890000
21	Kathmandu Metro	309655000	254940000	351590000	292020000	216510000	309655000	254940000	351590000	292020000	216510000
22	Kirtipur	16686000	11029000	20980000	27670000	11700000	16686000	11029000	20980000	27670000	11700000
23	Lalitpur	71877000	47524000	83600000	69690000	50350000	71877000	47524000	83600000	69690000	50350000
24	Bhaktapur	29104000	19239000	35160000	29460000	20400000	29104000	19239000	35160000	29460000	20400000

SN	Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
25	Madhyapur Thimi	17283000	11404000	24140000	20710000	15160000	17283000	11404000	24138200	20710000	15159000
26	Dhulikhel	16196000	10782000	20460000	17280000	15190000	16196000	10782000	20460000	17280000	15190000
28	Banepa	25169000	16768000	30590000	25700000	17370000	25169000	16768000	15260000	12930000	8120000
27	Panauti	11615000	7660000	15260000	12930000	12180000	11615000	7660000	15260000	12930000	8120000
29	Hetauda Sub-Metro	30364000	20060000	37200000	31230000	21310000	30364000	20060000	37200000	31230000	21310000
30	Gaur	24500000	16281000	30450000	25640000	16990000	24500000	16281000	30450000	25640000	16990000
31	Kalaiya	9390000	6370000	13450000	18580000	9240000	9390000	6370000	13450000	18580000	9240000
32	Birgunj Sub-Metro	143005000	98976000	164630000	137280000	98840000	143005000	98976000	164630000	137280000	98840000
33	Bharatpur Sub-Metro	46890000	30977000	55820000	46670000	32900000	46033682	30460821	55820000	46670000	32900000
34	Ratnanagar	9618000	6504000	12700000	10820000	9440000	9617743.51	6504000	12700000	10820000	9440000
35	Ramgram	7042000	4771000	10410000	10990000	6500000	7042000	4771000	10410000	10990000	6500000
36	Butwal Sub-Metro	48384000	32065000	57540000	48150000	33740000	48384000	32065000	57479195	48147701	33740000
37	Siddharthanagar	33607000	22276000	40890000	34320000	23430000	33607000	22276000	40890000	34320000	23430000
38	Kapilvastu	7535000	5090000	10960000	9450000	5060000	7535000	5090000	10960000	9450000	5060000
39	Tansen	5723000	3870000	8680000	7130000	6830000	5723000	3870000	8680000	7130000	6830000
41	Waling	6009000	4320000	8710000	9610000	3490000	6009000	4320000	8710000	9610000	3490000
40	Putalibazar	7508000	5360000	10420000	9050000	7940000	7508000	5360000	10420000	9050000	7591222
42	Byas	8255000	5400000	11460000	9750000	5900000	8255000	5400000	11460000	9694740	5900000
43	Gorkha	7080000	4770000	9810000	8410000	8780000	7075890	4723609	9767611	8084671	8033150
44	Pokhara Sub-Metro	59504000	39278000	70270000	58680000	46820000	59504000	39278000	70270000	58680000	46820000
45	Lekhnath	10070000	6786000	13400000	11230000	10790000	9725241	6786000	13285611	11230000	10220895
46	Baglung	8242000	5614000	11350000	9550000	8440000	8186998	5614000	11350000	9550000	8440000
47	Ghorahi	12026000	7843000	22040000	15980000	8650000	12026000	7843000	21916060	15980000	8650000
48	Tulsipur	10755000	7258000	16610000	12490000	7230000	10755000	7258000	16609333	12490000	7230000
49	Nepalgunj	28779000	19036000	35240000	29590000	20150000	28779000	19036000	35240000	29590000	20150000

SN	Municipalities	Budget (Amount Rs.)					Expenditure (Amount Rs.)				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
50	Gulariya	13197000	8882000	17360000	16770000	8920000	13197000	8882000	16012645	16770000	7412138
51	Birendranagar	9806000	6651000	14920000	11010000	6520000	9806000	6651000	14920000	11010000	6520000
52	Narayan	8030000	5772000	21030000	29580000	4670000	7885521	5772000	21030000	25867680	4670000
53	Tikapur	9270000	6225000	14910000	21060000	6300000	9270000	6225000	14910000	21060000	6299999
54	Dhangadhi	24608000	16171000	30500000	25610000	17450000	24608000	16171000	30498000	25610000	17449998
55	Dipayal Silgadhi	7426000	5330000	12960000	9580000	4330000	7426000	5330000	12960000	9580000	4330000
56	Dasharathchanda	6740000	4844000	9550000	8320000	3919000	6740000	4844000	9550000	8320000	3919000
57	Amargadhi	8012000	5732000	11000000	9540000	4710000	8012000	5732000	11000000	9540000	4710000
58	Bhimdatta	21550000	14081000	27030000	22730000	15440000	21550000	14081000	27030000	22730000	15440000
	Total	**1471570000**	**1047791000**	**1842500000**	**1606700000**	**1080069000**	**1469529276**	**1044320087**	**1824350656**	**1582434644**	**1063021917**

Source: Various years reports of Financial Comptroller General Office (FCGO), Government of Nepal.

Annex 10: Own Source Revenue of Municipality (Amount in Rs.)

SN	Municipalities	Population 2011	HH_ 2011	Own Source Revenue of Municipalities				
				2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	18633	4732	17615000	17758000	17884530	17730000	24468000
2	Bhadrapur	18164	4288	8585000	18153000	9537137	19822000	31137000
3	Damak	75102	18104	25865000	71420000	51661667	32517000	62531000
4	Mechinagar	57545	13181	21107000	60714000	29861428	26981000	30633000
5	Khandbari	26301	6290	3644000	14668000	5181277	7920000	9918000
6	Dhankuta	26440	7204	7680000	17687000	14596172	12008000	18597000
7	Dharan Sub-Metro	116181	27750	32780000	78368000	46862025	61831000	74706000
8	Itahari Sub-Metro	74501	18270	28219000	50456000	39975612	75695000	78494000
9	Inaruwa	28454	6195	8226000	29761000	26645881	25914000	25134000
10	Biratnagar Sub-Metro	201125	45131	110113000	218500000	184965294	206087000	181661000
11	Triyuga	70000	15926	10261000	30287000	21243418	18123000	15666000
12	Rajbiraj	37738	7743	10705000	19594000	14991223	15780000	4629000
13	Lahan	33653	6479	12505000	19485000	26873600	27427000	20594000
14	Siraha	28442	5400	964000	5982000	4305639	10607000	6687000
15	Janakpur Sub-Metro	97776	19183	18988000	23822000	36566702	73178000	32966000
16	Jaleshwor	23533	4204	2597000	7443000	16314862	18685000	11141000
17	Malangawa	25102	4433	12777000	10617000	14843797	11352000	9073000
18	Kamalamai	39413	9304	5056000	22889000	12686855	9528000	12269000
19	Bhimeshwor	22537	6076	5421000	12075000	12907608	11202000	5951000
20	Bidur	26750	6270	5630000	29569000	17814611	10962000	8394000
21	Kathmandu Metro	975453	254292	697681000	940186000	1312519623	1099879000	1429795000
22	Kirtipur	65602	19441	20935000	50436000	35976612	51263000	64582000
23	Lalitpur	220802	54581	181347000	233615000	224459786	178499000	249505000
24	Bhaktapur	81748	17639	217485000	252142000	263333209	341578000	155192000
25	Madhyapur Thimi	83036	20302	22219000	55036000	69136775	59672000	58552000
26	Dhulikhel	14283	3279	7415000	7472000	9976025	16794000	14002000
27	Banepa	24764	5540	12497000	12209000	13253422	21948000	19793000
28	Panauti	27358	5943	6359000	12497000	12758653	23473000	13181000
29	Hetauda Sub-Metro	84671	19851	101357000	105996000	88007846	121120000	101844000
30	Gaur	34937	5635	5239000	8372000	4770710	9138000	4845000
31	Kalaiya	42826	6847	10048000	12428000	13661777	22520000	9082000
32	Birgunj Sub-Metro	135904	24164	64482000	96517000	127402000	145566000	135514000
33	Bharatpur Sub-Metro	143836	36939	69751000	136788000	107787492	147143000	171968000
34	Ratnanagar	46367	10851	15168000	16382000	15247146	24300000	32727000
35	Ramgram	25990	4972	6060000	13333000	12793126	21997000	15707000

SN	Municipalities	Population 2011	HH_ 2011	Own Source Revenue of Municipalities				
				2011/12	2012/13	2013/14	2014/15	2015/16
36	Butwal Sub-Metro	118462	29662	78261000	59229000	110974747	139762000	145009000
37	Siddharthanagar	63483	12497	37858000	51018000	57059676	105992000	56290000
38	Kapilvastu	30428	5130	6337000	6503000	15394747	18360000	8714000
39	Tansen	29095	8411	13194000	8684000	17629236	25501000	14179000
40	Waling	24006	5952	3472000	8935000	10152766	18994000	8103000
41	Putalibazar	30704	8180	7695000	10510000	8215260	29657000	11835000
42	Byas	42899	11321	18636000	11830000	30607356	38721000	43359000
43	Gorkha	32473	8793	8976000	4449000	15811881	34878000	11815000
44	Pokhara Sub-Metro	255465	68236	132859000	220297000	302553785	310556000	435106000
45	Lekhnath	58816	14937	12232000	8816000	23424391	32159000	41383000
46	Baglung	29360	7848	8972000	10440000	19573933	19938000	13744000
47	Ghorahi	62928	15485	19322000	27056000	38061460	26421000	38838000
48	Tulsipur	51537	12214	19322000	17439000	18686047	43904000	23878000
49	Nepalgunj Sub-Metro	72503	15180	24180000	33903000	39184196	67779000	79675000
50	Gulariya	55747	11220	7445000	12073000	11269101	36200000	13861000
51	Birendranagar	47914	12029	15256000	17110000	16538984	43599000	39907000
52	Narayan	21110	4678	1876000	10722000	7431087	12663000	3422000
53	Tikapur	56127	11630	11462000	37043000	22826902	37208000	27046000
54	Dhangadhi	101970	21030	20194000	58469000	43596606	33684000	68180000
55	Dipayal Silgadhi	23416	5493	1319000	4516000	4827758	23344000	7091000
56	Dasharathchanda	16791	3788	1455000	14225000	2417642	31424000	1575000
57	Amargadhi	21245	4778	4598000	4623000	12964833	12306000	7967000
58	Bhimdatta	104599	20684	18116000	15067000	36544340	43778000	32648000
	Total	**4406045**	**1045615**	**2259818000**	**3365614000**	**3782550274**	**4165067000**	**4274563000**

Source: Various publication of LBFC, Government of Nepal.

Annex 11: Performance Measurement Scores and Scale of DDCs

SN	DDCs	PM Scores (Absolute value)				
		2011/12	2012/13	2013/14	2014/15	2015/16
1	Taplejung	70	72	71	61	65
2	Panchthar	69	64	75	75	85
3	Illam	64	69	53	59	70
4	Jhapa	67	61	52	62	73
5	Shankhuwasabha	64	63	65	64	66
6	Terhathum	84	62	61	57	67
7	Bhojpur	66	66	67	69	66
8	Dhankuta	86	84	80	87	82
9	Sunsari	65	67	54	54	63
10	Morang	64	68	62	66	60
11	Solukhumbhu	72	57	56	64	60
12	Khotang	79	53	66	73	79
13	Udayapur	69	75	47	51	81
14	Okhaldhunga	82	70	76	59	59
15	Saptari	42	51	57	37	26
16	Siraha	49	38	53	52	28
17	Dhanusha	27	41	59	61	72
18	Mahottari	31	44	41	48	26
19	Sarlahi	42	62	42	37	21
20	Sindhuli	69	58	52	49	53
21	Ramechhap	56	72	51	53	68
22	Dolakha	78	83	79	30	49
23	Sindhupalchok	77	84	80	60	83
24	Rasuwa	53	56	46	62	56
25	Dhading	58	54	59	67	63
26	Nuwakot	65	55	58	73	57
27	Kathmandu	62	65	58	64	78
28	Lalitpur	54	69	50	50	53
29	Bhaktapur	84	80	68	64	61
30	Kavrepalanchok	71	81	59	72	83
31	Makwanpur	68	68	66	63	53
32	Rautahat	51	38	50	29	42
33	Bara	48	43	43	33	43
34	Parsa	60	58	44	39	50
35	Chitwan	61	66	70	73	65
36	Nawalparasi	73	75	59	58	76
37	Rupandehi	67	71	49	53	69
38	Kapilvastu	69	70	57	51	60
39	Arghakhanchi	70	76	64	64	77
40	Palpa	81	78	71	65	70
41	Gulmi	70	68	70	74	78
42	Syangja	68	62	63	70	76

SN	DDCs	PM Scores (Absolute value)				
		2011/12	2012/13	2013/14	2014/15	2015/16
43	Tanahun	69	64	74	61	64
44	Gorkha	57	58	52	66	57
45	Manang	65	69	59	48	52
46	Lamjung	71	79	65	49	69
47	Kaski	70	71	67	75	71
48	Parbat	67	71	44	39	69
49	Baglung	67	78	61	56	69
50	Myagdi	66	76	50	52	76
51	Mustang	66	63	41	49	62
52	Mugu	57	48	39	26	48
53	Dolpa	48	57	42	46	32
54	Humla	65	52	47	55	65
55	Jumla	63	60	40	56	54
56	Kalikot	51	49	41	44	62
57	Rukum	72	77	60	74	72
58	Rolpa	57	70	64	53	64
59	Pyuthan	65	69	66	75	88
60	Dang	62	58	62	63	61
61	Salyan	59	61	50	74	55
62	Banke	79	81	69	85	86
63	Bardia	59	70	52	50	60
64	Surkhet	58	63	70	62	74
65	Jajarkot	54	74	42	68	73
66	Dailekh	74	77	77	85	89
67	Kailali	58	54	56	59	57
68	Doti	61	63	35	55	56
69	Achham	61	59	41	47	43
70	Bajura	62	54	31	47	63
71	Bajhang	58	73	47	69	52
72	Darchula	56	48	28	47	33
73	Baitadi	57	58	36	56	47
74	Dadeldhura	52	68	71	65	49
75	Kanchanpur	57	69	68	59	53
	Maximum	86	84	80	87	89
	Minimum	27	38	28	26	21
	Average	63	65	57	58	62

Source: Various years' report on MCPM result of LBFC

Annex 12: Performance Measurement Scores of Municipalities

SN	Municipalities	PM Scores				
		2011/12	2012/13	2013/14	2014/15	2015/16
1	Ilam	89	72	54	44	73
2	Bhadrapur	81	76	63	61	79
3	Damak	83	75	64	68	84
4	Mechinagar	84	62	68	66	80
5	Khandbari	61	57	71	71	64
6	Dhankuta	73	88	91	89	90
7	Dharan	74	80	81	82	78
8	Itahari	77	87	88	86	78
9	Inaruwa	71	65	71	80	86
10	Biratnagar	70	60	63	74	78
11	Triyuga	70	67	63	65	73
12	Rajbiraj	65	49	62	48	36
13	Lahan	53	58	64	65	69
14	Siraha	54	57	21	32	31
15	Janakpur	52	64	35	45	50
16	Jaleshwor	38	47	31	26	25
17	Malangawa	47	53	36	21	36
18	Kamalamai	72	80	83	83	87
19	Bhimeshwor	90	85	76	85	83
20	Bidur	77	54	57	46	47
21	Kathmandu	48	68	74	68	74
22	Kirtipur	73	67	67	59	61
23	Lalitpur	82	49	53	59	66
24	Bhaktapur	89	77	70	69	74
25	Madhyapur Thimi	66	50	69	75	70
26	Dhulikhel	70	63	73	74	78
27	Banepa	80	73	77	79	77
28	Panauti	78	77	67	83	79
29	Hetauda	78	78	86	89	90
30	Gaur	49	61	48	60	46
31	Kalaiya	67	55	57	53	44
32	Birgunj	71	47	57	51	54
33	Bharatpur	79	75	85	84	81
34	Ratnanagar	87	62	67	75	79
35	Ramgram	87	78	81	80	86
36	Butwal	91	88	91	90	91
37	Siddharthanagar	80	82	84	81	80
38	Kapilvastu	83	69	72	62	66
39	Tansen	80	70	72	73	78
40	Waling	89	71	71	75	83
41	Putalibazar	67	71	70	60	77
42	Byas	68	76	74	73	81

SN	Municipalities	PM Scores				
		2011/12	2012/13	2013/14	2014/15	2015/16
43	Gorkha	70	68	67	59	61
44	Pokhara	70	86	82	83	84
45	Lekhnath	70	79	61	59	62
46	Baglung	88	76	71	73	68
47	Ghorahi	87	86	89	88	91
48	Tulsipur	71	65	67	70	79
49	Nepalgunj	66	53	43	66	63
50	Gulariya	90	72	68	71	64
51	Birendranagar	75	78	56	81	81
52	Narayan	77	53	79	79	78
53	Tikapur	78	72	74	75	76
54	Dhangadhi	75	72	66	76	75
55	Dipayal Silgadhi	57	68	50	57	68
56	Dasharathchanda	65	51	45	43	56
57	Amargadhi	69	60	51	46	56
58	Bhimdatta	64	68	61	66	61
	Maximum	**91**	**88**	**91**	**90**	**91**
	Minimum	**38**	**47**	**21**	**21**	**25**
	Average	**73**	**68**	**66**	**67**	**70**

Source: Various years' report on MCPM result of LBFC

Annex 13: Relative Efficiency Score under the VRS Model of DDCs

SN	DDCs	2011/12	2012/13	2013/14	2014/15	2015/16	Average
1	Taplejung	89.97	85.71	88.75	70.35	73.49	81.654
2	Panchthar	84.86	79.86	100	94.48	96.77	91.194
3	Illam	79.69	85.26	75.03	75.41	82.93	79.664
4	Jhapa	89.89	99.4	84.35	96.52	100	94.032
5	Shankhuwasabha	77.03	75.13	82.92	77.17	74.68	77.386
6	Terhathum	100	73.81	80.21	66.55	76	79.314
7	Bhojpur	78.67	81.28	83.75	79.65	74.5	79.57
8	Dhankuta	100	100	100	100	93.66	98.732
9	Sunsari	87.79	95.12	87.12	76.79	75.86	84.536
10	Morang	100	100	100	100	78.19	95.638
11	Solukhumbhu	84.75	67.86	70	79.92	67.42	73.99
12	Khotang	95.09	64.16	85.9	88.59	90.29	84.806
13	Udayapur	86.35	93.4	64.72	63.77	92.88	80.224
14	Okhaldhunga	95.35	83.33	95	73.37	66.31	82.672
15	Saptari	60.67	73.89	100	55.57	32.01	64.428
16	Siraha	100	88.23	92.96	78.78	34.59	78.912
17	Dhanusha	74.88	67.58	98.37	100	89.87	86.14
18	Mahottari	71.65	89.87	78.81	68.78	31.58	68.138
19	Sarlahi	73.8	100	100	56.6	25.36	71.152
20	Sindhuli	86.42	72.01	74.3	63.61	61.23	71.514
21	Ramechhap	69.09	100	63.75	65.82	76.67	75.066
22	Dolakha	92.11	98.81	98.75	35.9	56.32	76.378
23	Sindhupalchok	100	100	100	75.46	100	95.092
24	Rasuwa	61.63	66.67	57.5	71.26	63.19	64.05
25	Dhading	93.9	100	100	100	100	98.78
26	Nuwakot	81.21	65.87	76.78	95.56	71.75	78.234
27	Kathmandu	89.34	93.2	93.55	100	100	95.218
28	Lalitpur	69.33	100	69.59	65.03	62.08	73.206
29	Bhaktapur	100	100	99.02	100	100	99.804
30	Kavrepalanchok	93.55	100	79.26	90.31	100	92.624
31	Makwanpur	100	83.44	100	92.01	75.43	90.176
32	Rautahat	76.37	54.35	100	43.68	52.28	65.336
33	Bara	100	62.56	100	53.79	54	74.07
34	Parsa	78.06	75.65	63.61	56.25	58.69	66.452
35	Chitwan	77.75	100	100	100	81.45	91.84
36	Nawalparasi	100	100	95.48	100	94.6	98.016
37	Rupandehi	100	100	100	100	100	100
38	Kapilvastu	100	100	100	93.37	78.75	94.424
39	Arghakhanchi	86.11	91.42	83.3	81.3	87.83	85.992
40	Palpa	98.35	93.98	89.4	77.5	80.09	87.864
41	Gulmi	85.83	83.36	89.77	92.17	88.05	87.836
42	Syangja	82.38	77.37	82.08	86.7	86.44	82.994
43	Tanahun	86.26	79.26	100	81.27	74.24	84.206

SN	DDCs	2011/12	2012/13	2013/14	2014/15	2015/16	Average
44	Gorkha	75.47	70.07	67.21	81.96	65.9	72.122
45	Manang	82.75	88.75	82.76	60.66	66.63	76.31
46	Lamjung	84.91	94.05	81.25	56.7	79.31	79.244
47	Kaski	85.21	84.73	100	100	100	93.988
48	Parbat	79.68	84.52	55	46.1	78.98	68.856
49	Baglung	81.09	95.83	76.95	66.06	79.01	79.788
50	Myagdi	78.09	90.48	62.5	60.59	85.6	75.452
51	Mustang	77.93	85.93	56.16	58.69	73.67	70.476
52	Mugu	66.28	57.14	50.24	35.02	54.34	52.604
53	Dolpa	55.86	67.86	52.5	52.87	36.43	53.104
54	Humla	75.58	61.9	58.75	63.22	74.2	66.73
55	Jumla	73.63	71.43	50	65.13	60.82	64.202
56	Kalikot	60.99	66.06	63.08	51.82	69.83	62.356
57	Rukum	89.55	92.44	77.58	86.75	81.82	85.628
58	Rolpa	70.25	83.78	83.51	64.49	73.42	75.09
59	Pyuthan	79.86	84.08	86.18	91.89	100	88.402
60	Dang	86.51	81.4	93.06	90.9	72.55	84.884
61	Salyan	73.23	73.72	68.56	95.18	72.45	76.628
62	Banke	100	100	100	100	100	100
63	Bardia	78.48	100	88.28	68.58	70.16	81.1
64	Surkhet	73.11	82.47	93.08	72.54	84.69	81.178
65	Jajarkot	66.97	90.24	56.47	82.05	82.56	75.658
66	Dailekh	90.74	97.53	98.41	100	100	97.336
67	Kailali	80.17	93.47	100	97.66	75.93	89.446
68	Doti	74.27	77.59	44.24	65.15	63.62	64.974
69	Achham	73.83	84.46	53.33	59.33	56.25	65.44
70	Bajura	73.64	64.52	40.74	57.13	71.18	61.442
71	Bajhang	71.6	100	61.13	81.05	59.32	74.62
72	Darchula	66.87	57.14	35	55.1	41.44	51.11
73	Baitadi	68.18	72.83	45.8	67.49	53.13	61.486
74	Dadeldhura	66.92	80.95	96.89	77.57	55.62	75.59
75	Kanchanpur	78.34	89.46	100	87.67	83.52	87.798
	Mean	82.37	84.36	80.84	76.30	74.42	79.66
	Maximum	100.00	100.00	100.00	100.00	100.00	100
	Minimum	55.86	54.35	35.00	35.02	25.36	51.11
	No. of Efficient DDCs	12	16	18	12	11	2
	Efficient DDCs (%)	16	21	24	16	15	3

Source: Researcher's calculation

Annex 14: Malmquist Index (MI) of DDCs

SN	DDCs	2011/12 to 2012/13	2012/13 to 2013/14	2013/14 to 2014/15	2014/15 to 2015/16	Average
1	Taplejung	0.72	0.84	0.86	0.63	0.76
2	Panchthar	1.06	1.04	0.86	1.16	1.03
3	Illam	1.09	0.99	0.78	1.53	1.10
4	Jhapa	1.07	0.92	1.06	1.52	1.14
5	Shankhuwasabha	0.68	1.10	1.01	0.96	0.94
6	Terhathum	0.58	1.40	0.62	1.47	1.02
7	Bhojpur	1.06	0.75	0.82	1.20	0.96
8	Dhankuta	1.11	0.82	1.04	1.11	1.02
9	Sunsari	1.01	0.94	0.84	1.52	1.08
10	Morang	0.98	1.00	1.00	1.14	1.03
11	Solukhumbhu	0.65	1.06	1.36	0.89	0.99
12	Khotang	0.48	1.38	0.84	1.11	0.95
13	Udayapur	1.07	0.74	0.81	2.08	1.18
14	Okhaldhunga	0.83	0.87	0.85	0.91	0.87
15	Saptari	0.92	0.98	0.66	0.75	0.83
16	Siraha	0.94	0.87	0.96	0.56	0.83
17	Dhanusha	0.73	1.03	1.06	0.98	0.95
18	Mahottari	1.06	0.70	0.90	0.71	0.84
19	Sarlahi	1.19	0.89	0.60	0.60	0.82
20	Sindhuli	0.92	0.81	0.83	0.89	0.86
21	Ramechhap	1.89	0.56	0.97	0.99	1.10
22	Dolakha	0.99	0.93	0.27	1.77	0.99
23	Sindhupalchok	1.00	0.84	0.69	1.55	1.02
24	Rasuwa	1.13	1.08	0.81	0.66	0.92
25	Dhading	0.86	1.02	1.07	1.00	0.99
26	Nuwakot	0.74	1.10	1.52	0.76	1.03
27	Kathmandu	0.90	1.00	1.01	1.05	0.99
28	Lalitpur	1.35	0.68	0.80	1.39	1.06
29	Bhaktapur	1.33	1.27	0.82	1.42	1.21
30	Kavrepalanchok	1.12	0.65	1.15	1.30	1.06
31	Makwanpur	0.71	1.24	0.74	1.35	1.01
32	Rautahat	0.57	1.38	0.44	1.84	1.06
33	Bara	0.55	0.91	0.72	1.41	0.90
34	Parsa	0.81	0.63	1.01	1.46	0.98
35	Chitwan	1.56	0.98	0.97	1.24	1.19
36	Nawalparasi	0.93	0.93	1.11	0.97	0.99
37	Rupandehi	1.00	1.00	1.00	1.00	1.00
38	Kapilvastu	0.89	0.95	0.93	1.00	0.94
39	Arghakhanchi	1.12	0.79	0.94	1.31	1.04
40	Palpa	0.72	0.78	0.81	1.22	0.88
41	Gulmi	1.00	0.81	1.07	0.90	0.95
42	Syangja	0.95	0.79	1.08	1.16	1.00
43	Tanahun	0.92	1.16	0.79	1.34	1.05
44	Gorkha	0.76	0.80	1.29	0.92	0.94
45	Manang	1.42	1.10	0.61	1.84	1.24

SN	DDCs	2011/12 to 2012/13	2012/13 to 2013/14	2013/14 to 2014/15	2014/15 to 2015/16	Average
46	Lamjung	0.86	0.62	0.71	1.71	0.98
47	Kaski	1.16	1.11	1.06	1.79	1.28
48	Parbat	0.90	0.45	0.93	1.86	1.04
49	Baglung	1.09	0.64	0.85	1.42	1.00
50	Myagdi	0.98	0.62	1.00	1.59	1.05
51	Mustang	1.22	0.85	0.80	1.60	1.12
52	Mugu	0.79	1.12	1.28	0.95	1.04
53	Dolpa	2.32	0.46	0.90	0.62	1.08
54	Humla	0.76	1.14	1.56	0.65	1.03
55	Jumla	1.01	0.74	1.35	0.96	1.02
56	Kalikot	1.33	0.68	0.75	1.43	1.05
57	Rukum	0.95	0.78	1.04	1.15	0.98
58	Rolpa	0.99	0.83	0.74	1.32	0.97
59	Pyuthan	0.90	0.88	1.05	1.29	1.03
60	Dang	0.80	1.05	0.93	0.95	0.93
61	Salyan	0.79	0.79	1.36	1.19	1.03
62	Banke	0.85	1.06	0.95	1.31	1.04
63	Bardia	1.29	0.93	0.63	1.29	1.04
64	Surkhet	1.08	0.91	0.57	2.41	1.24
65	Jajarkot	0.82	0.63	1.24	1.14	0.96
66	Dailekh	1.11	0.89	0.99	1.08	1.02
67	Kailali	1.07	1.03	0.99	1.22	1.08
68	Doti	0.99	0.42	1.41	1.09	0.98
69	Achham	1.71	0.50	1.11	1.56	1.22
70	Bajura	0.92	0.65	1.43	1.43	1.11
71	Bajhang	1.99	0.56	1.21	0.82	1.15
72	Darchula	0.72	0.52	1.65	1.06	0.99
73	Baitadi	1.40	0.47	1.42	0.72	1.00
74	Dadeldhura	0.96	1.38	0.69	0.84	0.97
75	Kanchanpur	0.83	1.15	0.82	1.68	1.12
	Mean	1.01	0.88	0.96	1.21	1.02
	Maximum	2.32	1.40	1.65	2.41	1.28
	Minimum	0.48	0.42	0.27	0.56	0.76
	No. of DDCs having MI >1	30	22	28	48	41
	Percent of DDCs having MI>1	40	29	37	64	55

Source: Researcher's calculation

Annex 15: Efficiency Change from FY 2014/15 to 2015/16 of DDCs

SN	DDCs	2014/15 to 2015/16			
		Technical Change	Pure Efficiency Change	Scale Efficiency Change	MPI
1	Taplejung	1.02	1.04	0.59	0.63
2	Panchthar	1.07	1.02	1.06	1.16
3	Illam	1.15	1.1	1.2	1.53
4	Jhapa	1.14	1.04	1.29	1.52
5	Shankhuwasabha	1.04	0.97	0.96	0.96
6	Terhathum	1.08	1.14	1.19	1.47
7	Bhojpur	1.07	0.94	1.2	1.2
8	Dhankuta	1.04	0.94	1.14	1.11
9	Sunsari	1.26	0.99	1.22	1.52
10	Morang	1.25	0.78	1.17	1.14
11	Solukhumbhu	1.07	0.84	0.99	0.89
12	Khotang	1.09	1.02	0.99	1.11
13	Udayapur	1.08	1.46	1.32	2.08
14	Okhaldhunga	1.06	0.9	0.95	0.91
15	Saptari	1.24	0.58	1.04	0.75
16	Siraha	1.25	0.44	1.03	0.56
17	Dhanusha	1.17	0.9	0.93	0.98
18	Mahottari	1.26	0.46	1.22	0.71
19	Sarlahi	1.27	0.45	1.05	0.6
20	Sindhuli	1.09	0.96	0.84	0.89
21	Ramechhap	1.06	1.16	0.8	0.99
22	Dolakha	1.04	1.57	1.09	1.77
23	Sindhupalchok	1.03	1.33	1.14	1.55
24	Rasuwa	1.02	0.89	0.73	0.66
25	Dhading	1	1	1	1
26	Nuwakot	1.03	0.75	0.98	0.76
27	Kathmandu	1.05	1	1	1.05
28	Lalitpur	1.11	0.95	1.3	1.39
29	Bhaktapur	1.06	1	1.34	1.42
30	Kavrepalanchok	1.03	1.11	1.14	1.3
31	Makwanpur	1.22	0.82	1.35	1.35
32	Rautahat	1.33	1.2	1.16	1.84
33	Bara	1.35	1	1.04	1.41
34	Parsa	1.25	1.04	1.12	1.46
35	Chitwan	1.2	0.81	1.26	1.24
36	Nawalparasi	1.13	0.95	0.91	0.97
37	Rupandehi	1	1	1	1
38	Kapilvastu	1.26	0.84	0.94	1
39	Arghakhanchi	1.12	1.08	1.08	1.31
40	Palpa	1.1	1.03	1.08	1.22
41	Gulmi	1.07	0.96	0.88	0.9
42	Syangja	1.12	1	1.04	1.16
43	Tanahun	1.22	0.91	1.2	1.34
44	Gorkha	1.14	0.8	1.01	0.92
45	Manang	1.01	1.1	1.66	1.84

SN	DDCs	2014/15 to 2015/16			
		Technical Change	Pure Efficiency Change	Scale Efficiency Change	MPI
46	Lamjung	1.1	1.4	1.12	1.71
47	Kaski	1	1	1.79	1.79
48	Parbat	1.1	1.71	0.99	1.86
49	Baglung	1.1	1.2	1.08	1.42
50	Myagdi	1.07	1.41	1.05	1.59
51	Mustang	1.02	1.26	1.25	1.6
52	Mugu	1.08	1.55	0.57	0.95
53	Dolpa	1.01	0.69	0.89	0.62
54	Humla	1.01	1.17	0.55	0.65
55	Jumla	1.04	0.93	0.99	0.96
56	Kalikot	1.08	1.35	0.98	1.43
57	Rukum	1.1	0.94	1.11	1.15
58	Rolpa	1.12	1.14	1.03	1.32
59	Pyuthan	1.04	1.09	1.14	1.29
60	Dang	1.21	0.8	0.98	0.95
61	Salyan	1.18	0.76	1.33	1.19
62	Banke	1	1	1.31	1.31
63	Bardia	1.18	1.02	1.07	1.29
64	Surkhet	1.1	1.17	1.88	2.41
65	Jajarkot	1.09	1.01	1.04	1.14
66	Dailekh	1.02	1	1.06	1.08
67	Kailali	1.34	0.78	1.18	1.22
68	Doti	1.09	0.98	1.02	1.09
69	Achham	1.17	0.95	1.41	1.56
70	Bajura	1.1	1.25	1.05	1.43
71	Bajhang	1.1	0.73	1.02	0.82
72	Darchula	1.12	0.75	1.26	1.06
73	Baitadi	1.05	0.79	0.88	0.72
74	Dadeldhura	1.07	0.72	1.1	0.84
75	Kanchanpur	1.23	0.95	1.44	1.68
	Mean	1.11	1.00	1.10	1.21
	Maximum	1.35	1.71	1.88	2.41
	Minimum	1.00	0.44	0.55	0.56
	No. of DDCs >1	71.00	30.00	51.00	48.00
	Equal to 1	4.00	9.00	3.00	3.00
	Less than 1	0.00	36.00	21.00	24.00

Source: Researcher's calculation

Annex 16: Target of PM Scores and OSR of DDCs for 2015/16

SN	DDCs	PM Score Value	PM Score Target	PM Score Gain (%)	OSR Value	ORS Target	OSR Gain (%)
1	Taplejung	65	88.44	36.07	153	208.18	36.07
2	Panchthar	85	87.83	3.33	187	193.23	3.33
3	Illam	70	84.41	20.58	232	823.47	254.94
4	Jhapa	73	73	0	576	576	0
5	Shankhuwasabha	66	88.38	33.91	168	224.97	33.91
6	Terhathum	67	88.16	31.58	216	284.21	31.58
7	Bhojpur	66	88.59	34.23	91	122.15	34.23
8	Dhankuta	82	87.55	6.77	417	445.23	6.77
9	Sunsari	63	83.04	31.82	288	744.59	158.54
10	Morang	60	76.74	27.9	782	1000.16	27.9
11	Solukhumbhu	60	89	48.33	29	60	106.9
12	Khotang	79	87.5	10.76	56	296.25	429.02
13	Udayapur	81	87.21	7.67	252	536	112.7
14	Okhaldhunga	59	88.98	50.82	43	64.85	50.82
15	Saptari	26	81.22	212.4	74	754.41	919.47
16	Siraha	28	80.96	189.14	108	748.65	593.2
17	Dhanusha	72	80.12	11.27	199	602.08	202.55
18	Mahottari	26	82.34	216.67	123	687.27	458.76
19	Sarlahi	21	82.82	294.36	75	788.94	951.92
20	Sindhuli	53	86.56	63.32	434	708.82	63.32
21	Ramechhap	68	88.69	30.43	102	133.04	30.43
22	Dolakha	49	87	77.54	334	592.99	77.54
23	Sindhupalchok	83	83	0	1524	1524	0
24	Rasuwa	56	88.62	58.25	102	161.41	58.25
25	Dhading	63	63	0	2903	2903	0
26	Nuwakot	57	79.45	39.38	1278	1781.26	39.38
27	Kathmandu	78	78	0	274	274	0
28	Lalitpur	53	85.37	61.07	533	858.51	61.07
29	Bhaktapur	61	61	0	930	930	0
30	Kavrepalanchok	83	83	0	1512	1512	0
31	Makwanpur	53	70.27	32.58	1479	1960.88	32.58
32	Rautahat	42	80.34	91.29	200	683.06	241.53
33	Bara	43	79.63	85.19	314	625.74	99.28
34	Parsa	50	85.2	70.4	323	799.6	147.55
35	Chitwan	65	79.81	22.78	325	545.56	67.86
36	Nawalparasi	76	80.34	5.71	253	683.06	169.98
37	Rupandehi	69	69	0	1497	1497	0
38	Kapilvastu	60	76.19	26.98	661	839.36	26.98
39	Arghakhanchi	77	87.67	13.85	171	233.83	36.74
40	Palpa	70	87.4	24.86	389	485.69	24.86
41	Gulmi	78	88.59	13.57	98	111.3	13.57
42	Syangja	76	87.92	15.69	228	263.77	15.69
43	Tanahun	64	86.21	34.7	596	802.81	34.7
44	Gorkha	57	86.5	51.75	159	670.75	321.86
45	Manang	52	78.04	50.08	1308	1963	50.08

SN	DDCs	PM Score Value	PM Score Target	PM Score Gain (%)	OSR Value	ORS Target	OSR Gain (%)
46	Lamjung	69	87	26.09	119	483.5	306.3
47	Kaski	71	71	0	2586	2586	0
48	Parbat	69	87.36	26.61	298	377.31	26.61
49	Baglung	69	87.33	26.57	44	358.67	715.15
50	Myagdi	76	88.79	16.82	100	116.82	16.82
51	Mustang	62	84.16	35.74	933	1266.47	35.74
52	Mugu	48	88.34	84.04	128	235.57	84.04
53	Dolpa	32	87.84	174.51	134	367.84	174.51
54	Humla	65	87.6	34.78	320	431.28	34.78
55	Jumla	54	88.79	64.43	70	115.1	64.43
56	Kalikot	62	88.79	43.21	53	75.9	43.21
57	Rukum	72	88	22.22	61	109	78.69
58	Rolpa	64	87.17	36.2	70	421.08	501.55
59	Pyuthan	88	88	0	109	109	0
60	Dang	61	84.08	37.84	408	717.84	75.94
61	Salyan	55	75.92	38.03	186	639.31	243.71
62	Banke	86	86	0	858	858	0
63	Bardia	60	85.52	42.53	320	822.96	157.17
64	Surkhet	74	87.38	18.08	132	368.19	178.93
65	Jajarkot	73	88.42	21.12	131	214	63.36
66	Dailekh	89	89	0	60	60	0
67	Kailali	57	75.07	31.7	624	821.82	31.7
68	Doti	56	88.02	57.18	131	205.9	57.18
69	Achham	43	76.45	77.79	64	650.82	916.9
70	Bajura	63	88.51	40.5	57	166.92	192.85
71	Bajhang	52	87.67	68.59	70	233.83	234.05
72	Darchula	33	79.63	141.31	28	719.88	2470.99
73	Baitadi	47	88.46	88.22	108	203.27	88.22
74	Dadeldhura	49	88.11	79.81	93	298	220.43
75	Kanchanpur	53	63.46	19.73	645	772.24	19.73

Note: PM=Performance Measurement; OSR=Own Source Revenue
Source: Researcher's calculation

Annex 17: Relative Efficiency Score under the VRS Model of Municipalities

SN	Municipalities	2011/12	2012/13	2013/14	2014/15	2015/16	Average
1	Ilam	99.33	83.76	62.33	50.56	85.03	76.202
2	Bhadrapur	89.01	88.54	69.23	69.22	98.48	82.896
3	Damak	100	100	100	100	100	100
4	Mechinagar	92.31	73.64	78.74	73.33	87.91	81.186
5	Khandbari	67.28	65.54	78.02	79.06	70.33	72.046
6	Dhankuta	80.93	100	100	98.93	98.9	95.752
7	Dharan Sub-Metro	83.38	92.04	90.53	93.8	86.94	89.338
8	Itahari Sub-Metro	91.2	100	100	100	100	98.24
9	Inaruwa	81.69	80.44	84.19	94.61	97.16	87.618
10	Biratnagar Sub-Metro	77.02	71.63	77.32	100	100	85.194
11	Triyuga	79.41	76.79	71.02	74.33	86.1	77.53
12	Rajbiraj	75.9	58.4	70.03	58.69	100	72.604
13	Lahan	58.64	68.14	74.69	73.62	75.84	70.186
14	Siraha	59.83	64.87	100	37.77	34.07	59.308
15	Janakpur Sub-Metro	60.78	73.29	41.17	52.51	56.55	56.86
16	Jaleshwor	41.99	54.5	39.06	33.3	33.72	40.514
17	Malangawa	70.13	67.01	43.34	26.11	42.37	49.792
18	Kamalamai	79.67	91.29	100	93.26	95.6	91.964
19	Bhimeshwor	99.57	96.59	90.71	99.84	91.21	95.584
20	Bidur	84.7	64.7	63.59	51.11	51.65	63.15
21	Kathmandu Metro	100	85.67	100	100	100	97.134
22	Kirtipur	85.71	77.41	76.53	67.11	71.1	75.572
23	Lalitpur	98.04	59.16	68.19	71.74	100	79.426
24	Bhaktapur	100	100	100	100	100	100
25	Madhyapur Thimi	77.95	60.74	82.93	100	83.06	80.936
26	Dhulikhel	76.98	72.13	80.3	83.22	86.01	79.728
27	Banepa	87.91	83.44	84.62	87.78	84.62	85.674
28	Panauti	85.71	87.5	73.63	92.22	86.81	85.174
29	Hetauda Sub-Metro	86.59	92.15	97.22	100	100	95.192
30	Gaur	53.85	69.32	52.75	66.67	50.55	58.628
31	Kalaiya	76.05	63.13	65.01	59.5	51.18	62.974
32	Birgunj Sub-Metro	78.16	56.25	68.25	61.18	69.82	66.732
33	Bharatpur Sub-Metro	100	87.38	95.45	95.58	93.83	94.448
34	Ratnanagar	99.09	71.02	75.47	91.79	87.82	85.038
35	Ramgram	96.49	89.22	89.61	89.07	94.51	91.78
36	Butwal Sub-Metro	100	100	100	100	100	100
37	Siddharthanagar	88.07	95.24	94.44	95.89	89.84	92.696
38	Kapilvastu	92.25	78.67	81.6	70.98	72.53	79.206
39	Tansen	91.96	80.24	81.14	84.56	85.71	84.722
40	Waling	98.81	80.78	78.49	83.41	91.21	86.54
41	Putalibazar	74.47	80.86	77.68	68.84	84.62	77.294
42	Byas	78.67	87.22	85.09	85.12	99.66	87.152
43	Gorkha	79.09	77.92	100	71.32	67.03	79.072
44	Pokhara Sub-Metro	100	100	100	100	100	100
45	Lekhnath	81.99	96.45	76.04	77.75	70.35	80.516
46	Baglung	97.52	86.62	79.08	82.48	74.73	84.086

SN	Municipalities	2011/12	2012/13	2013/14	2014/15	2015/16	Average
47	Ghorahi	100	98.79	99.13	100	100	99.584
48	Tulsipur	81.11	74.43	75.06	81.2	87.88	79.936
49	Nepalgunj Sub-Metro	72.99	61.35	50.09	74.11	76.65	67.038
50	Gulariya	100	82.3	76.36	80.54	75.34	82.908
51	Birendranagar	86.01	89.37	62.97	93.94	94.61	85.38
52	Narayan	84.8	61.06	86.81	87.78	85.71	81.232
53	Tikapur	100	86.29	83.72	86.17	100	91.236
54	Dhangadhi	87.23	83.16	75.06	88.9	100	86.87
55	Dipayal Silgadhi	68.19	77.27	54.95	64.57	74.73	67.942
56	Dasharathchanda	71.46	60.35	49.45	56.53	61.54	59.866
57	Amargadhi	75.98	68.18	57.22	51.24	61.54	62.832
58	Bhimdatta	84.62	78.61	72.3	79.39	100	82.984
	Mean	83.97	79.50	78.29	79.15	82.84	80.75
	Maximum	100.00	100.00	100.00	100.00	100.00	100
	Minimum	41.99	54.50	39.06	26.11	33.72	40.51
	No. of efficient Municipality	9	6	10	10	14	4
	Efficient Municipality (%)	12	8	13	13	19	5

Source: Researcher's calculation

Annex 18: Malmquist Index (MI) of Municipalities

SN	Municipalities	2011/12 to 2012/13	2012/13 to 2013/14	2013/14 to 2014/15	2014/15 to 2015/16	Average
1	Ilam	1.26	0.44	0.84	1.5	1.01
2	Bhadrapur	1.67	0.42	0.73	2.72	1.39
3	Damak	1	0.89	1	1	0.97
4	Mechinagar	1.11	0.75	0.75	1.13	0.94
5	Khandbari	1.35	0.8	1.17	1.06	1.10
6	Dhankuta	1.57	0.75	0.85	1.32	1.12
7	Dharan Sub-Metro	1.32	0.75	0.93	0.93	0.98
8	Itahari Sub-Metro	1.17	0.88	1	1	1.01
9	Inaruwa	1.57	0.71	1.26	0.9	1.11
10	Biratnagar	1.19	0.97	1	0.97	1.03
11	Triyuga	1.09	0.68	1.13	1.22	1.03
12	Rajbiraj	1.15	0.69	1.05	0.95	0.96
13	Lahan	2.4	0.53	1.09	0.88	1.23
14	Siraha	1.47	0.42	1.1	0.66	0.91
15	Janakpur Sub-Metro	1.2	0.39	1.12	0.97	0.92
16	Jaleshwor	3.19	0.29	1.29	0.78	1.39
17	Malangawa	1.38	0.33	0.86	1.53	1.03
18	Kamalamai	1.35	1	0.71	1.32	1.10
19	Bhimeshwor	1.3	0.94	1.11	0.61	0.99
20	Bidur	1.5	0.49	0.82	0.95	0.94
21	Kathmandu Metro	1.03	1.11	0.88	1	1.01
22	Kirtipur	1.16	0.73	0.65	1.31	0.96
23	Lalitpur	0.94	0.8	0.87	1.15	0.94
24	Bhaktapur	1	1	1	1	1.00
25	Madhyapur Thimi	1.07	0.89	1.11	0.88	0.99
26	Dhulikhel	1.41	0.73	1.08	0.64	0.97
27	Banepa	1.35	0.71	0.95	0.95	0.99
28	Panauti	1.35	0.58	1.31	0.93	1.04
29	Hetauda Sub-Metro	1.35	0.72	0.99	0.89	0.99
30	Gaur	1.61	0.54	1.26	0.82	1.06
31	Kalaiya	1.18	0.6	0.82	0.96	0.89
32	Birgunj Sub-Metro	1.37	0.72	0.87	0.74	0.93
33	Bharatpur	1.15	0.79	0.93	1.06	0.98
34	Ratnanagar	0.9	0.75	1.29	0.86	0.95
35	Ramgram	1.23	0.66	1.05	1.21	1.04
36	Butwal Sub-Metro	1.14	0.73	0.98	0.87	0.93
37	Siddharthanagar	1.38	0.71	1.06	0.8	0.99
38	Kapilvastu	1.02	0.68	1.12	1.1	0.98
39	Tansen	1.12	0.68	1.23	0.85	0.97
40	Waling	1.08	0.6	1.06	1.57	1.08
41	Putalibazar	1.38	0.64	1.03	1.12	1.04
42	Byas	1.33	0.77	1.09	1.19	1.10
43	Gorkha	1.34	0.93	0.75	0.67	0.92
44	Pokhara	1	1	1	1	1.00
45	Lekhnath	1.33	0.63	0.99	0.93	0.97
46	Baglung	1.15	0.59	1.09	0.72	0.89

SN	Municipalities	2011/12 to 2012/13	2012/13 to 2013/14	2013/14 to 2014/15	2014/15 to 2015/16	Average
47	Ghorahi	1.09	0.6	1.16	1.02	0.97
48	Tulsipur	1.11	0.69	1.22	1.15	1.04
49	Nepalgunj	1.16	0.53	1.22	1.11	1.01
50	Gulariya	0.87	0.69	1	1.37	0.98
51	Birendranagar	1.23	0.54	1.53	1.16	1.12
52	Narayan	1.02	0.72	0.94	1.96	1.16
53	Tikapur	0.84	0.79	0.97	1.25	0.96
54	Dhangadhi	1.12	0.7	1.05	1.1	0.99
55	Dipayal Silgadhi	1.14	0.42	1.55	1.24	1.09
56	Dasharathchanda	1.45	0.48	1.63	0.85	1.10
57	Amargadhi	1.18	0.54	1.08	1.39	1.05
58	Bhimdatta	1.04	0.72	1.06	1.08	0.98
	Mean	1.27	0.69	1.05	1.07	1.02
	Maximum	3.19	1.11	1.63	2.72	1.39
	Minimum	0.84	0.29	0.65	0.61	0.89
	Municipality >1	51	1	31	27	26
	Percent of >1	88	2	53	47	45
	Equal to 1	3	3	6	5	2
	Less than 1	4	54	21	26	30

Source: Researcher's calculation

Annex 19: Efficiency Change from FY 2014/15 to 2015/16 of Municipalities

SN	Municipalities	2014/15 to 2015/16			
		Technical Change	Pure Efficiency Change	Scale Efficiency Change	MPI
1	Ilam	0.96	1.68	0.93	1.50
2	Bhadrapur	0.96	1.42	1.99	2.72
3	Damak	1.00	1.00	1.00	1.00
4	Mechinagar	1.01	1.20	0.93	1.13
5	Khandbari	1.07	0.89	1.11	1.06
6	Dhankuta	1.01	1.00	1.30	1.32
7	Dharan Sub-Metro	1.00	0.93	1.01	0.93
8	Itahari Sub-Metro	1.00	1.00	1.00	1.00
9	Inaruwa	0.99	1.03	0.89	0.90
10	Biratnagar	0.99	1.00	0.98	0.97
11	Triyuga	1.04	1.16	1.01	1.22
12	Rajbiraj	0.77	1.70	0.73	0.95
13	Lahan	0.99	1.03	0.86	0.88
14	Siraha	0.95	0.90	0.76	0.66
15	Janakpur Sub-Metro	0.93	1.08	0.98	0.97
16	Jaleshwor	0.69	1.01	1.12	0.78
17	Malangawa	1.05	1.62	0.90	1.53
18	Kamalamai	1.03	1.03	1.24	1.32
19	Bhimeshwor	1.02	0.91	0.66	0.61
20	Bidur	1.01	1.01	0.93	0.95
21	Kathmandu Metro	1.00	1.00	1.00	1.00
22	Kirtipur	1.11	1.06	1.12	1.31
23	Lalitpur	0.78	1.39	1.06	1.15
24	Bhaktapur	1.00	1.00	1.00	1.00
25	Madhyapur Thimi	1.07	0.83	0.99	0.88
26	Dhulikhel	0.99	1.03	0.63	0.64
27	Banepa	1.01	0.96	0.97	0.95
28	Panauti	1.01	0.94	0.98	0.93
29	Hetauda Sub-Metro	1.00	1.00	0.89	0.89
30	Gaur	1.01	0.76	1.07	0.82
31	Kalaiya	0.99	0.86	1.12	0.96
32	Birgunj Sub-Metro	0.90	1.14	0.72	0.74
33	Bharatpur Sub-Metro	1.00	0.98	1.08	1.06
34	Ratnanagar	1.01	0.96	0.89	0.86
35	Ramgram	1.01	1.06	1.13	1.21
36	Butwal Sub-Metro	1.00	1.00	0.87	0.87
37	Siddharthanagar	0.98	0.94	0.87	0.80
38	Kapilvastu	1.10	1.02	0.98	1.10
39	Tansen	1.02	1.01	0.83	0.85
40	Waling	1.05	1.09	1.37	1.57

SN	Municipalities	2014/15 to 2015/16			
		Technical Change	Pure Efficiency Change	Scale Efficiency Change	MPI
41	Putalibazar	1.01	1.23	0.91	1.12
42	Byas	0.99	1.17	1.03	1.19
43	Gorkha	0.89	0.94	0.80	0.67
44	Pokhara Sub-Metro	1.00	1.00	1.00	1.00
45	Lekhnath	0.99	0.90	1.05	0.93
46	Baglung	1.02	0.91	0.78	0.72
47	Ghorahi	1.00	1.00	1.02	1.02
48	Tulsipur	1.04	1.08	1.02	1.15
49	Nepalgunj Sub-Metro	0.96	1.03	1.11	1.11
50	Gulariya	1.16	0.94	1.26	1.37
51	Birendranagar	1.04	1.01	1.10	1.16
52	Narayan	1.04	0.98	1.92	1.96
53	Tikapur	1.00	1.16	1.07	1.25
54	Dhangadhi	0.94	1.12	1.04	1.10
55	Dipayal Silgadhi	1.05	1.16	1.02	1.24
56	Dasharathchanda	0.79	1.09	0.98	0.85
57	Amargadhi	1.03	1.20	1.12	1.39
58	Bhimdatta	0.89	1.26	0.96	1.08
	Mean	0.99	1.07	1.02	1.07
	Maximum	1.16	1.70	1.99	2.72
	Minimum	0.69	0.76	0.63	0.61
	Greater than 1	26	31	26	27
	Equal to 1	11	10	5	5
	Less than 1	21	17	27	26

Source: Researcher's calculation

Annex 20: Target of PM Scores and OSR of Municipality for 2015/16

SN	Municipalities	Per capita OSR (Rs.)	Per capita ORS Target Rs.)	OSR gain (%)	PM Score Value	PM Score Target	PM Score gain (%)
1	Ilam	5171	6081.27	17.6	73	85.85	17.6
2	Bhadrapur	7261	7372.83	1.54	79	80.22	1.54
3	Damak	3454	3454	0	84	84	0
4	Mechinagar	2324	4353.27	87.32	80	91	13.75
5	Khandbari	1577	3569.8	126.37	64	91	42.19
6	Dhankuta	2581	3280.22	27.09	90	91	1.11
7	Dharan Sub-Metro	2692	3438.28	27.72	78	89.72	15.02
8	Itahari Sub-Metro	4296	4296	0	78	78	0
9	Inaruwa	4057	4175.65	2.92	86	88.52	2.92
10	Biratnagar Sub-Metro	4025	4025	0	78	78	0
11	Triyuga	984	4018.55	308.39	73	84.78	16.14
12	Rajbiraj	598	598	0	36	36	0
13	Lahan	3179	4191.95	31.86	69	90.99	31.86
14	Siraha	1238	4599.42	271.52	31	91	193.55
15	Janakpur Sub-Metro	1719	4058.02	136.07	50	88.42	76.84
16	Jaleshwor	2650	7859.47	196.58	25	76.54	206.17
17	Malangawa	2047	4831.64	136.03	36	84.97	136.03
18	Kamalamai	1319	3569.8	170.64	87	91	4.6
19	Bhimeshwor	979	4889	399.39	83	91	9.64
20	Bidur	1339	4889	265.12	47	91	93.62
21	Kathmandu Metro	5623	5623	0	74	74	0
22	Kirtipur	3322	4672.6	40.66	61	85.8	40.66
23	Lalitpur	4571	4571	0	66	66	0
24	Bhaktapur	8798	8798	0	74	74	0
25	Madhyapur Thimi	2884	4516.69	56.61	70	84.27	20.39
26	Dhulikhel	4270	4964.51	16.26	78	90.69	16.26
27	Banepa	3573	4889	36.83	77	91	18.18
28	Panauti	2218	4889	120.42	79	91	15.19
29	Hetauda	5130	5130	0	90	90	0
30	Gaur	860	4819.55	460.41	46	91	97.83
31	Kalaiya	1326	2763.78	108.43	44	85.98	95.4
32	Birgunj Sub-Metro	5608	8032.03	43.22	54	77.34	43.22
33	Bharatpur	4655	5815.42	24.93	81	86.33	6.58
34	Ratnanagar	3016	3434.44	13.87	79	89.96	13.87
35	Ramgram	3159	3599.29	13.94	86	91	5.81
36	Butwal Sub-Metro	4889	4889	0	91	91	0
37	Siddharthanagar	4504	5013.18	11.31	80	89.04	11.31
38	Kapilvastu	1699	2974.55	75.08	66	91	37.88

SN	Municipalities	Per capita OSR (Rs.)	Per capita ORS Target Rs.)	OSR gain (%)	PM Score Value	PM Score Target	PM Score gain (%)
39	Tansen	1686	3658.82	117.01	78	91	16.67
40	Waling	1361	2636.7	93.73	83	91	9.64
41	Putalibazar	1447	3341.35	130.92	77	91	18.18
42	Byas	3830	3843.2	0.34	81	81.28	0.34
43	Gorkha	1344	3817.55	184.04	61	91	49.18
44	Pokhara	6376	6376	0	84	84	0
45	Lekhnath	2771	4118.57	48.63	62	88.13	42.14
46	Baglung	1751	4889	179.21	68	91	33.82
47	Ghorahi	2508	2508	0	91	91	0
48	Tulsipur	1955	2826.78	44.59	79	89.89	13.79
49	Nepalgunj Sub-Metro	5249	6847.94	30.46	63	82.19	30.46
50	Gulariya	1235	2851.7	130.91	64	84.95	32.73
51	Birendranagar	3318	3507.04	5.7	81	85.61	5.7
52	Narayan	732	3859.38	427.24	78	91	16.67
53	Tikapur	2326	2326	0	76	76	0
54	Dhangadhi	3242	3242	0	75	75	0
55	Dipayal Silgadhi	1291	3280.22	154.08	68	91	33.82
56	Dasharathchanda	416	4052.43	874.14	56	91	62.5
57	Amargadhi	1667	3875.47	132.48	56	91	62.5
58	Bhimdatta	1578	1578	0	61	61	0

Source: Researcher's calculation

Annex 21: Per Capital Expenditure of DDCs and Municipalities

(A) DDCs' Per Capita Expenditure of FY 2011/12 and 2012/13

SN	DDCs	FY 2011/12 (Rs.)				FY 2012/13 (Rs.)			
		Capital	Recurrent	LGCDP	OSR	Capital	Recurrent	LGCDP	OSR
1	Taplejung	52	144	143	91	112	162	159	82
2	Panchthar	120	84	118	275	60	92	92	197
3	Illam	100	72	79	319	65	80	79	303
4	Jhapa	77	42	52	372	52	44	36	251
5	Shankhuwasabha	173	129	62	167	114	146	110	210
6	Terhathum	120	149	92	134	104	171	135	79
7	Bhojpur	113	127	115	37	63	133	158	56
8	Dhankuta	134	141	125	223	89	157	116	334
9	Sunsari	70	39	58	242	64	52	42	375
10	Morang	80	22	51	441	56	38	40	456
11	Solukhumbhu	144	165	103	41	128	188	139	30
12	Khotang	139	149	71	46	70	175	143	25
13	Udayapur	100	67	97	279	62	82	86	184
14	Okhaldhunga	142	175	132	84	90	193	161	22
15	Saptari	24	54	38	79	32	54	54	82
16	Siraha	13	49	35	74	11	53	68	293
17	Dhanusha	19	42	16	148	21	48	45	98
18	Mahottari	18	34	22	13	17	38	37	121
19	Sarlahi	27	45	27	369	11	48	56	286
20	Sindhuli	102	77	92	522	65	74	89	375
21	Ramechhap	120	81	134	83	26	104	113	50
22	Dolakha	153	125	109	220	94	139	136	250
23	Sindhupalchok	44	103	124	748	77	81	113	704
24	Rasuwa	274	286	168	35	212	336	166	92
25	Dhading	113	45	75	1667	78	55	65	1279
26	Nuwakot	134	79	88	524	91	97	103	404
27	Kathmandu	63	42	30	398	61	46	41	252
28	Lalitpur	113	88	46	589	114	89	41	639
29	Bhaktapur	196	121	71	746	205	135	57	1048
30	Kavrepalanchok	97	97	93	1023	62	104	103	757
31	Makwanpur	101	52	76	1787	74	67	63	181
32	Rautahat	21	46	66	197	35	50	64	198
33	Bara	14	37	45	431	46	41	66	367
34	Parsa	104	49	46	308	82	49	77	147
35	Chitwan	93	54	59	184	23	57	44	753
36	Nawalparasi	25	34	45	108	54	44	55	373
37	Rupandehi	51	33	53	1755	48	45	45	1232
38	Kapilvastu	22	42	39	1108	37	43	62	451
39	Arghakhanchi	119	85	109	419	74	94	99	273
40	Palpa	115	102	66	243	72	113	120	560
41	Gulmi	107	87	136	144	65	98	120	83
42	Syangja	111	99	91	114	58	107	105	159
43	Tanahun	101	68	70	209	65	76	75	394
44	Gorkha	37	93	106	116	71	103	108	165
45	Manang	1774	1918	1175	911	1324	2722	878	971
46	Lamjung	122	121	86	131	85	133	151	85
47	Kaski	173	119	133	702	81	146	109	565

SN	DDCs	FY 2011/12 (Rs.)				FY 2012/13 (Rs.)			
		Capital	Recurrent	LGCDP	OSR	Capital	Recurrent	LGCDP	OSR
48	Parbat	122	132	94	51	80	148	138	279
49	Baglung	109	100	80	60	64	108	104	52
50	Myagdi	159	123	121	31	99	172	162	84
51	Mustang	1219	1147	656	441	913	1302	639	1018
52	Mugu	294	238	221	16	220	327	237	252
53	Dolpa	446	550	393	135	125	607	249	98
54	Humla	409	368	241	38	294	407	271	182
55	Jumla	177	147	155	248	131	238	134	138
56	Kalikot	133	139	82	11	33	113	100	44
57	Rukum	123	73	108	27	86	97	99	40
58	Rolpa	108	82	68	107	76	91	104	114
59	Pyuthan	103	85	70	50	68	96	101	145
60	Dang	24	45	66	163	45	52	45	100
61	Salyan	95	75	55	87	74	83	88	96
62	Banke	64	56	22	431	68	62	53	397
63	Bardia	84	42	57	54	48	46	41	190
64	Surkhet	91	60	87	144	48	80	76	96
65	Jajarkot	121	78	38	79	92	113	73	147
66	Dailekh	99	87	108	32	54	98	111	44
67	Kailali	64	35	56	314	48	38	34	366
68	Doti	107	94	91	45	63	105	118	58
69	Achham	102	100	98	54	21	110	125	60
70	Bajura	135	119	105	12	79	134	107	61
71	Bajhang	84	123	97	38	25	130	114	36
72	Darchula	118	211	95	225	81	232	135	31
73	Baitadi	110	138	112	88	59	84	114	32
74	Dadeldhura	51	142	136	410	79	159	269	355
75	Kanchanpur	32	49	40	444	59	54	111	482

Source: Various years' data of FGCO and LBFC

(B) DDCs' Per Capita Expenditure of FY 2013/14 and 2014/15

SN	DDCs	FY 2013/14				FY 2014/15			
		Capital	Recurrent	LGCDP	OSR	Capital	Recurrent	LGCDP	OSR
1	Taplejung	150	198	140	157	138	219	163	118
2	Panchthar	109	93	64	189	101	110	101	203
3	Illam	102	99	37	272	104	101	119	119
4	Jhapa	97	51	23	409	93	52	32	332
5	Shankhuwasabha	191	156	75	304	138	147	105	510
6	Terhathum	138	208	59	172	120	212	183	158
7	Bhojpur	119	147	107	158	146	167	151	106
8	Dhankuta	172	170	87	407	144	179	118	398
9	Sunsari	81	74	32	295	106	63	37	294
10	Morang	104	47	27	657	98	47	32	603
11	Solukhumbhu	160	217	96	57	86	270	161	33
12	Khotang	110	161	66	62	94	189	187	49
13	Udayapur	114	98	43	321	116	105	97	23
14	Okhaldhunga	152	189	128	29	92	238	333	315
15	Saptari	61	69	45	230	50	71	90	37
16	Siraha	63	69	40	407	48	69	90	138
17	Dhanusha	79	58	45	186	20	60	55	307
18	Mahottari	52	58	42	94	86	65	48	102
19	Sarlahi	40	53	31	125	77	53	75	106
20	Sindhuli	91	89	67	522	91	113	181	618
21	Ramechhap	97	132	88	53	101	117	230	68
22	Dolakha	119	169	94	291	139	218	292	318
23	Sindhupalchok	96	130	86	637	109	131	318	893
24	Rasuwa	298	449	98	50	230	481	625	38
25	Dhading	72	82	48	1095	85	81	199	3134
26	Nuwakot	166	112	61	637	109	121	320	1676
27	Kathmandu	243	47	27	426	141	52	25	350
28	Lalitpur	156	117	41	700	117	126	122	870
29	Bhaktapur	289	143	33	1373	215	116	43	1433
30	Kavrepalanchok	108	121	90	859	104	127	234	948
31	Makwanpur	107	81	27	1727	106	86	95	1443
32	Rautahat	48	54	31	231	76	57	53	150
33	Bara	41	63	53	500	52	58	51	361
34	Parsa	123	63	54	270	109	55	74	310
35	Chitwan	105	69	31	252	102	70	41	444
36	Nawalparasi	88	56	38	605	89	53	44	1328
37	Rupandehi	73	48	31	1472	74	50	33	1297
38	Kapilvastu	74	51	50	1223	80	52	48	1306
39	Arghakhanchi	97	119	71	158	105	104	83	256
40	Palpa	118	138	82	362	110	149	141	310
41	Gulmi	123	115	83	75	105	113	167	109
42	Syangja	138	106	76	217	107	117	133	326
43	Tanahun	136	96	45	712	94	99	84	591
44	Gorkha	133	127	68	179	89	130	293	171
45	Manang	1648	2833	655	1247	1835	3098	1504	1052
46	Lamjung	141	179	121	193	132	181	183	92
47	Kaski	262	167	77	1936	212	194	139	2435
48	Parbat	168	170	113	296	134	168	165	312
49	Baglung	129	129	81	101	112	137	118	94

SN	DDCs	FY 2013/14				FY 2014/15			
		Capital	Recurrent	LGCDP	OSR	Capital	Recurrent	LGCDP	OSR
50	Myagdi	133	198	112	87	120	171	159	61
51	Mustang	1193	1320	381	750	1154	1560	844	584
52	Mugu	228	395	137	439	78	428	200	340
53	Dolpa	412	560	198	188	443	679	263	141
54	Humla	369	451	165	91	164	553	245	170
55	Jumla	135	225	103	191	131	291	119	237
56	Kalikot	72	192	77	79	103	199	109	44
57	Rukum	113	125	68	17	117	154	98	43
58	Rolpa	101	108	78	121	100	128	102	55
59	Pyuthan	108	109	66	97	102	123	83	144
60	Dang	105	58	32	319	202	57	35	484
61	Salyan	88	108	68	160	87	111	88	197
62	Banke	104	67	27	430	242	66	58	685
63	Bardia	79	56	28	171	259	66	39	254
64	Surkhet	110	99	60	129	412	114	72	90
65	Jajarkot	98	130	59	79	121	147	82	82
66	Dailekh	99	126	76	64	103	143	97	67
67	Kailali	87	43	21	642	77	46	35	452
68	Doti	123	177	80	100	107	158	162	160
69	Achham	91	142	84	114	83	150	107	67
70	Bajura	119	148	60	19	95	193	91	27
71	Bajhang	107	141	67	83	118	148	95	74
72	Darchula	128	214	95	48	109	221	131	63
73	Baitadi	103	163	77	42	96	139	112	54
74	Dadeldhura	89	149	68	272	122	189	86	144
75	Kanchanpur	112	57	24	532	106	66	33	465

Source: Various years' data of FGCO and LBFC

(C) DDCs' Per Capita Expenditure of FY 2015/16

SN	DDCs	Capital	Recurrent	LGCDP	OSR
1	Taplejung	406	256	217	153
2	Panchthar	80	117	111	187
3	Illam	54	99	77	232
4	Jhapa	11	55	27	576
5	Shankhuwasabha	161	147	99	168
6	Terhathum	81	240	120	216
7	Bhojpur	82	190	109	91
8	Dhankuta	89	192	108	417
9	Sunsari	52	60	40	288
10	Morang	53	46	29	782
11	Solukhumbhu	158	253	130	29
12	Khotang	69	209	171	56
13	Udayapur	72	112	62	252
14	Okhaldhunga	141	240	250	43
15	Saptari	42	74	58	74
16	Siraha	41	69	60	108
17	Dhanusha	46	54	24	199

SN	DDCs	Capital	Recurrent	LGCDP	OSR
18	Mahottari	52	55	48	123
19	Sarlahi	48	65	53	75
20	Sindhuli	96	133	196	434
21	Ramechhap	144	145	217	102
22	Dolakha	106	197	270	334
23	Sindhupalchok	134	111	200	1524
24	Rasuwa	535	547	448	102
25	Dhading	76	80	97	2903
26	Nuwakot	135	118	156	1278
27	Kathmandu	56	18	1	274
28	Lalitpur	132	66	87	533
29	Bhaktapur	168	71	5	930
30	Kavrepalanchok	93	124	171	1512
31	Makwanpur	59	86	71	1479
32	Rautahat	42	57	44	200
33	Bara	42	52	50	314
34	Parsa	60	63	75	323
35	Chitwan	48	62	20	325
36	Nawalparasi	42	57	40	253
37	Rupandehi	42	45	34	1497
38	Kapilvastu	38	51	48	661
39	Arghakhanchi	70	116	88	171
40	Palpa	76	150	121	389
41	Gulmi	111	141	117	98
42	Syangja	75	123	113	228
43	Tanahun	64	98	58	596
44	Gorkha	63	132	235	159
45	Manang	1301	3802	933	1308
46	Lamjung	66	185	146	119
47	Kaski	117	172	79	2586
48	Parbat	69	205	152	298
49	Baglung	68	147	110	44
50	Myagdi	89	169	175	100
51	Mustang	811	1513	825	933
52	Mugu	175	393	233	128
53	Dolpa	363	732	393	134
54	Humla	751	560	265	320
55	Jumla	98	302	135	70
56	Kalikot	84	220	109	53
57	Rukum	72	149	96	61
58	Rolpa	67	136	105	70
59	Pyuthan	72	121	89	109
60	Dang	189	56	34	408
61	Salyan	22	113	79	186

SN	DDCs	Capital	Recurrent	LGCDP	OSR
62	Banke	60	68	39	858
63	Bardia	150	65	38	320
64	Surkhet	69	113	72	132
65	Jajarkot	86	168	85	131
66	Dailekh	87	154	96	60
67	Kailali	41	43	24	624
68	Doti	75	184	130	131
69	Achham	24	149	114	64
70	Bajura	82	186	88	57
71	Bajhang	70	169	102	70
72	Darchula	36	238	158	28
73	Baitadi	122	159	121	108
74	Dadeldhura	105	171	79	93
75	Kanchanpur	45	60	15	645

Source: Various years' data of FGCO and LBFC

(D) Municipalities' Per Capita Expenditure of FY 2011/12 and 2012/13

SN	Municipalities	FY 2011/12					FY 2012/13				
		LDF	LGCDP	Recurrent	Capital	OSR	LDF	LGCDP	Recurrent	Capital	OSR
1	Ilam	266	83.78	198	991	3723	180	68.68	198	580	3753
2	Bhadrapur	431	97.38	237	879	2002	294	79.61	237	532	4233
3	Damak	125	11.45	60	400	1429	70	6.06	60	275	3945
4	Mechinagar	608	14.67	200	850	1601	403	7.91	200	539	4606
5	Khandbari	351	122.18	190	654	579	253	140.70	190	546	2332
6	Dhankuta	277	55.65	135	710	1066	188	56.96	135	515	2455
7	Dharan	315	15.92	100	668	1181	207	11.88	100	375	2824
8	Itahari	177	10.56	73	446	1545	116	6.11	73	273	2762
9	Inaruwa	194	61.58	123	595	1328	131	82.13	123	371	4804
10	Biratnagar	465	13.35	129	626	2440	308	9.97	133	424	4841
11	Triyuga	237	58.08	86	762	644	159	60.51	86	593	1902
12	Rajbiraj	182	70.16	103	438	1383	123	61.93	103	343	2531
13	Lahan	342	46.77	144	599	1930	226	69.44	144	228	3007
14	Siraha	280	80.94	159	599	179	201	104.45	159	445	1108
15	Janakpur	330	5.70	107	510	990	358	23.73	107	305	1242
16	Jaleshwor	321	132.18	162	763	618	149	154.06	185	237	1770
17	Malangawa	238	104.19	147	287	2882	161	124.40	147	211	2395
18	Kamalamai	301	92.96	122	835	543	203	115.50	122	588	2460
19	Bhimeshwor	303	76.53	177	942	892	217	106.36	177	598	1987
20	Bidur	393	47.53	192	808	898	268	62.51	192	413	4716
21	Kathmandu	317	0.30	84	290	2744	261	0.47	135	309	3697
22	Kirtipur	254	10.80	91	460	1077	168	19.51	91	293	2594
23	Lalitpur	326	5.09	93	476	3323	215	2.06	93	252	4280
24	Bhaktapur	356	2.31	109	623	12330	235	0.00	111	304	14295

SN	Municipalities	FY 2011/12					FY 2012/13				
		LDF	LGCDP	Recurrent	Capital	OSR	LDF	LGCDP	Recurrent	Capital	OSR
25	Madhyapur Thimi	208	15.85	74	432	1094	137	15.41	74	240	2711
26	Dhulikhel	1134	107.13	423	1395	2261	755	74.90	423	827	2279
27	Banepa	1016	16.06	342	1095	2256	677	18.37	342	648	2204
28	Panauti	425	55.02	171	935	1070	280	60.75	171	511	2103
29	Hetauda	359	18.24	120	835	5106	237	15.11	120	368	5340
30	Gaur	701	84.79	249	825	930	466	105.57	249	580	1486
31	Kalaiya	219	71.96	117	485	1468	149	65.13	117	347	1815
32	Birgunj	1052	22.09	299	1070	2669	728	20.04	299	618	3994
33	Bharatpur	320	10.96	100	305	1888	212	8.90	100	312	3703
34	Ratnanagar	207	35.29	91	658	1398	140	26.31	91	361	1510
35	Ramgram	271	120.18	154	711	1219	184	142.19	154	593	2682
36	Butwal	408	12.66	126	593	2638	271	11.10	126	372	1997
37	Siddharthanagar	529	31.68	175	763	3029	351	25.40	175	487	4082
38	Kapilvastu	248	96.37	135	693	1235	167	122.81	135	562	1268
39	Tansen	197	55.29	106	504	1569	133	39.69	106	369	1032
40	Waling	250	72.43	156	722	583	180	57.53	156	518	1501
41	Putalibazar	245	55.32	138	645	941	175	50.39	138	466	1285
42	Byas	192	36.12	87	476	1646	126	33.40	87	343	1045
43	Gorkha	218	49.18	106	591	1021	145	14.17	106	361	506
44	Pokhara	233	4.19	69	186	1947	154	1.78	69	208	3228
45	Lekhnath	165	25.90	73	455	819	115	21.76	73	245	590
46	Baglung	279	48.28	133	585	1143	191	43.59	133	413	1330
47	Ghorahi	191	26.71	76	590	1248	125	22.98	76	426	1747
48	Tulsipur	209	28.52	97	683	1582	141	22.53	97	450	1428
49	Nepalgunj	397	29.09	133	553	1593	263	27.72	133	320	2233
50	Gulariya	237	54.16	102	499	664	159	68.20	102	625	1076
51	Birendranagar	205	28.66	90	536	1268	139	26.71	90	370	1422
52	Narayan	374	115.85	207	984	401	273	137.89	214	652	2292
53	Tikapur	165	44.46	81	173	986	111	52.93	81	418	3185
54	Dhangadhi	241	17.40	82	468	960	159	17.44	82	387	2780
55	Dipayal Silgadhi	317	96.92	203	325	240	228	98.15	203	495	822
56	Dasharathchanda	401	170.18	239	847	384	288	162.55	239	599	3755
57	Amargadhi	377	107.87	209	848	962	270	94.36	209	604	968
58	Bhimdatta	206	23.04	71	230	876	135	20.75	71	314	728

Source: Various years' data of FGCO and LBFC

(E) Municipalities' Per Capita Expenditure of FY 2013/14 and 2014/15

SN	Municipalities	FY 2013/14					FY 2014/15				
		LDF	LGCDP	Recurrent	Capital	OSR	LDF	LGCDP	Recurrent	Capital	OSR
1	Ilam	780	69.93	576	695	3779	495	266.15	221	687	3747
2	Bhadrapur	733	85.88	299	858	2224	1088	404.73	285	1213	4623
3	Damak	177	1.33	75	456	2854	151	72.15	71	370	1796
4	Mechinagar	737	3.04	251	844	2265	654	79.90	239	660	2047
5	Khandbari	487	105.13	239	669	824	409	320.89	228	563	1259
6	Dhankuta	382	54.27	170	589	2026	403	206.09	175	671	1667
7	Dharan	380	10.35	125	550	1689	317	61.64	119	491	2228
8	Itahari	236	3.69	92	440	2188	227	75.68	88	445	4143
9	Inaruwa	305	92.57	155	485	4301	265	237.77	148	421	4183
10	Biratnagar	541	11.19	168	413	4098	451	24.50	160	482	4566
11	Triyuga	293	53.61	108	626	1334	248	151.81	103	504	1138
12	Rajbiraj	334	75.39	130	491	1936	234	180.74	123	376	2038
13	Lahan	458	84.54	181	556	4148	388	295.41	173	509	4233
14	Siraha	363	54.95	200	306	797	335	310.14	190	436	1964
15	Janakpur	401	29.68	135	480	1906	438	140.16	128	531	3815
16	Jaleshwor	595	114.44	233	697	3881	425	364.13	222	514	4445
17	Malangawa	446	93.70	185	595	3348	318	311.45	176	466	2561
18	Kamalamai	388	96.95	153	386	1364	330	367.82	146	687	1024
19	Bhimeshwor	428	112.90	223	397	2124	299	393.77	213	430	1844
20	Bidur	537	68.19	241	706	2841	535	283.36	230	623	1748
21	Kathmandu	360	0.18	106	669	5161	299	8.65	101	672	4325
22	Kirtipur	320	19.97	115	439	1851	422	153.48	110	527	2637
23	Lalitpur	379	0.79	117	523	4112	316	50.12	111	385	3270
24	Bhaktapur	430	1.22	144	569	14929	360	41.59	137	486	19365
25	Madhyapur Thimi	291	14.20	93	402	3405	249	75.40	88	281	2939
26	Dhulikhel	1432	91.72	533	1330	3042	1210	442.77	508	1109	5122
27	Banepa	616	11.10	430	1169	2392	522	125.24	409	665	3962
28	Panauti	558	66.67	215	734	2147	473	257.27	205	649	3950
29	Hetauda	439	14.87	150	592	4433	369	123.73	143	527	6101
30	Gaur	872	71.07	313	849	847	734	227.37	298	722	1622
31	Kalaiya	314	78.60	147	480	1995	434	187.80	140	547	3289
32	Birgunj	1211	21.94	376	1067	5272	1010	109.48	359	850	6024
33	Bharatpur	388	6.71	125	559	2918	324	51.87	120	522	3983
34	Ratnanagar	274	28.25	114	551	1405	233	155.46	109	375	2239
35	Ramgram	401	114.31	193	685	2573	423	327.20	184	642	4424
36	Butwal	485	10.66	159	630	3741	406	40.16	151	572	4712
37	Siddharthanagar	644	30.04	220	749	4566	541	74.16	210	632	8481
38	Kapilvastu	360	94.75	170	655	3001	311	299.15	162	482	3579
39	Tansen	298	45.99	133	565	2096	245	231.71	127	454	3032
40	Waling	363	58.82	196	650	1706	400	239.66	187	601	3191
41	Putalibazar	339	56.41	173	567	1004	295	217.27	165	541	3626
42	Byas	267	38.00	109	498	2704	226	112.76	104	483	3420
43	Gorkha	301	5.39	133	311	1798	249	153.25	126	411	3967
44	Pokhara	275	1.08	87	385	4434	230	37.33	83	393	4551
45	Lekhnath	226	20.45	92	434	1568	191	59.43	88	386	2153
46	Baglung	387	44.38	167	610	2494	325	160.74	159	522	2541
47	Ghorahi	348	23.16	160	606	2458	254	75.90	91	527	1706
48	Tulsipur	322	29.30	122	561	1530	242	139.61	117	465	3595
49	Nepalgunj	486	27.32	167	538	2581	408	137.17	159	584	4465
50	Gulariya	287	58.02	128	583	1004	301	156.63	122	1204	3226
51	Birendranagar	311	27.19	113	534	1375	230	175.76	108	2509	3624
52	Narayan	996	78.78	269	1297	1589	1225	317.82	256	1382	2707

SN	Municipalities	FY 2013/14					FY 2014/15				
		LDF	LGCDP	Recurrent	Capital	OSR	LDF	LGCDP	Recurrent	Capital	OSR
53	Tikapur	266	31.86	101	518	1963	375	121.54	97	599	3199
54	Dhangadhi	299	20.34	103	518	2073	251	59.03	98	443	1602
55	Dipayal Silgadhi	553	136.45	256	701	879	409	319.11	243	577	4250
56	Dasharathchanda	569	200.05	301	760	638	496	519.99	286	902	8296
57	Amargadhi	518	115.60	263	878	2713	449	290.40	250	703	2576
58	Bhimdatta	258	27.61	89	447	1767	217	84.74	85	429	2117

Source: Various years' data of FGCO and LBFC

(F) Municipalities' Per Capita Expenditure for the period of 2015/16

SN	Municipalities	LDF	LGCDP	Recurrent	Capital	OSR
1	Ilam	339	551.37	272	875	5171
2	Bhadrapur	283	423.47	327	1032	7261
3	Damak	129	262.48	82	395	3454
4	Mechinagar	423	129.04	275	711	2324
5	Khandbari	203	177.11	262	665	1577
6	Dhankuta	185	281.23	187	770	2581
7	Dharan	222	102.38	137	564	2692
8	Itahari	125	223.93	101	976	4296
9	Inaruwa	235	177.20	170	587	4057
10	Biratnagar	325	29.65	130	518	4025
11	Triyuga	204	73.39	118	527	984
12	Rajbiraj	123	68.79	142	388	598
13	Lahan	241	297.89	199	890	3179
14	Siraha	267	179.17	219	794	1238
15	Janakpur	232	87.49	148	571	1719
16	Jaleshwor	227	253.47	255	652	2650
17	Malangawa	158	151.34	203	556	2047
18	Kamalamai	203	280.23	167	657	1319
19	Bhimeshwor	335	332.94	244	786	979
20	Bidur	407	176.34	264	781	1339
21	Kathmandu	222	4.29	116	876	5623
22	Kirtipur	178	144.96	126	539	3322
23	Lalitpur	228	43.86	128	417	4571
24	Bhaktapur	250	0.00	157	697	8798
25	Madhyapur Thimi	183	67.30	101	540	2884
26	Dhulikhel	1064	364.07	584	1855	4270
27	Banepa	328	163.64	471	827	3573
28	Panauti	297	179.11	235	797	2218
29	Hetauda	252	112.22	165	898	5130
30	Gaur	486	106.67	343	758	860
31	Kalaiya	216	107.13	161	483	1326
32	Birgunj	727	86.57	412	1287	5608
33	Bharatpur	229	40.82	137	659	4655
34	Ratnanagar	204	202.71	125	574	3016
35	Ramgram	250	155.41	212	635	3159
36	Butwal	285	55.48	174	765	4889
37	Siddharthanagar	369	61.28	241	694	4504
38	Kapilvastu	166	190.25	186	658	1699
39	Tansen	235	288.13	146	641	1686
40	Waling	145	194.45	215	562	1361
41	Putalibazar	247	134.49	190	609	1447
42	Byas	138	108.18	120	549	3830
43	Gorkha	247	174.28	146	657	1344

SN	Municipalities	LDF	LGCDP	Recurrent	Capital	OSR
44	Pokhara	183	30.57	95	616	6376
45	Lekhnath	174	86.49	101	857	2771
46	Baglung	287	127.28	183	1038	1751
47	Ghorahi	137	126.59	104	525	2508
48	Tulsipur	140	115.99	134	745	1955
49	Nepalgunj	278	117.90	183	664	5249
50	Gulariya	133	90.59	140	856	1235
51	Birendranagar	136	200.17	124	605	3318
52	Narayan	221	147.73	294	1282	732
53	Tikapur	112	53.55	111	427	2326
54	Dhangadhi	171	42.23	113	401	3242
55	Dipayal Silgadhi	185	253.87	280	612	1291
56	Dasharathchanda	233	273.21	329	918	416
57	Amargadhi	222	210.37	288	920	1667
58	Bhimdatta	148	53.81	98	410	1578

Source: Various years' data of FGCO and LBFC

Annex 22: List of Local Level Power

S.N.	Matters
1.	Town Police
2.	Cooperative Institutions
3.	Operation of F.M.
4.	Local taxes (wealth tax, house rent tax, land and building registration fee, motor vehicle tax), service charge, fee, tourism fee, advertisement tax, business tax, land tax, (land revenue), penalty, entertainment tax, land revenue collection
5.	Management of the local services
6.	Collection of local statistics and records
7.	Local-level development plan and projects
8.	Basic and secondary education
9.	Basic health and sanitation
10.	Local market management, environment protection, and biodiversity
11.	Local roads, rural roads, agro-roads, irrigation
12.	Management of Village Assembly, Municipal Assembly, District Assembly, local courts, mediation, and arbitration
13.	Local record management
14.	Distribution of house and land ownership certificates
15.	Agriculture and animal husbandry, agro-products management, animal health, cooperatives
16.	Management of senior citizens, persons with disabilities and the incapacitated
17.	Collection of statistics of unemployed
18.	Management, operation, and control of agricultural extension
19.	Water supply, small hydropower projects, alternative energy
20.	Disaster management
21.	Protection of watersheds, wildlife, mines, and minerals
22.	Protection and development of language, cultures and fine arts

Source: GoN (2015), The Constitution of Nepal, 2015, the Government of Nepal, Schedule 8

Annex 23: CPI and GDP Deflator (Annual Change in percent)

The consumer price index and gross domestic product are as follow.

Indicators	2011/12	2012/13	2013/14	2014/15	2015/16
Consumer Price Index (annual change %)	8.3	9.9	9.1	7.2	9.9
GDP deflator (annual change %)	7.0	6.1	9.0	5.0	5.0

Source: GoN/MoF, 2017, Economic Survey, Fiscal Year 2016/17

The process of calculating real value is as follow:

- The nominal value of any economic statistic is measured in terms of actual prices that exist at the time.
- The real value refers to the same statistic after it has been adjusted for inflation.
- 2011/12 is chosen as a base year and then used a price index to convert the money prevailing in the base year.
- Nominal data have been divided by the deflator of the respective year to calculate the actual data of each fiscal year.

Calculation of inflation rate

The inflation rate is the percent change in the CPI.

$$\text{Inflation rate } (\%) = \frac{\text{CPI}(t) - \text{CPI}(t-1)}{\text{CPI}(t-1)} X100$$

OR

$$\text{Inflation rate}(\%) = \frac{\text{New value of CPI} - \text{Old value of CPI}}{\text{Old value of CPI}} X100$$

Where;
t= current time (new value of CPI)

(t-1) = lag (old value of CPI)

(t+1) = lead

Consumer Price Index (CPI) can be calculated from the following formula

$$\text{CPI} = \frac{\text{The price of base year consumption basket in any given year}}{\text{The price of base year comsumption basket in the base year}}$$

CPI Calculation Equation

$$Y_2 = \frac{Y_1}{100}(\text{Inflation}\% + 100) = Y_2 = \frac{Y_1}{100}(\Delta + 100)$$

Where;

Y_1 = CPI value of any given fiscal year

Y_2 = CPI value of succeeding fiscal year

Δ = Annual inflation percentage change

Inflation % = Inflation % from any given fiscal year to succeeding fiscal year

Calculation of CPI (Base year 2011/12 = 100)

Fiscal Years	**Annual Inflation % (Δ)**	**Calculation**	**CPI**	**CPI (Index)**
2011/12	-	Base year	100.00	1.000
2012/13	9.9	100/100*(9.9+100) = 1.0*109.9	109.90	1.099
2013/14	9.1	109.90/100*(9.1+100) = 1.099*109.1	119.90	1.199
2014/15	7.2	119.90/100*(7.2+100) = 1.199*107.2	128.53	1.285
2015/16	9.9	128.53/100*(9.9+100) = 1.285*109.9	141.25	1.412

Source: CPI calculated by the researcher using inflation rate published in Economic Survey (2016/17)

Annex 24: Questionnaires for Field Survey

(I) Checklist for Demand Side Respondents

The general citizen of the respective LG were the respondents of the following questionnaires. The Service quality instrument (SERVQUAL), which represents a 10-item instrument, is used to collect the satisfaction level of the service receivers. Factors/constructs of statements used for 5 points Likert scale measurement.

Respondent's demographic information

Name of Province:

Name of District:

Rural municipality/municipality

Ecological zone (a) Mountain (b) Hill (c) Terai

Gender : Male Female

Age : 25 yrs below 26-50 years + 51 Years

Education level of respondent: (a) Illiterate (b) Literate (c) Secondary level (d) College level (e) Master Degree and above

Profession of respondent: (a) Farmer (b) Entrepreneur (c) Job Holder (d) Student (e) Social worker (f) Unemployed (g) other

Ownership of Land (a) Yes (b) No

Ethnicity (a) Endogenous (b) Chhetri/Braman (c) Dalit (d) Others

Marital Status (a) Married (b) Un-married (c) Divorce/single

The following three service quality dimensions before and after the local election held in 2017 have been asked during the field survey for the study purpose.

(A) Satisfaction Level (Before Local Election in 2017)

1. **Responsiveness:** There are following two statements/indicator that represents the responsiveness dimension of service quality.
   - Q1. How much satisfied were you that you could receive service timely from VDC/municipality?
   - Q2. How much satisfied were you with the behavior of the personnel while getting service from VDC/municipality?
   - Q.3 How satisfied were you with the distance you had to cover to receive services from VDC/municipality?

2. Tax Policy/Burden: There are the following two statements/indicator that represents tax policy/burden dimension of service quality.

Q4. How much satisfied were you with the service charge you were paid for the service you were provided by VDC/municipality?

Q5. How much satisfied were you to pay property tax or business tax to VDC/municipality?

3. Basic Service: There are the following five statements/indicators to represent the basic services dimension of service quality.

Q6. How much satisfied were you that your children were quickly getting a basic education?

Q7. How much satisfied were you with the basic health services made available in VDC/municipality?

Q8. How much satisfied were you with the services provided under the agriculture and livestock program?

Q9. How much satisfied were you that the VDC/municipality was doing for the benefit of the citizens?

Q10. Generally, how much satisfied were you with the services provided by your VDC/municipality?

(B) Satisfaction Level (After Local Election in 2017)

1. Responsiveness: The following two statements/indicator represent the responsiveness dimension of service quality.

Q1. How much satisfied are you that you could receive service timely from a rural municipality /municipality?

Q2. How satisfied are you with the behavior of the personnel while getting service from a rural municipality/municipality?

Q.3 How satisfied are you with the distance you had to cover to receive rural municipality/municipality services?

2. Tax Policy/Burden: There are following two statements/indicator that represents tax policy/burden dimension of service quality.

Q4. How satisfied are you with the service charge you were paid for the service you provided by a rural municipality/municipality?

Q5. How much satisfied are you to pay property tax or business tax to rural municipality /municipality?

3. **Basic Service:** There are five statements/indicators to represent the basic services dimension of service quality.

Q6. How much satisfied are you that your children were quickly getting a primary education?

Q7. How much satisfied are you with the basic health services made available in rural municipalities/municipalities?

Q8. How much satisfied are you with the services provided under the agriculture and livestock program?

Q9. How much satisfied are you that the VDCs/municipality was doing for the benefit of the citizens?

Q10. Generally, how much satisfied are you with the services provided by your rural municipality/municipality?

C. Expectation and Perception of the Status of Service Delivery

1. Expectations

The respondents were asked to respond to the following three statements under the expectation of service quality after the local election in 2017.

Expectation 1: What would you think about the saying that peoples' access to education, health, agriculture, livestock service, drinking water will be improved after the election of the local level?

Expectation 2: What would you think about saying that responsiveness and transparency will be enhanced after the local level election?

Expectation 3: What would you think about saying that there will be just infrastructure development to the degree that people would feel of it?

2. Perceptions

The respondents were asked to respond to the following three statements under the perception of the service quality after the local election in 2017.

Perception 1. What would you think about the saying that peoples' access to education, health, agriculture, livestock service, and drinking water has been improved after the local level election?

Perception 2. What would you think about the saying that responsiveness and transparency have been enhanced after the local level election?

Perception 3. What would you think about the saying that there has been infrastructure development to the degree that people would feel of it?

(II) Checklist for Supply-Side Respondents

Mayor, Deputy Mayors, Chairpersons, Vice-Chairpersons, Chief Administrative Officers, and Selected Wards Chairs of Municipalities and rural municipality were the supply-side respondents for the interview.

Respondent's Demographic Information

Name of Province:

Name of District:

Rural municipality/municipality

Ecological zone (a) Mountain (b) Hill (c) Terai

Position (a) Chairperson/Mayor (b) Deputy Chair/Deputy Mayor (c) Ward-Chair (d) Palika member (e) Chief Administrative Officer

Questionnaire

Q1. How satisfied are you with the available personnel/staff that they are sufficient to deliver the assigned responsibilities to the rural municipality/municipality?

Q2. How satisfied are you with the efficiency level of the personnel/staff working in your rural municipality/municipality?

Q3. How satisfied are you with the practice of co-working between the personnel and the elected representatives in your rural municipality/municipality?

Q4. How satisfied are you with the role played by the federal government (MoFAGA) to make the local level more efficient?

Q5. How satisfied are you with the role played by the provincial government to make the local level more efficient?

Q6. How satisfied are you with the role of civil society and the private sector to make the local level more effective?

Q7. How satisfied are you with the enthusiasm and readiness shown and the support provided by the citizen regarding their own source revenue generation?

Q8. How satisfied are you that the rural municipality/municipality has been able to increase citizen awareness to expand the tax coverage?

Q9. How satisfied are you with the role and dynamism of the Local Revenue Advisory Committee?

Q10. How satisfied are you with the role and liveliness of the Local Judiciary Committee to settle disputes at the local level?

Q11. How much satisfied are you with the role and liveliness of the Budget and Program Formation Committee while preparing the annual program and budget?

Q12. How satisfied are you with the budget that the allocation for infrastructure development is in line with the citizen's demand?

Q13. How much satisfied are you that the citizens' participation has been ensured in the decision-making process?

Q14. How satisfied are you that the budget has fairly been allocated to the children, women, Dalit, and people with disabilities, etc.?

Q15. How much satisfied are you with the statement that the budget transferred from the federal government is sufficient?

Q16. How much satisfied are you with the statement that the budget transferred from the provincial government is sufficient?

Q17. In general, how much satisfied are you with the role and responsibility rural municipality/municipality has been playing?

Annex 25: Validation of the Data

Model fit exercise is carried out through Confirmatory Factor Analysis (CFA) using SPSS AMOS software. The result is as follows.

A. Before Local Election, 2017

Responsiveness			
	Standardized Loadings	Variance Explained	Error Variance
Items	λ	λ^2	ϵ
Q1BE_RES	0.88	0.774	0.226
Q2BE_RES	0.846	0.716	0.284
Q3BE_RES	0.661	0.437	0.563
Sum	**2.387**	**1.927**	**1.073**
CR = $(\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.842**

Tax Policy			
	Standardized Loadings	Variance Explained	Error Variance
Items	λ	λ^2	ϵ
Q4BE_TAX	0.65	0.423	0.578
Q5BE_TAX	0.826	0.682	0.318
Sum	**1.476**	**1.105**	**0.895**
CR = $(\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.709**

Basic Service			
	Standardized Loadings	Variance Explained	Error Variance
Items	λ	λ^2	ϵ
Q6BE_BAS	0.748	0.560	0.440
Q7BE_BAS	0.903	0.815	0.185
Q8BE_BAS	0.783	0.613	0.387
Q9BE_BAS	0.576	0.332	0.668
Q10BE_BAS	0.564	0.318	0.682
Sum	**3.574**	**2.638**	**2.362**
CR = $(\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.844**

Example:

n =	3		Formula
Average variance extracted (AVE)=	0.4701	0.6423	$(\sum\lambda^2)/n$
Construct reliability (CR) =	0.7186	0.8415	$(\sum\lambda)^2/\{(\sum\lambda)^2 + \sum Var(\varepsilon)\}$

Constructs	**n**	**Total Variance Explained**	**AVE**	**CR**
Responsiveness	3	1.927	0.6423	0.7186
Tax Policy	2	1.105	0.5524	0.6990
Basic Service	5	2.638	0.5276	0.7652

Note:

- All constructs have AVE more than 0.5 and CR more than 0.7
- They have possessed convergent validity.

B. After Local Election, 2017

Responsiveness			
	Standardized Loadings	Variance Explained	Error Variance
Items	λ	λ^2	ϵ
Q1AE_RES	0.898	0.806	0.194
Q2AE_RES	0.849	0.721	0.279
Q3AE_RES	0.565	0.319	0.681
Sum	**2.312**	**1.846**	**1.154**
$CR = (\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.822**

Tax Policy			
	Standardized loadings	Variance explained	Error variance
Items	λ	λ^2	ϵ
Q4AE_TAX	0.842	0.709	0.291
Q5AE_TAX	0.714	0.510	0.490
Sum	**1.556**	**1.219**	**0.781**
$CR = (\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.756**

Basic Service			
	Standardized Loadings	Variance Explained	Error Variance
Items	λ	λ^2	ϵ
Q6AE_BAS	0.515	0.265	0.735
Q7AE_BAS	0.514	0.264	0.736
Q8AE_BAS	0.533	0.284	0.716
Q9AE_BAS	0.962	0.925	0.075
Q10AE_BAS	0.903	0.815	0.185
Sum	**3.427**	**2.554**	**2.446**
$CR = (\sum\lambda)^2 / \{(\sum\lambda)^2 + \sum Var(\epsilon)\}$		**CR =**	**0.828**

Example

n =	3	Value	Formula
Average variance extracted (AVE)=	0.4701	0.6155	$(\sum\lambda^2)/n$
Construct reliability (CR) =	0.7186	0.8225	$(\sum\lambda)^2/\{(\sum\lambda)^2 + \sum Var(\epsilon)\}$

n =	3	Value	Formula
Average variance extracted (AVE)=	0.4701	0.6155	$(\sum\lambda^2)/n$
Construct reliability (CR) =	0.7186	0.8225	$(\sum\lambda)^2/\{(\sum\lambda)^2 + \sum Var(\epsilon)\}$

Constructs	**n**	**Total Variance explained**	**AVE**	**CR**
Responsiveness	3	1.846	0.6155	0.8225
Tax Policy	2	1.075	0.6094	0.7560
Basic Service	5	2.554	0.5109	0.8277

Note:

- All constructs have AVE more than 0.5 and CR more than 0.7
- They have possessed convergent validity.

Annex 26: List of Professionals and Senior Officials

1. Mr. Prithibi Raj Ligal, Former, Vice-Chair of NPC
2. Dr. Jagadish Chandra Pokharel, Former Vice-Chair of NPC
3. Late Dr. Rabindra Kumar Shakya Former Vice-Chair of NPC
4. Dr. Som Lal Subedi (Former Chief Secretary, GoN)
5. Prof. Dr. Bishnu Shankar Paudel, Professor, TU
6. Mr. Khem Raj Nepal, Former Secretary of GoN
7. Dr. Syam Krishna Bhurtel, Former Executive Secretary-General, ADDCN
8. Dr. Krishna Raj Panta, Fiscal Decentralization Expert
9. Dr. Khim Lal Devkota, Fiscal Decentralization Expert
10. Dr. Pratap Chhatkuli, Local Governance Expert
11. Dr. Keshav Acharya, Senior Governance Expert, GIZ, Nepal
12. Dr. Shesraman Neupane, Executive Secretary-General, ADDCN
13. Dr. Rojee Joshi, Local Governance Expert
14. Mr. Bishnu Puri, Local Governance Finance Expert, UNCDF
15. Mr. Parshuram Upadhyay, Senior Program Officer, The Asia Foundation
16. Mr. Yam Nath Sharma, Assistant Country Director, UNDP, Nepal
17. Ms. Anjali Thakali, The World Bank, Nepal
18. Mr. Rajiv Upadhyay, The World Bank), Nepal
19. Mr. Taranath Dahal, Executive Director, Freedom Forum
20. Mr. Purusottam Nepal, Former joint secretary of MoFAGA
21. Mr. Bishnu Datta Gautam, Joint Secretary of MoFAGA
22. Mr. Bishnu Prasad Nepal, Local Governance Expert
23. Mr. Kalanidhi Devkota, Executive Secretary, Municipal Association of Nepal
24. Mr. Bimal Pokharel, Executive Director, National Association of Rural Municipalities of Nepal

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