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Impact of Fiscal Decentralization on Economic Growth in the Districts of Nepal

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Abstract

This paper focuses on the evolving pattern of fiscal decentralization and its impact on the growth of per capita GDP of the districts in Nepal. The dependent variable is the growth of the per capita district agricultural GDP, which is, used as a proxy for the annual growth of per capita district GDP growth. The revenue and expenditure indices have been used as the fiscal decentralization variables. The paper also uses a dummy variable for the Local Self Governance Act (LSGA) as a fiscal decentralization variable. From the various regressions, it is found that fiscal decentralization has positively influenced the per capita district GDP growth. The coefficient of fiscal decentralization variables and dummy variable for the LSGA are statistically significant and positive. The relationship is robust. It is conclude that, ceteris paribus, fiscal decentralization is supportive to district per capita GDP growth in Nepal.

Key words: Fiscal Decentralization, District Economic Growth, Local Bodies, LSGA

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1. Introduction

Decentralization is generally defined as the transfer of certain administrative and fiscal functions or powers from the central to local authorities. There has been a worldwide interest in decentralization in all parts of the world. Both developed and developing countries are attempting to challenge central governments' monopoly of decision-making power. In the Western world, decentralization is an effective tool for reorganization of the government in order to provide public services cost effectively (Bennett, 1990, Wildasin, 1997). Developing countries are turning to decentralization to escape from the traps of ineffective and inefficient governance, macroeconomic instability, and inadequate economic growth (Bird and Vaillancourt, 1999).

Fiscal decentralization or the devolution of fiscal power from the national government to sub-national governments constitutes part of reform packages aimed at improving efficiency of the public sector, increasing competition among sub-national governments in delivering public services and stimulating economic growth (Bahl and Linn, 1992). It consists primarily of devolving revenue sources and expenditure functions to lower tiers of government. It boosts public sector efficiency and enhances accountability and transparency in service delivery and policy-making bringing the government closer to the people.

Nepal introduced the process of decentralization in the early 1960s to mobilize citizen participation in the development process. In 1962, the Government introduced a decentralization policy framework. A legal framework for decentralization was introduced with the Decentralization Act of 1982 and Decentralization Regulations of 1984. After the restoration of multiparty democratic system in 1990, three separate Acts, namely the District Development Committees (DDCs) Act, Village Development Committee (VDCs) Act, and Municipality (Muns) Act, were enacted. In 1991, Local Bodies (LBs)² were constituted in accordance with these Acts. These acts defined the organizational structures, election process, tasks and functions of the LBs. Based on these acts, the first local election was held in 1992,

² The term Local Bodies (LBs) is used for the Local Governments (LGs) in Nepal that include the Village Development Committees (VDCs), Municipalities (Muns) and District Development Committees (DDCs). The DDCs function as a middle tier between the central government and VDCs/Muns, whereas the VDCs and Muns serve as units of Local Governments in rural and urban areas respectively.

which was followed by the establishment of a fiscal transfer system in 1994. Subsequently in 1999, the Government consolidated its local governance system by enacting the Local Self Governance Act (LSGA, 1999), which replaced the erstwhile separate acts for village, municipality and the district levels, incorporating some of their provisions. The LSGA gives LBs greater political, administrative and financial powers to lead, facilitate, and manage the local development affairs effectively. Thus, Nepal introduced decentralization in more operational form in 1999. There has been no amendment to this Act since 1999.

The LSGA (1999), the Local Self Governance Regulations (LSGR, 2000) and the Local Bodies Financial Administrations Regulations (LBFAR, 2007) lay the legal basis for the current local government structure in Nepal. These act and regulations define the LBs' expenditure and revenue functions (Appendices 1 and 2), ensure the fixed entitlement grants from the government and provide the underpinnings for local autonomy in planning and budgeting.

The LSGA was an unprecedented policy shift, as it legally endorsed the concept of self-governance and devolution of authority to the LBs. Its provisions have empowered the LBs and made them more accountable for local development activities. It has devolved different functions such as social, economic, physical infrastructure development, poverty reduction, environment management, and sectoral functions, including planning, financial management, coordination, monitoring, and reporting to the DDCs, VDCs and Muns³.

The LSGA empowers the LBs to raise their revenue from a number of sources such as fees and charges, local own source taxes, shared taxes, and intergovernmental transfers. Rates for most of the local governments' revenues (tax, service fees, fines etc.) are defined centrally, although, in some cases, the LBs can define their own rates within prescribed limits. In addition, there are a number of shared revenues, both between tiers of the LBs and between the LBs and the central government, though they are not without problems. Intergovernmental transfers play the dominant role in the LB's overall budget (LBFC, 2012).

The LSGA aimed to enhance the performance and efficiency of local bodies in resource mobilization and management. It expected to contribute to institutionalization of poverty

³ Until decisions are made about the future local governments' structure in a federal system, there are 75 DDCs, 3915 VDCs and 58 Municipalities in Nepal. The VDCs vary considerably in size and complexity. Areas vary from around 1 square kilometer to 1500 square kilometer, while population varies 71 to nearly 9 millions. The situation of DDCs and Muns is more or less the same.

alleviation and sustainable development at the local level. The LSGA also provided local people with the rights of direct involvement and participation in decision-making and planning process from the grassroots level. The preamble of LSGA (1999) clearly states that it sought to:

"Make provisions conducive to the enjoyment of the fruits of democracy through the utmost participation of the sovereign people in the process of governance by way of decentralization,

Institutionalize the process of development by promoting the participation of all the people including the ethnic community, indigenous people and downtrodden as well as socially and economically backward groups in bringing out social equality in mobilizing and allocating means for the development of their own region and in the balanced and equal distribution of the fruits of development,

Have institutional development of local bodies capable of bearing responsibility, by providing such responsibility and power at the local level as is necessary to formulate and execute plans, and

Constitute local bodies for the development of the local self-governance system in a manner that they are able to make decisions on the matters affecting daily needs and lives of the people by developing local leadership. "

But in practice, there are several problems. The LBs are not exercising several functions assigned to them in accordance with the LSGA (1999) . Due to lack of clarity and the resulting confusion, and due to limited local resources and absorptive capacity, the LBs tend to see the expenditure assignments as mere permissive than mandatory. The LBs tend to selectively choose those responsibilities that are easier to implement with minimal accountability. The long absence of elected political representation since 2002 has not permitted the LBs to use full-fledged devolution. The LBs assume that the central government will continue to provide the core services such as those on education, health, roads, agriculture, and environmental management, which were historically the responsibility of the central line departments. Most LBs focus on expenditures linked to durable assets like roads, bridges and buildings, as opposed to softer services such as awareness campaigns to primary education, primary health, drinking water, sanitation, etc. LGCDP (2011) makes

clear that, out of total LBs' investment 40% goes in road building. Some estimates show the ratio to be even higher at 60% (Koirala, 2011).

Some 23 sectoral laws contradict the provisions of LSGA creating confusion on roles to be played by the LBs in coordinating and liaising with different line offices at the local level. These contradictions undermine the LBs in implementing their functions. The Ministry of Federal Affairs and Local Development has raised these issues in different forums, but they still remain unresolved (Kelly, 2011).

Despite these challenges, the LBs have been able to begin providing important governance interface at the local level and playing a key role in local economic development. They are providing accessible governance for local residents, facilitating communication, and creating a sense of participation and ownership in the governance process. The LBs have helped identify local priorities, execute local plan and budget, and play a supportive role in delivering key public services such as primary healthcare, primary education, local feeder roads, and agricultural services, among others. The LBs have been able to develop some local physical infrastructure such as roads, drinking water projects, school and community buildings, canals, etc., using funds they receive from the central government and their own resources, which they collect in the form of local taxes, service fees, etc.

The overall aim of this paper, therefore, is to explore the impact of fiscal decentralization on district economic growth using a set of fiscal decentralization measures, namely expenditure decentralization, revenue decentralization and the LSGA. In addition, this paper also intends to address the gaps overlooked by the previous studies in exploring the influence of the LSGA in Nepal. Adopting empirical analysis slightly different from the approach employed in other similar studies, the estimation results of this paper show that the influence of fiscal decentralization is positive to the district GDP growth.

The rest of the paper proceeds as follows. Section 2 briefly reviews the literature. Section 3 illustrates the research methodology. Section 4 elaborates on regression results and analysis. Section 5 presents policy implications and finally, section 6 highlights the conclusion.

2. Review of Literature

Tiebout (1956), Musgrave (1959), and Oates (1972) originally made arguments in favour of fiscal decentralization. Their basic economic arguments in favour of fiscal decentralization rest on two assumptions. First, decentralization will increase economic efficiency, as local governments are capable of providing better services due to proximity and informational advantages. Second, competition and population mobility across local governments for the delivery of public services will ensure the right matching of preferences between local communities and local governments (Tiebout, 1956). There is, however, little empirical support to substantiate the claims of the economic benefits of fiscal decentralization (Rodríguez-Pose and Bwire, 2004).

Musgrave (1959) suggested separating the functions of government into three branches, namely macroeconomic stabilization, income redistribution, and resource allocation. He argued that, these functions should be shared amongst the tiers of government in order to use the resources efficiently. The stabilization branch is to assure the achievement of high employment and price stability; the distribution branch is to achieve an equitable distribution of income; and the allocation branch is to see that resources are used efficiently. Literature on fiscal decentralization and economic growth implicitly assumes that fiscal decentralization affects growth through its impact on these three functions (McLure, 1999). The LBFC (2000) argues that among the three functions, the resource allocation function is considered the most appropriate one for the Local Governments.

Oates (1972) proposed a straightforward decentralization theorem that formalizes the basic efficiency argument for the decentralized provision of certain types of public goods. His theorem lays out a set of sufficient conditions for the decentralized provision of these goods to be Pareto-superior to a centralized determination of public outputs. He applied his theorem for a public good—the consumption of which is defined over geographical subsets of the total population, and for which the costs of providing each level of output of the good in each jurisdiction are the same for the central or for the respective local government. He inferred that it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions.

Oates (1993) argues that the basic economic case for fiscal decentralization is the enhancement of economic efficiency, and that the provision of local outputs that are differentiated according to local tastes and circumstances results in higher levels of social welfare than centrally determined and more uniform levels of outputs across all jurisdictions. According to Oates, expenditure for infrastructure and the social sector that respond to regional or local differences are likely to be more effective in enhancing economic development than the central policies.

There has been a growing interest of development specialists, multilateral development agencies, economists, and governments on fiscal decentralization as a primary tool for promoting economic growth (United Nations, 1991; Oates, 1994, Bruno and Pleskovic, 1996). However, the literature on decentralization and economic growth in the context of development is still in its infancy (Bardhan, 2002).

Linking economic growth and fiscal decentralization together has mainly three reasons (Zhang and Zou, 1998). Firstly, growth is an objective of fiscal decentralization and a factor of efficiency in the allocation of resources in the public sector. Secondly, it is an explicit intention of governments to adopt policies that lead to a sustained increase in per capita income. Thirdly, per capita growth is easier to measure and interpret than other indicators of economic performance.

Out of 75 developing and emerging economies with populations greater than five million, all but 12 claim to have embarked on some type of transfer of power to local governments (Dillinger, 1994). Some 95 percent of democracies now have elected sub-national governments, and countries everywhere—large and small, rich and poor—are devolving political, fiscal, and administrative powers to sub-national tiers of government (World Bank, 2000).

Bahl and Martinez-Vazquez (2005) point out that fiscal decentralization has the potential to improve economic growth and that it offers a potentially powerful tool for alleviating poverty. A review of the experience in various countries suggests that the success or failure of decentralization often depends upon a coherent decentralization strategy, and adequate mechanisms for managing and implementing the process. That process often includes multiple reform components, divergent interests (among central vs. local governments, sectoral ministries vs. central agencies, bureaucrats vs., politicians vs. citizens, etc.).

The rapid growth in the autonomy and responsibilities of subnational governments is one of the most noteworthy trends in governance in recent decades, especially in developing and transition economies (Rodríguez-Pose and Gill, 2003), in which fiscal decentralization tends to be a relatively recent phenomenon. In these countries, the two main reasons for the emergence of decentralization are either the failures in economic planning of the central governments, and/or the changing international economic and political conditions (Smoke, 2001). In case of Nepal, decentralization is the major area of governance reform, an important tool for improvement in service delivery and capacity development at local levels. Subedi (2013) argues that the past efforts of governance reform and decentralization in Nepal could not devolve adequate fiscal resource to the LBs. Currently, Nepal is in political transition. People are demanding more power. Decentralizing power and localizing services are the key reform agenda.

There have been many studies on the growing theoretical literature that explore the relationship between fiscal decentralization and economic growth. However, there have been relatively fewer empirical studies to establish such relationship. Studies undertaken so far have been reaching diverging conclusions, showing from positive, to neutral and negative relationship between fiscal decentralization and economic growth.

Most empirical studies highlight a positive correlation between fiscal decentralization and economic growth, the majority of which are cross-country analyses. These include studies on the OECD countries (Thiessen, 2003, Thornton, 2007 and Gemmell, Kneller and Sanz, 2009), European countries including transition countries (Meloche, Vaillacourt and Yilmaz, 2004 and Ebel, Yilmaz, 2004 and Krøijer and Rodríguez-Pose, 2009) and developed and developing countries (Martinez-Vazquet J. and Robert McNab, 2005 and Iimi, 2005). Single country studies also find positive relation such in the case of the United States and China (Akai and Sakata, 2002, Stansel, 2005, Lin and Lou, 2000, and Hammond and Tosum, 2009). These studies find the theoretically predicated contribution of fiscal decentralization to economic growth. These studies conclude that fiscal decentralization contributes positively to economic growth.

A few studies find no significant relationship between fiscal decentralization and economic growth. Some of those studies use data from the LDCs (Woller and Phillips, 1998), US

Metropolitan and Non-metropolitan cities (Hammond and Tosun, 2006), OECD countries (Baskaran and Feld, 2009) and Australia (Bodman, Campbell, Kelly and Hodge, 2009).

At the same time, some studies find negative relationship between fiscal decentralization and economic growth. They use data set from both developed and developing countries (Davoodi and Zou, 1998), Chinese provinces (Zhang and Zou, 1998, and Jin and Zou, 2005), US economy (Xie, Zou and Davoodi, 1999), and OECD countries (Rodríguez-Pose and Ezcurra, 2010). All these studies conclude that the influence of fiscal decentralization on economic growth is negative. These studies argue that fiscal decentralization may be particularly harmful for economic growth in the early stages of development, where the administrative capability of local governments is insufficient; where local officials may not be responsive to preferences of local residents; and where the local governments may be constrained by the central government. Likewise, fiscal policy-growth effects may be more related to the functional composition of government spending or type of tax than to fiscal decentralization, if sub-national governments spend more on items with low growth effects such as social welfare whereas national governments spend more in growth enhancing items such as infrastructure (Gemmell, Richard and Ismael, 2009).

In case of Nepal, there have been very few studies showing empirical relationship between fiscal decentralization and economic growth. Shrestha and Devkota (2010), Gyanwaly and Devkota (2012) and Devkota (2013) directly or indirectly find positive relationship between fiscal decentralization and economic growth. These studies explicitly ignore the role and importance of the LSGA along with its impacts in local economy. They have overlooked the pre and post LSGA analysis approach, which is a necessary condition. It has created the need to address these gaps and hence the importance of this study.

3. Research Methodology

The LSGA (1999) is a major attempt to implement the fiscal decentralization. In this study, panel data for the period 1996 to 2001 have been used to examine the impact of fiscal decentralization on economic growth in districts. This includes a period of three years before and a period of three years after the enactment of LSGA. The sample could not be extended beyond 2001 due to insufficient data availability. Due to the unavailability of data on district level per capita GDP growth, the district agricultural GDP growth is taken as the proxy.

Data have been collected from published and unpublished sources from concerned Local Bodies (LBs), the Ministry of Federal Affairs and Local Development (MoFALD), the Local Bodies Fiscal Commission (LBFC) and other related institutions. All the data related to revenue and expenditure have been converted to constant price (base year 1996) using a price deflator.

Nepal's 75 districts have been grouped into five strata - eastern, central, western, mid western and far western- as per the existing development classification of the country. Each of these five strata is regrouped into three sub-strata: Terai, Hill and Mountain, according to the geographical division of the country. Four districts from each development stratum have been selected. Within these five strata, one district is selected from the Terai and the Mountain sub-stratum each and two districts have been chosen from the Hill sub-stratum. Thus, 20 districts have been selected as the sample of the study.

While selecting the districts from each sub-stratum, criteria including the Human Development Index (UNDP, 2004), Own Source Revenue (LBFC, 2010), Performance Measurements⁴ (LBFC, 2011) and population (CBS, 2009) have been applied. The sampled 20 districts (Appendix 3) capture 26.67 percent of the 75 districts, covering 29.13 percent of total country's population based on 2011 census.

In this paper, many variables such as total revenue and expenditure, population, and number of primary schools at the district level, DDCs expenditure in various sectors, etc. have been used as control variables. Appendix 4 contains brief explanation of these variables including

⁴ In Nepal, the Local Bodies Fiscal Commission, a government agency in fiscal decentralization evaluates performance assessments of all LBs every year. The unconditional capital grant for the LBs is based on the assessment results. Those LBs receiving the highest scores obtain the greater grant and vice versa.

the data sources. For the measurement of fiscal decentralization, an index of expenditure decentralization, an index of revenue decentralization and a dummy variable (DV) for the LSGA have been used. Definition of these indices has been included in Appendix 5.

The average annual per capita GDP growth can be derived using a simple linear regression equation applying variables of fiscal decentralization and economic controls represented as district characteristics. The growth regression is written as;

$$Y_{it} = \alpha_0 + \beta_1 \text{Fiscal Decentralization}_{it} + \beta_2 \text{Economic Controls}_{it} + \varepsilon_{it}$$

where the indices i and t denote districts and years, respectively; Y represents average annual per capita district agricultural GDP growth as proxy by growth of district GDP per capita. Economic control variables consist of district characteristics. GDP growth is subject to many influences beyond fiscal decentralization. In order to control for these influences, a set of control variables have been used to improve the robustness of the result. Most of these control variables are similar to those used in studies like Barro (1990), Levine and Renelt (1992), Davoodi and Zou (1998), Xie, Zou and Davoodi (1999) and Aki and Sakta (2002). These control variables are - Own Source Revenue (OSR), population, primary school enrollment rate, number of primary schools, grant, capital expenditure and the political violence. The measurement of fiscal decentralization is captured by an index of either expenditure decentralization or revenue decentralization and a dummy for the LSGA, meaning that, the LSGA has empowered the Local Bodies in all aspects. Before the LSGA, it was assumed that the Local Bodies were not able to use the fiscal powers, functions and functionaries. The parameters α_0 is scalar, β represent parameter vectors, and ε_i is an error term, which is normally distributed, homoscedastic, and independent across observations. The use of data with time-series and cross-section dimensions enables consideration of district-specific characteristics. Time series data for each district in cross-district regression analysis can better capture the dynamics of relationships between fiscal decentralization and district economic growth. The panel data allow more flexibility in modeling.

All the control variables except political violence have been converted into logs. In order to deal with possible endogeneity problems, control variables were measured at 1996 levels for pre-fiscal decentralization period (before LSGA) and 1999 levels for the post fiscal decentralization period (after LSGA). "The control variables (with the exception of the initial level of dependent variable) determine the steady state growth rate. The initial level variables

provide information on the dynamic adjustment to the steady state (Hammod and Tosum, 2009). "

4. Regression Results and Analysis

To identify whether fiscal decentralization is sensitive to economic growth or not, this study estimates a number of models. In all the models (Appendix 7), the coefficients of fiscal decentralization including a dummy for the LSGA, have been found to be statistically significant and positive. To test the effect of fiscal decentralization on the GDP growth, the revenue and expenditure decentralization variables have been introduced into the regression as alternate independent variables. A dummy for the LSGA has been included in all regressions. In primary finding, the estimated coefficient on fiscal decentralization is positive and statistically significant at 1% level. This provides evidence that fiscal decentralization contributes to economic growth. For example, in the first model, the estimate, 1.61 (see Appendix 7.1) implies that other things being unchanged, the growth rate of per capita district GDP should rise by 1.61 percentage points in response to one percent increase in the degree of fiscal decentralization.

Three types of models have been estimated. In the first type (1st to 10th), the per capita expenditure on education, health, road, drinking water and sanitation, agriculture and livestock and others have been used in addition to other control variables. However, in the second type (11th -14th), the per capita expenditure on education, health, etc. related variables have not been included. In the third type of models (15th - 20th), some variables have been lagged by one year to make the models more robust. Two variables, namely, the per capita expenditure on agriculture and the per capita expenditure on drinking water, are statistically significant in all models. The coefficient of the per capita expenditure on drinking water is positive, however, the coefficient of the per capita expenditure on agriculture is negative. In robustness checks models, the coefficient of the per capita expenditure on education has been positive and statistically significant at 5% level. It concludes that per capita expenditure on education and per capita expenditure on drinking water enhances the district economic growth. The coefficient of per capita expenditure on agriculture is negative. However, the impact is negligible. In per capita expenditure on health and per

capita expenditure on “other”⁵, the impact is insignificant. In none of the models, the per capita capital expenditure variable is significant. In robustness check models, the coefficient of this variable is positive and statistically significant. The OSR and DV (dummy variable for the LSGA) have been used in all models, where the coefficients of these variables are statistically significant at 1% level. The political violence and population variables have been used in different 17 models. In none of the models, they are significant. Likewise, in none of the models the primary school is significant. In robustness models, the coefficient of primary school enrollment rate is positive and statistically significant at 1% and 5% levels respectively. The key finding is that fiscal decentralization is positively affecting district per capita agriculture GDP growth; i.e. the proxy of per capita GDP growth. The Hausman test results indicate that the random effect estimator is inconsistent in all the models, so all the reported results are from fixed effect model specifications.

Theory suggests that a close match between revenue and expenditure assignments at LGs level helps improve allocative, productive, and fiscal efficiency and hence enhances the economic growth. The finding matches the theory. The positive association between fiscal decentralization and district real per capita GDP growth is consistent with the propositions of Tiebout (1956), Musgrave (1959), Oates (1993,1997, 1999), Huther and Shah (1996), Akai and Sakata (2002), Lin and Liu (2000), Martinez-Vazquez and Robert M. (2001,2003,2005), Bahl and Martinez-Vazquez (2005), Stansel (2005), Iimi (2005), Liu (2007) and Gyanwaly and Devkota (2012).

⁵ Including the areas as explained above, there are a number of other expenditure assignment areas for DDCs such as social security, natural disasters, sports, soil erosion and river control, environment, forest, culture, land reform management, etc. Therefore, for this paper per capita expenditure in “other” represent per capita capital expenses in those sectors excluding education, health, road, agriculture, drinking water and sanitation.

5. Policy Implications

Fiscal decentralization has been an integral part of overall public sector reform in a number of countries, both developed and developing including Nepal. It consists primarily of re-assigning expenditure functions and revenue sources to lower tiers of government. This paper has addressed the evolving patterns of fiscal decentralization and impact of fiscal decentralization on per capita GDP economic growth in the districts of Nepal.

The enactment of LSGA is an important milestone for local governance in Nepal. It has empowered LBs for enhancing capital expenditure in a range of social and economic sectors for delivering social services at local level. A dummy variable of the LSGA has positive impact in the GDP economic growth. The fiscal decentralization is significantly enhancing the GDP economic growth in the districts of Nepal. Therefore, the process of fiscal decentralization is beneficial to the economy of Nepal. The policy implication of this paper has been highlighted as follows;

- a) The district economic growth is possible through capital investment in socio-economic sectors and augmenting the basic service delivery. It would include policy intervention for increasing capital expenditure and improving service delivery at the local level.
- b) The areas of capital expenditures of the DDCs are imbalanced. They are spending a greater portion of capital budget on roads. Smaller portion of budget goes to the other sectors like education, health, agriculture, etc. Therefore, policy instrument should seek to allocate capital expenses proportionately in all sectors on demand basis coming through the citizen participation.
- c) The LSGA has provided the DDCs with many financial powers, which they are not utilizing properly. As a result, dependency on central grant is increasing. A hard budget constraint policy is needed so that the DDCs would be compelled to generating more revenues on their own sources.
- d) The regression result shows that capital expenditure on education, drinking water and sanitation is enhancing the GDP economic growth in districts. On this ground, a strategic and implementable policy would have to be designed to promote these sectors on which the DDCs and other stakeholders are willing to invest more.

- e) The empirical analysis results of primary school enrollment rate is also positively enhancing the GDP economic growth in districts. This calls for an effective policy that would support increase the primary school enrollment rate, investment in primary school buildings, trained teachers, furniture, teaching materials and other programs motivating the children and deprived people for the enrollment.
- f) The fiscal decentralization indices, derived from the total district expenditure and revenue, are positively affecting the GDP economic growth in the districts. This does not mean that higher indices are inducing the GDP economic growth. There is direct and positive functional relationship between the GDP economic growth and revenue and expenditure. Therefore, the DDCs must be encouraged to increase their overall revenue and expenditure.
- g) In Nepal's fiscal decentralization history, the LSGA is a milestone document. The impact of LSGA is positive in the GDP economic growth in the districts of Nepal. However, there are a number of other sectoral acts and regulations conflicting with the LSGA, which need amendment for its smooth functioning.

6. Conclusion

The LSGA (1999) is a major attempt to implement the fiscal decentralization in Nepal. It gives Local bodies greater political, administrative and financial powers to lead, facilitate, and manage the local development affairs effectively.

The impact of fiscal decentralization on the growth of per capita GDP of the districts of Nepal is the central focus of this paper that has addressed the evolving patterns of fiscal decentralization in Nepal. The time series data at the district level related to economic growth, per capita income, etc. are not available. Therefore, district agriculture per capita GDP growth has been taken as the proxy for per capita GDP growth. The revenue and expenditure indices have been used as the fiscal decentralization variables. The paper also uses a dummy variable for the Local Self Governance Act (LSGA) as a fiscal decentralization variable.

For the sampling purpose panel data set of 20 District Development Committee (DDCs) for a period of three years before and a period of three years after the enactment of LSGA has been used. For the control variables; primary school enrollment rate, number of primary schools, population, real per capita grant and the per capita capita expenditure and political violence

have been used. Using altogether 20 models, the null hypothesis has been clearly rejected, as the Hausman Test tends to favor a fixed effect specifications and the result suggests that the random effects estimator is inconsistent. The coefficient of fiscal decentralization is found to be statistically significant and positive in the estimated models. Adopting empirical analysis slightly different from the approach employed in other similar studies, the estimation results of this paper show that the influence of fiscal decentralization is positive to the growth of per capita GDP of the districts of Nepal .

APPENDICES

Appendix 1 : Functional areas (expenditure assignments) of Local Bodies

DDCs	VDCs	Municipality
a) Agriculture		
<p>(1) To make District level policy on agriculture and livestock development, and formulate and operate programmes in consonance therewith, and inspect and monitor, and cause to be inspected and monitored, the programmes operated.</p> <p>(2) To arrange for, and cause to be arranged for the seeds, fertilizers and other agricultural inputs required in the District.</p> <p>(3) To provide, and cause to be provided, the services relating to agriculture extension in the district development area.</p> <p>(4) To promote, and cause to be promoted, the agricultural Haat markets and fairs.</p> <p>(5) To manages and cause to be managed, the markets for agricultural products.</p>	<p>(1) To carry out or cause to be carried out agricultural development programmes within the village development area.</p> <p>(2) To arrange for agricultural Haats (weekly temporary market for agricultural goods) and fairs or to assist in organizing such fairs within the village development area.</p> <p>(3) To operate or cause to be operated veterinary hospitals, as per necessity, for the prevention and control of animal diseases within the village development area, and to arrange or cause to be arranged for pasture areas, as required, for cattle grazing.</p>	<p>(1) To arrange for animal slaughter houses.</p> <p>(2) To arrange or cause to be arranged for Haat bazaar (weekly market), markets, fairs and exhibitions etc.</p>
b) Drinking Water and Sanitation and Habitation Development		
<p>(1) To formulate and implement, and cause to be implemented drinking water programs/projects which are to benefit the people in more than one village development committees in the district development area.</p> <p>(2) To formulate plans on habitation and market development in rural areas of the district development area, and implement and cause to be implemented them.</p>	<p>(1) To prepare drinking water projects for the supply of drinking water required within the village development area and to implement and operate the same, and to arrange or cause to be arranged for their maintenance.</p> <p>(2) To construct, maintain and repair or cause to be constructed, maintained and repaired wells, ponds, taps etc. within the village development area.</p> <p>(3) To preserve or cause to be preserved the sources of water within the village development area.</p>	<p>(1) To preserve rivers, streams, ponds, wells, lakes, stone water-taps etc. and utilize, or cause to be utilized them properly.</p> <p>(2) To carry out or cause to be carried out sanitation programmes in the Municipality area.</p> <p>(3) To carry out and manage or cause to be carried out and managed the acts of collection, transportation and disposal of garbage and solid wastes.</p>
c) Hydropower		

DDCs	VDCs	Municipality
(1) To formulate, implement, operate, distribute and maintain and repair projects on mini and micro hydropower and other energy, and cause to be done the same	(1) To generate and distribute electricity and to cause to be generated and distributed the same.	(1) To generate and distribute or cause to be generated and distributed electricity in the Municipality area.
(d) Works and Transport		
(1) To prepare a master plan of district-level roads in the district development area and get it approved by the District Council. (2) To build, operate, monitor, evaluate and maintain and repair the approved District level roads, and cause to be done the same. (3) To formulate, build and maintain and repair the plans of suspension bridges required in the district development area, and cause to be done the same. (4) To make necessary arrangements on the means of transport to be operated within the district development area. (5) To give license to “D” class contractors and cancel and renew it pursuant to the prevailing law. (6) To develop and promote the waterways and ropeways.	(1) To prepare projects on tracks and trails, and rural roads required within the village development area and to implement the same and make arrangement for their maintenance and repair. (2) To maintain and repair bridges, twines, Ghats (embankments) and culverts handed over by various agencies.	(1) To prepare plans of unpitched and pitched roads, bridges and culverts as needed within the Municipality area, except those roads which are under the responsibility and control of His Majesty’s Government, and construct, maintain and repair or cause to be constructed, maintained and repaired, the same. (2) To arrange or cause to be arranged for bus parks and parking places of rickshaws (three-wheelers), horse-carts, trucks etc. within the Municipality area. (3) To prescribe the upper limit of push-carts, rickshaws, horse-carts etc. in consideration of transport requirement of the Municipality and register and provide number to them.
(e) Land Reforms and Land Management		
(1) To protect and promote the Ailani (unregistered) land and governmental barren land situated within the district development area.		(1) To protect barren and governmental unregistered (Ailani) land in the Municipality area.
f) Development of Women and Helpless People (Women, Children and Social Welfare)		

DDCs	VDCs	Municipality
<p>(1) To prepare and implement a plan required for the upliftment of the women in the district development area.</p> <p>(2) To carry out acts on the protection of the orphans, helpless women, the aged, disabled and incapacitated persons as per the national policy, and to carry out or cause to be carried out acts on the wiping out of social ill-practices and the protection of the girls and women</p>	<p>(1) To maintain the inventory of the helpless, orphan and disabled children within the village development area and to make arrangements for keeping them in appropriate place.</p> <p>(2) To prepare necessary plans for the upliftment of women within the village development area and to implement the same.</p> <p>(3) To carry out activities regarding the protection of orphan children, helpless women, aged and old, disabled and incapacitated persons in line with the national policy and to carry out or cause to be carried out acts regarding the wiping out of social ill-practices and the protection of girls and women.</p>	<p>(1) To arrange, or cause to be arranged, for cremation of heirless dead person, and to make arrangements for orphanages for helpless people, orphans and children bereaved of parents.</p> <p>(2) To carryout, or cause to be carried out, programmes relating to the interests and welfare of the women and children and acts relating to the control of immoral profession and trade.</p> <p>(3) To maintain inventory of the helpless, orphan and disabled children within the Municipality area and arrange to keep them in appropriate place.</p>
g) Forest and Environment		
<p>(1) To prepare plans on forests, vegetation, biological diversity and soil conservation, and implement and cause to be implemented the same.</p> <p>(2) To protect and promote, and cause to be protected and promoted, the environment</p>	<p>(1) To afforest or have afforestation in barren land, hills, steppe and steep land and in public land.</p> <p>(2) To prepare programmes in respect of forests, vegetation, biological diversity and soil conservation and to carry out or cause to be carried out the same.</p> <p>(3) To make various programmes on environment protection and to carry out or cause to be carried out the same.</p>	<p>(1) To assist, or cause to be assisted, in environment protection acts by controlling water, air and noise pollution to be generated in the Municipality area.</p> <p>(2) To protect or cause to be protected the forests, vegetation and other natural resources within the Municipality area.</p> <p>(3) To do plantation on either side of the roads and other necessary places in the Municipality area.</p> <p>(4) To determine and manage places for keeping pinfolds and animal slaughter house.</p>
h) Education and Sports		

DDCs	VDCs	Municipality
<p>(1) To set priority for establishing schools in the district development area and make recommendation for their establishment.</p> <p>(2) To make recommendation, setting out rationale and reasons, for the approval and dissolution of the schools in the district development area.</p> <p>(3) To supervise and monitor the schools in the district development area and assist in their operation and management.</p> <p>(4) To formulate policies and programmes on the District level adult education as well as informal education.</p> <p>(5) To set programmes relating to sports and physical development, and implement and cause to be implemented them.</p> <p>(6) To form a District level sports development committee.</p>	<p>(1) To establish pre-primary schools with own source, to give permission to establish them and to operate and manage the same.</p> <p>(2) To supervise and manage the schools being operated within the village development area.</p> <p>(3) To assist in providing primary level education in mother tongue within the village development area.</p> <p>(4) To make programmes on adult education and informal education and to carry out or cause to be carried out the same.</p> <p>(5) To establish and operate or cause to be established or operated libraries.</p> <p>(6) To formulate plans on the development of sports and to implement the same, and to extend support to the development of sports by constituting village level sports development committee.</p> <p>(7) To make arrangements for providing scholarships to the students of oppressed ethnic communities who are extremely backward on economic point of view.</p>	<p>(1) To establish, operate and manage pre-primary schools with own source in the Municipality area and give permission to establish the same.</p> <p>(2) To extend supports in the operation and management of schools being operated within the Municipality area and to make recommendations for the establishment and dissolution of such schools.</p> <p>(3) To assist in providing primary level education in mother tongue within the Municipality area.</p> <p>(4) To make arrangements for providing scholarships to the students of oppressed ethnic communities who are extremely backward on economic point of view.</p> <p>(5) To prepare and implement or cause to be implemented programmes on Municipality level adult education and informal education.</p> <p>(6) To open, operate and manage or cause to be opened, operated and managed, libraries and reading halls in the Municipality area.</p> <p>(7) To prepare and implement or cause to be implemented, sports development programmes.</p> <p>(8) To develop or cause to be developed sports by constituting Municipality level sports development committee.</p>
i) Relating to Wages for Labour		
<p>(1) To determine rate of wages for labour and rate of workmanship at the district level.</p> <p>(2) To set and operate programmes on abolition of child labour and rescue of the children</p>		
j) Irrigation and Soil-erosion and River Control		

DDCs	VDCs	Municipality
<p>(1) To formulate, implement, operate and maintain and repair programmes on irrigation, ditch, embankment, and small ditch providing facility to more than one village development area in the district development area, and cause to be done the same.</p> <p>(2) To formulate plans on prevention of soil- erosion, river cutting etc. in the areas affected from such acts, and implement and cause to be implemented the same.</p>	<p>(1) To prepare projects of irrigation, dams, canals, water channel, water bank (Pani ghat) etc. required within the village development area and to implement or cause to be implemented the same.</p> <p>(2) To prepare programmes on soil-erosion and river control that affects the village development area and to implement or cause to be implemented the same.</p>	<p>(1) In the event of necessity to carry out irrigation plans in the Municipality area, to make plans thereof and implement and cause to be implemented the same.</p> <p>(2) To control and prevent, or cause to be controlled and prevented the possible river-cuttings, floods and soil erosion in the Municipality area.</p>
(k) Information and Communications		
<p>(1) To maintain data of the district development area.</p> <p>(2) To give approval to set up cinema halls in the district development area except the Municipality area.</p> <p>(2) To open district level libraries, reading rooms and information centers in other rural areas except the Municipality area in the district development area.</p>	<p>(1) To keep records of population, houses, land and livestock within the village development area.</p> <p>(2) To register birth, death and other personal events in accordance with the prevailing law.</p>	<p>(1) To maintain inventory of population and houses and land within the Municipality area.</p> <p>(2) To register birth, deaths and other personal events pursuant to the prevailing law.</p> <p>(3) To grant approval to open cinema halls in the Municipality area.</p> <p>(4) To up-date the block numbers of the houses in the Municipality area..</p>
(l) Language and Culture		
<p>(1) To keep records of culturally and religiously important places located within the district development area and to preserve and promote them by having them repaired and maintained.</p> <p>(2) To promote, and cause to be promoted, various languages, religions and cultures,</p> <p>(3) To preserve, promote and use, and cause to be preserved, promoted and used, the archaeological objects, languages, religion, art and culture within the district development area.</p>	<p>(1) To keep records of religious places and rest houses, inns, shelters etc. within the village development area and to look after and preserve them or cause to be done the same.</p> <p>(2) To preserve or cause to be preserved various languages, religions and cultures and assist in their development.</p>	<p>(1) To prepare an inventory of the culturally and religiously important places within the Municipality area and maintain, repair, protect and promote, or cause to be maintained, repaired, protected and promoted, them.</p> <p>(2) To protect, promote and use or cause to be protected, promoted and used, archaeological objects, languages, religion and culture within the Municipality area.</p>
(m) Cottage Industry		
<p>(1) To maintain records of the cottage industries to be establish within the district development area.</p> <p>(2) To identify and develop an industrial zone in the district.</p>	<p>(1) To act as a motivator for carrying out cottage industries in the village development area.</p>	<p>(1) To act or cause to act as a motivator to the promotion of cottage, small and medium industries in the Municipality area.</p>
(n) Health Service		

DDCs	VDCs	Municipality
<p>(1) To operate and manage, and cause to be operated and managed, the district level health posts, hospitals, Ayurvedic dispensaries, health centres, health offices etc.</p> <p>(2) To formulate and implement the programmes such as family planning, mother child welfare, extensive vaccination, nutrition and population education and public health.</p> <p>(3) To give approval to open sub-health posts in the village development areas under the district development area and inspect and monitor them.</p> <p>(4) To make arrangements for the supply of such medicines and materials and equipment relating to treatment as required for the district development area, and inspect and monitor the quality standards thereof.</p> <p>(5) To prohibit or remove the public use of the things injurious to the public health in the district development area.</p> <p>(6) To prohibit the sale, distribution and consumption of such consumable goods as may cause adverse impacts on the public health.</p>	<p>(1) To operate and manage village level health centre, health post and sub-health posts.</p> <p>(2) To prepare programmes on primary health education and sanitation and disposal of wastes and garbages in the village development area and to implement the same.</p> <p>(3) To provide assistance in the development and expansion of herbs.</p> <p>(4) To launch programmes on family planning and maternity and child care.</p>	<p>(1) To operate and manage, or cause to be operated and managed, municipal level hospitals, Ayurvedic dispensaries and health centers.</p> <p>(2) To open, operate and manage, or cause to be operated and managed, health posts and sub-health posts within the Municipality area.</p> <p>(3) To formulate programmes relating to family planning, mother and child welfare, extensive vaccination, nutrition, population education and public health, and to implement or cause to be implemented the same.</p> <p>(4) To arrange, or cause to be arranged, for prevention of epidemics and infectious diseases.</p> <p>(5) To ban the public use of such things and objects in the Municipality area as are harmful to the public health or remove the same.</p> <p>(6) To ban the sale, distribution and consumption of such type of consumer goods which may cause adverse effects on public health.</p>
o) Tourism		
<p>(1) To protect, promote, expand and utilize the natural, cultural, historical and touristic heritages in the district development area, and cause to be done so.</p>	<p>(1) To preserve, develop and expand tourist areas and to make or cause to be made arrangements for preventing pollution in such places.</p>	<p>(1) To protect, promote, expand and utilize or cause to be protected, promoted, expanded and utilized, natural, cultural and tourists heritage within the Municipality area.</p>
(p) Physical Development		

DDCs	VDCs	Municipality
	<p>(1) To build community buildings, rest houses and public toilets.</p> <p>(2) To prepare criteria for houses, buildings, roads and other physical infrastructures etc. to be constructed within the village development area, and to grant approval as prescribed for the construction of them.</p> <p>(3) To formulate land-utilization plans of the village and to implement or cause to be implemented the same.</p> <p>(4) To make or cause to be made arrangements for necessary sewerage and drainage in settlement areas.</p>	<p>(1) To frame land-use map of the Municipality area and specify and implement or cause to be implemented, the industrial, residential, agricultural, recreational areas etc.</p> <p>(2) To prepare housing plan in the area of Municipality and implement or cause to be implemented the same.</p> <p>(3) To carryout plans on drinking water and drainage in the areas of Municipality and operate, maintain and repair or cause to be operated, maintained and repaired the same.</p> <p>(4) To develop, or cause to be developed, green zones, parks and recreational areas in various places in the Municipality area.</p> <p>(5) To arrange for, or cause to be arranged for, public toilets in various places in the Municipality area.</p> <p>(6) To approve or cause to be approved designs of houses, buildings etc. to be constructed in the areas of the Municipality.</p> <p>(7) To build community building and rest houses.</p>
(q) Finance		
<p>(1) To prepare annual budgets, plans and programmes of the District and submit them to the District Council.</p> <p>(2) To keep the accounts of incomes and expenditures, and other documents pertaining thereto in an up-dated manner.</p> <p>(3) To expend the money to execute the decisions of the district council, subject to the limits of the approved budget and get them audited timely.</p> <p>(4) To raise taxes, charges and fees etc. approved by the District Council by remaining within the legal framework.</p> <p>5. Having the Local Body oriented towards establishing the civil society based democratic process, transparent practice, public accountability, and people's participation, in carrying out the functions devolved on them.</p>	<p>(1) To prepare annual budgets, plans and programmes of the VDC and submit them to the VDC Council.</p> <p>(2) To keep the accounts of incomes and expenditures, and other documents pertaining thereto in an up-dated manner.</p> <p>(3) To expend the money to execute the decisions of the council subject to the limits of the approved budget and get them audited timely.</p> <p>(4) To raise taxes, charges and fees etc. approved by the Council by remaining within the legal framework.</p> <p>5. Having the Local Bodies oriented towards establishing the civil society based democratic process, transparent practice, public accountability, and people's participation, in carrying out the functions devolved on them.</p>	<p>(1) To prepare annual budgets, plans and programmes of the Municipality and submit them to the Municipal Council.</p> <p>(2) To keep the accounts of incomes and expenditures, and other documents pertaining thereto in an up-dated manner.</p> <p>(3) To expend the money to execute the decisions of the Municipality, subject to the limits of the approved budget and get them audited timely.</p> <p>(4) To raise taxes, charges and fees etc. approved by the Municipal Council by remaining within the legal framework.</p> <p>5. (5) Having the Local Bodies oriented towards establishing the civil society based democratic process, transparent practice, public accountability, and people's participation, in carrying out the functions devolved on them.</p>
(r) Legal		

DDCs	VDCs	Municipality
(1) To draft the bye-laws of the District Development Committee and submit it to the District Council.	(1) To frame bye-laws of the Village Development Committee and submit them to the Village Council. (2) Judicial Power related to cases on border/boundary of land, public land, boundary walls, canals, dams, ditches or allocation of water and encroachment on roads or way-outs, compensation for damage of crops, construction of Houses, local issues on pasture land, grass, fuel woods, intruding in private house etc as specified in Laws	(1) To frame bye-laws of the Municipality and submit it to the Municipal Council.
(S)Public safety		
(1) To carry out necessary actions in respect of controlling natural calamities.	(1) To carry out or cause to be carried out necessary works in respect of controlling natural calamities. (2) To control immoral activities like sale and distribution of intoxicating substances and gambling and playing cards within the village development area.	(1) To carry out necessary functions on the controlling of natural calamities. (2) To have trees cut and houses, walls etc demolished which create hazardous results (3) To impound and auction strayed animals. (4) To secure public interest by killing rabid and strayed dogs and specify the places to bury dead animals and birds into. (5) To arrange for lighting on the roads and alleys (6) To operate and manage or cause to be operated and managed fire brigades.

DDCs	VDCs	Municipality
(n) Miscellaneous:		
<p>(1) To protect the movable and immovable properties remained under the ownership and control of the District Development Committee.</p> <p>(2) To carry out other functions as prescribed under the prevailing law.</p>	<p>(1) To develop human resources, to make arrangements for making available employment and self-employment opportunities.</p> <p>(2) To encourage or cause to be encouraged to carry out cooperative, industrial and commercial activities generating income to the Village Development Committee with the investment of private sector as well.</p> <p>(3) To formulate various programmes based on cooperatives and to carry out or cause to be carried out the same.</p> <p>(4) To protect movable and immovable properties which are under ownership and control of the Village Development Committee.</p> <p>(5) To provide assistance for cooperativeness.</p> <p>(6) To evaluate the performance of the Secretary and forward it with recommendation to the authority.</p>	<p>(1) To determine and manage crematoriums.</p> <p>(2) To confer the honor of distinguished person of the town on any distinguished person.</p> <p>(3) To carry out or cause to be carried out other actions relating to the development of the Municipality area.</p> <p>(4) To render assistance for the development of cooperative.</p> <p>(5) To evaluate the performance of the Secretary and forward it with recommendation to the authority.</p> <p>(6) To encourage or cause to be encouraged to carry out cooperative, industrial and commercial activities generating income to the Municipality with the investment of private sector as well.</p> <p>(7) To formulate various programmes based on cooperativeness and to carry out or cause to be carried out the same.</p>

Source: LSGA (1999).

Appendix 2 : Revenue assignments of Local Bodies including intergovernmental fiscal transfers and borrowings

DDCs	VDCs	Municipality
1. Own Source Revenue		
1. Taxes	1. Taxes	1. Land Revenue and House and Land Tax:
(1) The District Development Committee may impose tax on roads, paths, bridges, irrigation, ditches, ponds etc. built by or transferred to it, at the rate approved by the District Council not exceeding the rate as prescribed in the district development area.	(a) House and Land Tax: Annual house and land tax on each house and land on the basis also of size, type, design and structure of the houses within the Village Development Committee.	(1) The Municipality may levy house and land tax, as prescribed, on each house and land within its jurisdiction on the basis of the size, type, design, construction and structure of the house and compound and area covered by the house, as approved by the Municipal Council.
(2) The District Development Committee may impose tax on wool, turpentine, herbs, worn and torn goods, stones, slates, sand and bone, horn, wing, leather etc. of the animals except those prohibited, pursuant to the prevailing law and on other goods as prescribed at the rate approved by the District Council not exceeding the rate specified in the district development area.	(b) Land Revenue or Land Tax: Land revenue or land tax on the land within the village development area. Provided that the twenty-five per cent amount of revenue raised from land revenue or land tax shall have to be handed over to the District Development Committee.	(2) The Municipality may impose land revenue and land tax as prescribed on the land within the municipal area.
(3) Upto 35-50% of the amount obtained from the tax referred to in sub-section (2) shall have to be provided to the concerned Village Development Committee and the Municipality. 2. Service Charge: The District Development Committee may impose the following service charge at the rate approved by the District Council not exceeding the rate as prescribed in its area:-	(c) Haat (temporary weekly bazaar) Market Shop Tax: Haat market shop tax for shops kept in livestock Haat and regular Haat market, fair, fete etc. organized within the village development area.	2. Rent Tax : (1) The Municipality may collect rent tax, as prescribed, on the amount of rent in cases where any house, shop, garage, storage, stall, shed, factory, land or pond within its jurisdiction is rented wholly or partly.
(a) The service charge of the guest house, library clinic, hermitage, city hall etc. built by it or under its custody.	(d) Vehicle Tax: Vehicle registration and annual vehicle tax on the prescribed vehicles within the village development area and occasional vehicle tax on all kinds of vehicles entering into its area. Provided that on the prescribed vehicles entered into the Kingdom of Nepal, the Village Development Committee of such village development area, through which area such vehicle enters into at first from any foreign country, may levy	(2) The Municipality may impose rent or tenancy charges, as prescribed, on temporary shops permitted to be kept at the market places, public places, unregistered land or road-sides constructed, supervised or operated by it within its jurisdiction. Provided that no permanent shop shall be allowed to be constructed in a manner to obstruct the public movement and sanitation.

DDCs	VDCs	Municipality
	tax as prescribed and after payment of tax within one village development area, such tax shall not be levied again in other places.	
(b) The service charge of the ditch, small ditch, embankment etc. built by it.	(e) Entertainment Tax: Entertainment tax may be levied as prescribed on the places of entertainment such as permitted cinema-hall, video-hall, cultural-show hall located within the village development area.	3. Enterprise Tax: The Municipality may levy and collect enterprise tax, as prescribed, on trade, profession or occupation within its jurisdiction on the basis of capital investment and financial transactions.
(c) Local development fees.	(f) Rent and Tenancy (Bitauri) Tax: Rent and tenancy tax on the temporary shops given on rent at the Haat market places constructed, supervised or operated by itself or at unregistered (Ailani) land or road sides, within the village development area.	4. Vehicle Tax: The Municipality may levy vehicle registration and annual vehicle tax on the prescribed vehicles within its jurisdiction and occasional vehicle tax, as prescribed, on all kinds of vehicles entering into its area.
(d) Other service charge as prescribed.	(g) Advertisement Tax: Advertisement tax on sign boards placed within the village development area.	5. Property Tax: The Municipality may levy an integrated property tax, within its jurisdiction at the prescribed rate.
3. Fee: The District Development Committee may impose the following fees at the rate approved by the District Council not exceeding the rate as prescribed in its area:	(h) Business Tax: Business tax on the prescribed industry, trade, profession or occupation within the village development area.	6. Entertainment Tax: The Municipality may levy entertainment tax, as prescribed, on the means of entertainment such as cinema halls, video-halls, cultural-show halls permitted within the municipal area.
(a) Fees for licence and renewal thereof, for carrying out water course, conducting boats and tunings and fishing.	(i) Commercial Video Tax: Commercial video tax within the village development area.	7. Commercial Video Tax: The Municipality may levy tax as prescribed on the video, projector, cable etc. used by any person or organization for commercial purpose.
(b) Fees for registration of Panighat and renewal thereof.	(j) Natural Resources Utilization Tax: Tax to be levied for commercial exploitation of natural resources and heritage within the village development area.	8. Advertisement Tax: The Municipality may levy tax on signboards, globoards, stalls etc. permitted to be placed on roads, junctions, public places in its area for advertisement, publicity etc.
(c) Fees for recommendation.	(k) To levy other taxes as prescribed.	9. Parking Charge: The Municipality may impose parking charge, as prescribed, at vehicles parking places managed by it.

DDCs	VDCs	Municipality
(d) Other fees as prescribed.	2. Service charge (1) The Village Development Committee may impose the service charges as follows at the rate approved by the Village Council, for the services made available by it within its area:-	10. Service Charge: (1) Any Municipality may impose service charge for making available the facilities such as drinking water, electricity, water-tap, public telephone and similar other facilities.
4. Sale: The District Development Committee may sell, as prescribed the sand in the rivers and canals, roda, stones, soil, wood swept by river, etc. lying in its area. Out of the proceeds of such sale of goods, upto 35-50% amount shall have to be provided to the concerned Village Development Committee and the Municipality.	(a) Service charge on sanitation, drainage and sewerage.	(2) The Municipality may impose service charges for solid wastes management, sanitation, sewerage/drainage etc. facilities provided by it in the municipal area.
5. Revenue sharing :The concerned District Development Committee shall be entitled to the amount as prescribed out of the following amounts:-	(b) Tourist places entrance charge.	(3) The Municipality may collect service charges from the persons using facilities such as public toilets, parks, bathrooms, swimming pools, gymnasiums, guest houses, tourist places, hostels, market places, slaughter houses, crematorium, laundry ghat (bank of a river) and similar other facilities, for making available such facilities.
(a) Registration fees to be obtained by Government for the purchase and sale of house and land.	(c) Entrance charge on parks, garden, picnic places and view towers etc.	(4) The Municipality may, with the prior approval of Government, carry out the act of providing the facilities referred to in sub-sections (1), (2) or (3) and collecting the service charges therefor through the private sector or by making the private sector as well participate therein.
(b) Amount to be obtained by Government for royalty of mines, petroleum products, forests, water resources, and other natural resources.	(d) Charge for performing entertainment activities like magic and circus.	(5) The Municipality may determine the expenditures required to repair and maintain the roads, sewerage, bridges, pavements, courtyards, alleys, drainage, electricity etc. constructed by it and collect the same from the concerned consumers annually.
(c) Entrance fee to be obtained by Government for entry of tourists into the district development area.	(2) The Village Development Committee may impose and collect service charge on the amount realized by it for somebody else, if it realizes and recovers any other's amount and goods.	(6) The Municipality may collect service charge as prescribed in valuating the immovable property of any person.

DDCs	VDCs	Municipality
	<p>3. Fees The Village Development Committee may charge fees as follows within its area at the rate approved by the Village Council, not exceeding the prescribed rate:</p> <p>(a) Licensing and renewal fee for television, video and other equipment. (b) Approval (Baksauni) fee. (c) Recommendation fee.</p> <p>4. Sell : The Village Development Committee may sell the following objects situated within its area:- (a) Soil of governmental barren land, (b) Products of public ponds or gardens, (c) Assets of the Village Development Committee, (d) Among the forest products situated within the village development area, dried timber, fire woods, branches, splints, twigs, roots etc, (e) Straw, grass etc.</p>	<p>(7) The Municipality may impose fees for approval (Baksauni) and recommendation fees in its area, at the rate approved by the Municipal Council, not exceeding the prescribed rate</p>
2. Grants		
<p>1) The Government shall have to provide the DDC each year with minimum grant prescribed and also with additional grants on such basis as population, level of development, possibility and capability of mobilizing revenues, necessity of financial resources, regular record keeping of incomes and expenditures, situation of auditing and financial discipline of DDC</p>	<p>1) The Government shall have to provide the VDC each year with minimum grant prescribed and also with additional grants on such basis as population, level of development, possibility and capability of mobilizing revenues, necessity of financial resources, regular record keeping of incomes and expenditures, situation of auditing and financial discipline of VDC</p>	<p>1) The Government shall have to provide the Municipality each year with minimum grant prescribed and also with additional grants on such basis as population, level of development, possibility and capability of mobilizing revenues, necessity of financial resources, regular record keeping of incomes and expenditures, situation of auditing and financial discipline of Municipality</p>
3. Loan (Borrowings)		
<p>1) The District Development Committee 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 His Majesty's Government, from a bank or any other organization, according to the policy adopted by the District Council.</p>	<p>1) The Village Development Committee may raise loan or borrow money as approved by the Village Council, with or without pledging any movable and immovable property under the ownership and possession of Village Development Committee or under the guarantee of Government, from a bank or any other organization or institution.</p>	<p>1) The Municipality may raise loans, with or without pledging any property under its ownership and possession or under guarantee given by Government, from a bank or any other organization, according to the policy approved by the Municipal Council.</p>

Source : LSGA (1999) .

Appendix 3 : Sampled DDCs

S.N.	Development Region (DR)	Ecological Region	Number of districts	Name of districts selected for the study
1	Eastern DR	Terai	5	Jhapa
		Hill	8	Khotang and Dhankuta
		Mountain	3	Taplegunj
2	Central DR	Terai	7	Sarlahi
		Hill	9	Kathmandu and Makawanpur
		Mountain	3	Dolkha
3	Western DR	Terai	3	Rupadehi
		Hill	11	Gulmi and Lamgunj
		Mountain	2	Mustanj
4	Mid Western DR	Terai	3	Banke
		Hill	7	Jajarkot and Salyan
		Mountain	5	Mugu
5	Far Western DR	Terai	2	Kanchanpur
		Hill	4	Acham and Dadeldhura
		Mountain	3	Bajura
Total	5	15	75	20
Number of districts selected for the study				20
% as per the total number of districts				26.67
% as per total population of the country				29.13

Note: Terai, Hill and Mountain comprise 20, 39 and 16 districts respectively.

Source: Field Survey, 2013.

Appendix 4: Data sources and description of dependent and independent variables

4.1 District Agricultural GDP

District per capita agriculture GDP is derived from the values of output of different agricultural production. It is used as a proxy for district GDP per capita. The district-wise segregated data related to all agricultural, livestock and vegetable outputs such as paddy, maize, millet, wheat, barley, pea, sugarcane, jute, tea, coffee, cardamom, ginger, orange, tomato, cabbage, goat, buffalo, fish, pig, etc. have been received from the published and unpublished documents of the Ministry of Agricultural and Cooperatives and the concerned District Agriculture Offices. The values of the agricultural products have been converted to the base year's (1996) prices of the concerned districts. The data for prices have been used from the Market Information Service. This data set has been used only for the estimation purpose. It has been applied for the dependent variable.

4.2 Population

Population is the one of the important variables used to derive the data in terms of per capita. In estimation, it has been used as a control variable. The data has been received from the CBS (1991, 2000, 2011).

4.3 District Revenue

District revenue is the aggregate of revenue collected by the District Development Committees (DDCs) and the central government. The central government collects tax and non-tax revenue from its various tax and custom offices in districts and regional offices. The revenue collected by the central government have been received from the published and unpublished documents from the Financial Comptroller General Office (FCGO). Further, the data set for DDC's revenue is received from the concerned DDCs, the Local Bodies Fiscal Commission Secretariat (LBFCs), Finance and Monitoring section of the Ministry of Federal Affairs and Local Development (MoFALD). This data set is used to derive the revenue decentralization index for measuring the measure the fiscal decentralization.

4.4 District Expenditure

District expenditure is the combination of expenditure incurred by DDCs and the central government. The district-wise expenditure incurred by central government is received from the published and unpublished documents of the FCGO. The data set for DDC's expenditure is received from the concerned DDC, the LBFCs and the Finance and Monitoring section of MoFALD. This data set is used to derive the expenditure decentralization index for measuring the fiscal decentralization. This index plays a very important role for the estimation.

4.5 Number of Primary Schools and Students in Primary Level

Data on community level primary schools have been taken from the published and unpublished documents/reports from the Department of Education.

4.6 Student Enrollment Rate

Student enrollment rate is derived by dividing the total number of primary students enrolled in the community schools by the total district population. The categorization of students as per the age groups at primary level is not available. Therefore, the total size of population has been used to derive the enrollment rate.

4.7 Expenditure in Social and Economic Sectors

Expenditure in social and economic sectors, namely education, health, road and transport, agriculture and livestock and drinking water and sanitation, has been highlighted as follows;

a. Road

Road includes the graveled and fair-weather roads constructed by the LBs from their own development budget, which includes the grants (conditional and unconditional) and own source revenue including the revenue sharing. The expenditure on road at the DDCs level is derived from the concerned DDCs and the Ministry of Federal Affairs and Local Development.

b. Drinking Water Projects, Irrigation and Buildings (Schools, Health Post, Community infrastructures, etc.): Expenditure by the LBs from their own budget for the construction of number of drinking water projects, community schools, health and sub-health posts and community buildings and construction of canals for providing the land irrigation (in hectors) to the populace has been considered. In road sector, the sources of data are the same.

4.8 Conflict (Violence) Data

Conflict data are derived from the sum of murders, abductions and handicapped people from the state and non-state level violence. The data have been taken from the Informal Sector Service Center (INSEC).

Appendix 5: Measurement of Fiscal Decentralization

1. Expenditure Decentralization (ED): This is the ratio of DDCs total expenditure to the combined government and DDCs expenditure.

$$ED_{it} = \frac{DDCExp_{it}}{DDCExp_{it} + GONExp_{it}}$$

Where, i denotes district i and t denotes year t . $DDCExp$ and $GONExp$ denote the DDCs and the Government of Nepal (GON) expenditure respectively.

2. Revenue Decentralization (RD): This is the ratio of DDCs total revenue to the combined government and DDCs total revenues.

$$RD_{it} = \frac{DDCRev_{it}}{DDCRev_{it} + GONRev_{it}}$$

Where, $DDCRev$ and $GONRev$ denote the DDCs and the GON revenue respectively.

$$FAD_{it} = \frac{DDCExp\ from\ Own\ Rev_{it}}{DDCExp_{it} + GONExp_{it}}$$

3. Dummy Variable for LSGA (DV): For this paper, the LSGA (1999) is considered as an operational variable for fiscal decentralization. Therefore, a dummy variable for LSGA has been used for the estimation purpose. The numbers *zero* and *one* indicate values for fiscal decentralization in pre and post LSGA periods respectively.

Appendix 6: Dependent and Independent Variables Used in Estimation

Variable	Definition
GDP	It is a proxy for annual growth of per capita agriculture GDP measured in real terms.
Growth	It is measured in annual percentage change.
RD	Revenue decentralization. It is the ratio of DDC's total revenue to the combined government and DDCs revenue.
ED	Expenditure decentralization. It is the ratio of DDCs total expenditure to the combined government and DDCs expenditure.
DV	Dummy Variable for LSGA, 0 and 1 represent value for the fiscal decentralization for pre-LSGA and post LSGA periods respectively
Pop	Population in number.
OSR	Own source revenue collected by the DDCs from their tax and non tax sources. It is measured in thousand (Rs).
PSc	Number of total primary schools at community level in districts measured at per thousand district population.
PSER	Number of total primary student enrollment rate at community schools in districts, measured at population.
political violence	Number of massacre, abduction and handicapped people (violence-affected people during the conflict period) from the state and non-state levels measured in number.
Grant	This includes conditional and unconditional grants received from the GON measured at per capita terms (in Rs).
CAPEXP	This is the total DDC's capital expenditure measured at per capita terms (in Rs).
PCEdu	Per capita DDCs' capital expenditure on education (in Rs).
PCH	Per capita DDCs' capital expenditure on health (in Rs).
PCR	Per capita DDCs' capital expenditure on road sector (in Rs).
PCAgri	Per capita DDCs' capital expenditure on agriculture and livestock sector (in Rs).
PCDWS	Per capita DDCs' capital expenditure on drinking water and sanitation sector (in Rs).
PCOth	Per capita DDCs' capital expenditure on other sectors (in Rs).

Source : Author, 2013

Appendix 7.1 : Panel Regression Results

Independent Variables	1	2	3	4	5	6	7
RD	1.61 (4.16)***		1.63(4.03)***		1.60(3.99)***		1.55(3.79)***
ED		8.85(4.70)***		9.01(4.55)***		8.81(4.48)***	
DV	0.10(11.41)***	0.09(10.44)***	0.10(5.17)***	0.09(4.54)***	0.12(5.35)***	0.11(4.78)***	0.10(2.86)***
OSR	0.82 (7.63)***	0.80(7.74)***	0.82(7.25)***	0.80(7.42)***	0.82(7.33)***	0.80(7.49)***	0.81 (7.29)***
PSEr							0.16 (0.89)
PSc							
POP			-0.10(-0.18)	0.06(0.10)	-0.24(-0.40)	-0.07(-0.12)	0.02(0.04)
Grant					0.58(1.75)*	0.55(1.60)*	0.38 (0.98)
CAPEXP							
political violence			0.00(0.51)	0.00(0.41)		0.00(0.30)	0.00(0.06)
PCEdu	0.05(1.18)	0.08(1.83)*	0.06(1.23)	0.08(1.82)*	0.03(0.81)	0.06(1.39)	0.04(0.90)
PCH	-0.02(-0.51)	-0.01(-0.36)	-0.02(-0.52)	-0.01(-0.38)	-0.00(-0.22)	-0.00(-0.09)	-0.00(-0.15)
PCR	0.04(0.69)	0.03(0.58)	0.04(0.70)	0.03(0.59)	0.00(0.07)	-0.00(-0.01)	0.00(0.05)
PCAgri	-0.05(-1.81)*	-0.05(-1.78)*	-0.05(-1.69)*	-0.05(-1.65)*	-0.05(-1.86)**	-0.05(-1.81)*	-0.05(-1.88)*
PCDWS	0.08(2.23)**	0.08(2.08)**	0.09(2.15)**	0.07(1.96)*	0.09(2.30)**	0.08(2.09)**	0.09(2.29)**
PCOth	-0.00(-0.12)	0.00(0.43)	-0.00(-0.16)	0.00(0.39)	-0.01(-0.47)	0.00(0.08)	-0.42(-0.13)
Constant	0.57(2.40)**	0.01(0.09)	1.16(0.36)	-0.32(-0.10)	0.39(0.12)	-1.00(-0.31)	-0.42(-0.13)
F-value	48.74	51.3	39.15	41.15	36.97	38.74	34.11
Prob > F	0	0	0	0	0	0	0
R-sq within	0.8282	0.8354	0.8287	0.8357	0.8345	0.8408	0.836
R-sq between	0.0018	0.0764	0	0.0555	0.0181	0.1385	0.0021
R-sq overall	0.0001	0.0929	0.0005	0.07115	0.0224	0.1454	0.0048
Hausman tests	67.85	127.58	96.12	144.15	71.57	72.82	107.58
p-value of Hausman test	0	0	0	0	0	0	0
No of observations	120	120	120	120	120	120	120
No of groups	20	20	20	20	20	20	20

Dependent Variable GDP per capita growth. Figures in parenthesis are the absolute values of t-statistic. *,** and *** indicate variables whose coefficient are significant at the 10 %,5 % and 1 % levels respectively.

Source : Author's calculations, 2013.

Appendix 7.2 : Panel Regression Results (Continued)

Independent Variables	8	9	10	11	12	13	14
RD		1.40(3.37)***		1.6(3.69)***		1.63(3.78)***	
ED	8.53(4.27)***		7.87(3.88)***		9.58(4.35)***		9.44(4.27)***
DV	0.09(2.65)***	0.07(1.87)**	0.06(1.74)**	0.06(1.72)*	0.05(1.58)*	0.04(1.75)*	0.04(1.76)*
OSR	0.80(7.45)***	0.77(6.92)***	0.77(7.12)***	0.83(8.54)***	0.85(8.96)***	0.85(8.70)***	0.87(9.00)***
PSER	0.14(0.78)	-0.00(-0.00)	-0.02(-0.10)			0.68(1.43)	0.44(0.95)
PSc		0.36(1.53)	0.36(1.54)	0.37(1.77)*	0.35(1.75)*	0.20(0.88)	0.25(1.11)
POP	0.16(0.23)	0.19(0.28)	0.31(0.47)	0.76(1.08)	0.75(1.10)	0.96(1.35)	0.89(1.27)
Grant	0.38(0.99)	0.03(0.08)	0.04(0.09)	0.13(0.24)	0.38(0.70)	0.09(0.18)	0.34(0.62)
CAPEXP				-0.17(-0.32)	-0.47(-0.85)	-0.32(-0.57)	-0.55 (-0.97)
political violence	0.00(0.00)	0.00(0.63)	0.00(0.60)	0.00(1.09)	0.00(0.97)	0.00(0.45)	0.00(0.50)
PCEdu	0.06(1.45)	0.05(1.19)	0.08(1.69)*				
PCH	-0.00(-0.03)	-0.00(-0.25)	-0.00(-0.15)				
PCR	-0.00(-0.03)	0.02(0.38)	0.01(0.32)				
PCAgri	-0.05(-1.83)*	-0.05(-1.91)*	-0.05(-1.87)*				
PCDWS	0.08(2.09)**	0.08(2.08)**	0.07(1.88)*				
PCOth	0.00(0.06)	-0.00(-0.42)	0.00(0.08)				
Constant	-1.66(-0.50)	-0.64(-0.19)	-1.80(-0.54)	-3.21(-0.81)	-3.49(-0.90)	-3.87(-0.97)	-3.98 (-1.02)
F-value	35.65	32.33	32.8	50.46	53.56	45.58	47.66
Prob > F	0	0	0	0	0	0	0
R-sq within	0.8419	0.8403	0.8462	0.8144	0.8232	0.8185	0.825
R-sq between	0.0743	0.0009	0.0752	0.0438	0.0064	0.0941	0.0381
R-sq overall	0.0858	0.0037	0.0928	0.0283	0.001	0.0676	0.0194
Hausman tests	103.25	136.47	401.15	64.07	72.62	126.83	68.14
p-value of Hausman test	0	0	0	0	0	0	0
No of observations	120	120	120	120	120	120	120
No of groups	20	20	20	20	20	20	20

Dependent Variable GDP per capita growth. Figures in parenthesis are the absolute values of t-statistic. *,** and *** indicate variables whose coefficient are significant at the 10 %,5 % and 1 % levels respectively.

Source; Author's calculations, 2013.

Appendix 7.3 : Panel Regression Results (Robustness)

Independent Variables	15	16	17	18	19	20
ED	8.15(4.47)***	8.70(4.72)***	8.06(4.52)***	8.66(4.79)***	9.03(5.03)***	9.04(4.96)***
DV	0.09(10.13)***	0.06(3.74)***	0.08(4.88)***	0.07(3.90)***	0.07(3.97)***	0.07(3.95)***
OSR	0.84(8.46)***	0.89(10.28)***	0.80(8.06)***	0.85(9.77)***	0.87(10.02)***	0.87(9.87)***
Lag PSER			0.12(3.45)***	0.1(2.18)**	0.10(2.38)***	0.10(2.34)***
Lag PSc		0.06(3.15)***		0.02(1.09)	0.00(0.31)	0.00(0.24)
POP		0.95(1.74)*	0.06(0.11)	0.83(1.54)	0.77(1.45)	0.77(1.44)
Lag Grant		0.02(2.12)**	0.03(2.07)**	0.02(1.95)**		-0.00(-0.04)
Lag CAPEXP					0.04(2.36)**	0.04(1.29)
political violence	0.00(0.41)	0.00(0.76)	0.00(0.82)	0.00(0.98)	0.00(0.01)	0.00(0.01)
PCEdu	0.08(1.89)**		0.04(2.09)**			
PCH	0.00(0.24)		0.03(1.11)			
Lag PCR	0.01(0.24)		-0.01(-0.87)			
PCAgri	-0.06 (-2.30)**		-0.05(-1.94)*			
PCDWS	0.07(2.04)**		0.07(2.10)**			
PCOth	0.00(0.20)		0.00(0.50)			
Constant	-0.05 (-0.44)	-5.07 (-1.75)*	-0.23(-0.08)	-4.30(-1.50)	-4.07(-1.43)	-4.06(-1.42)
F-value	50.99	71.58	45.35	65.79	67.22	59.1
Prob > F	0	0	0	0	0	0
R-sq within	0.8514	0.8449	0.8727	0.8526	0.8553	0.8553
R-sq between	0.083	0.0559	0.0694	0.0442	0.0326	0.0324
R-sq overall	0.1001	0.034	0.0877	0.0247	0.0169	0.0167
Hausman tests	53.17	89.18	217	81.26	85.56	83.06
p-value of Hausman test	0	0	0	0	0	0
No of observations	119	119	119	119	119	119
No of groups	20	20	20	20	20	20

Dependent Variable GDP per capita growth. Figures in parenthesis are the absolute values of t-statistic. *,** and *** indicate variables whose coefficient are significant at the 10 %,5 % and 1 % levels respectively.

Source : Author's calculations, 2013.

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