

**A Study on the Design of a Formula Based Grants System for
VDCs and Update Grant System for DDCs in Nepal**

**Submitted to
Local Body Fiscal Commission
Government of Nepal**

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Table of Contents

Acknowledgement

Acronyms

Executive Summary

Chapter I: Introduction

- 1.1 Background
- 1.2 Objective and scope of study
- 1.3 Study Methodology and survey design
- 1.4 Organisation of the report
- 1.5 Study limitation

Chapter II: Intergovernmental Fiscal Transfer System: Why and How?

- 2.1 Why Intergovernmental fiscal transfers
- 2.2 Review of Intergovernmental transfer system
- 2.3 Key components in designing fiscal transfer
- 2.4 Intergovernmental fiscal transfer system in Nepal
- 2.5 Key issues in fiscal transfer to DDC and VDC in Nepal

Chapter III: Updating Cost Index for DDC Fiscal Transfer Formula

- 3.1 DDC expenditure pattern and Key development activities
- 3.2 Estimation of Cost structure of some selected development projects
- 3.3 Methodology for Cost Estimation
- 3.4 Price of selected development inputs by district
- 3.5 Estimation of weighted Cost index of development inputs by DDC
- 3.6 Comparison of cost of development inputs between 2003 and 2009
- 3.7 Updating Cost Index for DDC Fiscal Transfer Formula

Chapter IV: Designing Formula Based Grant system for VDC

- 4.1 Identifying Key components for VDC grant formula
- 4.2 Methodology used for estimating cost of development inputs
- 4.3 Estimation of Cost index for VDC

Chapter V: Simulation of VDC Grant Formula

- 5.1 Estimation of Weightage for VDC grant formula
- 5.2 Simulation of VDC grants and comparison with the present system

Chapter VI: Conclusion and Recommendations

- 6.1 Conclusion
- 6.2 Some Issues in DDC and VDC grant system
- 6.3 Recommendations

References

Annexure

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*Prithvi raj Ligal
Study Team Leader*

Acronyms

ADDCN	Association of District Development Committees of Nepal
AGO	Auditor General's Office
CBOs	Community Based Organizations
CSOs	Civil Society Organizations
CBS	Central Bureau of Statistics
CBOs	Community Based Organisations
DCC	Development Coordination Committee
DDC	District Development Committee
DDF	District Development Fund
DIMC	Decentralization Implementation and monitoring Committee
DIMWC	Decentralization Implementation Monitoring Working Committee
DIP	Decentralization Implementation Plan
DMTEF	District Medium Term Expenditure Framework
DTCO	District Treasury and Control Office
DTO	District Technical Office
GoN	Government of Nepal
HRD	Human Resource Development
LBFC	Local Body Fiscal Commission
LDO	Local Development Officer
LGCDP	Local Governance Community Development Program
LGP	Local Governance Program
LSGA	Local Self-Governance Act, 1999
LSGR	Local Self-Governance Regulation
MoF	Ministry of Finance
MoLD	Ministry of Local Development
MTEF	Medium Term Expenditure Framework
NAVIN	National Association of VDCs in Nepal
NGOs	Non Government Organizations
NPC	National Planning Commission
PRAD	Policy Research and Development, Nepal
SC	Steering Committee
ToR	Terms of Reference
UNDP	United Nations Development Program
VDC	Village Development Committee
VDF	Village Development Fund

Executive Summary

1. Introduction

The process of Decentralization to improve governance and increase people's participation has been championed for a long time in Nepal. The Constitution of Nepal 1991 has incorporated Decentralization into its directive of the state policy and is stated as "*Decentralization should be the means for ensuring optimum participation of people in governance and hence enjoy the benefit of democracy*". The promulgation of three separate local governments Acts (DDC, Municipality and VDC) in March 1992 and Local Self Governance Act (LSGA) in 1999 and the enactment of LSGR and LBFAR was the beginning of a systematic process to Decentralization in the country. The Interim Constitution of Nepal 2063 (2006) furthers the concept of decentralization in Nepal and endorses it as a means for the overall equitable development of Federal Democratic Republic of Nepal.

Government of Nepal has been providing grants to all DDCs based on criteria that include population, cost of development, geographical area and Human Development Index. But, until recently, it was providing equal amount of Rs. one million, as unconditional grant to the VDCs. Some correction was however, made in fiscal 2065/66 and a formula based grant system, taking into account of population and area of the VDC along with the cost index of DDC was used to transfer funds to the VDCs. The amount of grant to VDCs in fiscal 2065/66 however, was capped between minimum of Rupees 1.5 million to maximum of 3 million per VDC depending upon its remoteness.

2. Objective of the Study

The overall objective of the study is to design a formula based grant system for VDC and update cost index in the grant distribution formula of DDC.

3. Scope of Work

The scope of work, as per the TOR of the study is as follows:

- a. *Prepare cost index for developmental activities in the VDCs. This will be used as a component in the grant distribution formula.*
- b. *Prepare appropriate Weightage for components used in the formula based on the importance of the factors affecting developmental activities in the VDC.*
- c. *Prepare VDC wise grants amount based on the new formula, and*
- d. Update cost index in the grant distribution formula of DDC

Briefly speaking, the study composed of two assignments namely, Updating of the existing grants based formula used for allocating funds by district, and prepare formula based grant system for VDCs.

4. Methodology for analysis

Based on the collected information at the centre, district and the VDCs and the secondary data, cost index for development materials at the VDC are prepared for each category of VDCs. Similar exercise for DDC are carried out to update the cost index. Weightage for each of the VDC factors such as, population, area and cost are determined by using stepwise regression techniques. Simulation of VDC grants are made for grant allocation in the VDCs. These simulation results are then compared with the actual grant distribution to VDCs in fiscal 2065/66. Necessary adjustments were made to make it more operational. Based on the cost index in different category of VDCs by remoteness, topography and region and the simulation of grants, a general formula for grants distribution is recommended for real application from the coming fiscal year.

5. Limitations of the Study

Although utmost care had been taken in making the study more operational and statistically significant in its result, the unavailability of updated data, such as District and VDC level population, poverty and Human Development index etc., compelled the study team to use whatever national data

surveyed by CBS and other national level reports are available for the estimation. Therefore, the output needs constant updating as and when better/ more information at the VDC level are available.

The simulation result for grant distribution in the VDC may differ from what has been given in the past for the same VDC. This may raise problem, as it will be difficult to provide smaller amount (as per the formula) of grant to the VDC. In such cases, the amount, which has been given to, the VDC since past years may have to be given in practice. The fixed amount of Total Grant pool, the mandatory provision for not reducing VDC grants that was allocated in fiscal 2065/66 etc., greatly constrains the flexibility in using the simulation result.

The limited information regarding the cost structure of development activities by VDC needs to be improved in the future. For this, the cost structure of development activities in the VDC prepared by the Overseer at the District Technical Office (DTO) who oversees the program technically should be made to submit the detail technical proposal at the VDC and get approval from it. This will improve the database of the project and also will help VDC members in monitoring its performances.

The Cost updating for DDC grant formula is based on the information provided by DDC in the form of its approved rates of development/construction materials including wage rates for labour, both skilled and unskilled and the rates for supervision charged by the technical personnel. The DDC board approved rates may differ with the actual local prices of these inputs.

As the design of the formula and the coefficients estimated varies with the quality of data available, effort must be made to collect more reliable data. This will only generate better result.

6. Key Issues in Fiscal Transfer System to DDC and VDC

a. Size of the grant pool

Determination of the size of the grant pool is one of the key issues in allocating grants to local bodies. However, a systematic approach of determining the size of distribution pool, as a proportion of an identified tax resource or the overall revenue collection by Center is considered most appropriate. Most recent studies in intergovernmental fiscal transfer in Nepal (Ligal et al, 2005) has recommended to move from ad-hoc system to a more systematic tax sharing system in determining the total grant pool to LBs with respect to general purpose (block) grants. The study suggests allocating 10 percent of total internal revenue (after deducting debt services) for general-purpose grants to local bodies.

b. Adhoc Vs Formula based grants system

Although Nepal has been using formula based grant system to DDC since fiscal 2003/04, the choice of variables as well as the Weightage given to each of the variable has been adhoc in nature. It is to be noted here that a formula based grant system has an advantage in terms of political neutrality and the certainty of grants amount. However, the amount is very much sensitive to the choice of factors (variables), the reliability of the data and the Weightage given to each of the determining factors. Therefore, it is important that the data base used should be reliable and the Weightage given should be based on some hard facts.

c. Minimizing the gap in fiscal capacities

The resource base and internal revenue potential of local bodies differ widely due to differences resulting from the varying level of infrastructure development, accessibility and economic activities. The remoteness on the one hand increases the cost of delivering services and on the other reduces the tax base and the capacity to mobilise own source revenue. This needs central government to make provision for some program focussing on the enhancement of the capacity to mobilize own source revenue besides allocating more grants for tackling the issues overtime.

a. Assurance of predictable and steady inflow of resources

The inter-governmental fiscal transfer should ensure predictable of resource flows to local bodies so that they can plan and prepare their program and budget in a realistic way. It is seen that the budgeting and programming processes of the local bodies are completed well in advance of

undertaking such exercises by the central government. In such a situation, the budget and program of local bodies are bound to undergo revision if there is difference in the level of funds previously anticipated and those actually received from the centre. This causes mismatch in programming and prioritisation. To do away with, Central government should, at least inform local bodies in advance, the amount they will be getting as central grants for the next fiscal year.

b. Authority with accountability

With central government increasing the size of the grant pool and the amount received by each local bodies, and more authority being delegated to the local bodies in terms of planning, programming and implementation of development activities, it is necessary that some measures be taken to ensure the accountability of local bodies in terms of service quality and delivery as well as adherence to fiscal rules and regulations. This will require on the one hand, tying up of some funds to performance in terms of quality of service delivery and adherence to fiscal rules and regulations and on the other, improvements in the central monitoring system to check these adherences.

7. Estimation of Weightage for VDC Grant Formula

Population, area, population density and cost factors are identified as the best plausible factors that capture the demand for VDC services in the available data circumstances. Stepwise regression techniques of the following linear and non-linear forms are used for determining the Weightage of each of these factors in the VDC grant formula. The following model is used for simulation of VDC grants.

$$\text{Total Grant Allocation to VDC}_i = (\text{Weightage_population} \times (\text{Population}_i / (\sum_{\text{for all } i} \text{Population}))) + (\text{Weightage_land area} \times (\text{Land area} / (\sum_{\text{for all } i} \text{Land area}))) + (\text{Weightage_population density} \times (\text{population density}_i / (\sum_{\text{for all } i} \text{population density}))) + (\text{Weightage_cost} \times (\text{cost}_i / (\sum_{\text{for all } i} \text{Cost}))) \times \text{total grant pool}$$

The total grant pool for the VDC in fiscal 2065/66 is used for the simulation exercise. Alternative simulation with grant pool amount increasing to Rs. 8 billion, Rs. 9 billion and Rs. 10 billion are also made and compared with the present grant pull amount. Similarly, the adjusted grant amount by VDC keeping the lower and upper limit for the grant amount intact and changing the amount in between as per the simulation is also presented. The result shows such adjustments requiring Rs. 8.5 billion, an increment of about Rs. 62 crores for the fiscal year 2066/67.

8. Key Issues in developing a formula based grant system

Lack of reliable national level data has remained the single most challenge in designing VDC level grant formula. The limited information available in terms of population related data of 2001 Census and price and budgetary structure are the only source that can be used in designing the grant formula.

The presently available data at VDC level is from the 2001 census data. It is eight years old and there have been significant changes in the size and structure of population at the DDC and VDC level. With the heightening of arm insurgency in the country, large migration, unparallel in the history of modern Nepal, took place from rural areas of specially mountain and Hill districts to nearby urban centres including in the capital city and outside the country. Particularly, from the mountain and hill districts of mid and far western as well as from the eastern region took place during 2003 onwards. The census does not capture such large migration. The next census, which will take place in 2011, may capture this movement of people from the districts and VDCs of the above-mentioned region to other districts and urban centres. Hopefully, the status of population by district and VDC will be available in 2013 or so. Until then, we have to use the 2001 census data understanding that it does not reflect the size of the population and therefore the quantum of the demand for services by VDC.

Data relating to Human Development and Poverty are not available at the VDC level. The Human Development and estimation of population below poverty line are available only at the district level. These data are also not updated since 2002. Recently some information on Disadvantaged Groups (DAGs) by VDC is prepared with the support from UNICEF. However, the reliability of the data and its

user friendly formats needs some more work and as such, the use of these information in preparing VDC grant formula could not be taken at this stage.

The GIS study tried to estimate the proportion of settlement area by VDC for some selected districts. But it needs more works before the settlement data could be used in the grants distribution formula.

Besides these national level surveyed data for the VDC, the budgetary data at the VDC level are not also properly documented. The insecurity situation in the VDC forced VDC secretaries in most of the districts moved to the district headquarter and resume services from there. While moving from the VDC to district headquarter, lots of information particularly relating to the budgetary use etc have been lost and as such, the secretaries of the sampled VDCs failed to provide budgetary information for earlier years.

Besides the issues relating to the availability of data, the size of the grant pool and the transparency in applying the formula for grant distribution has been a challenge in its implementation. The allocation in fiscal 2065/66 was done putting limitation on the upper as well as the lower side namely, Rs. 15 lakhs at the lower level and Rs. 30 lakhs at the higher level. VDC allocation was made keeping in view of these two limits. The methodology followed in allocating the funds to VDC in 2065/66 has raised the expectation of the VDC for getting resources in 2066/67. Politically, it is not feasible to apply the simulated grant to VDC as the simulation result shows some VDC getting less than Rs. 15 lakhs and some much higher than Rs. 30 lakhs. Those VDCs for whom the simulation recommends less than Rs. 15 lakhs will not easily accept it. This will require need for an increase in the size of the Grant pool. The exercise shows that it will require Rs. 8.5 billion grant pool, an increase by about Rs 68 crores if the ministry wants to stick on the upper and lower limit and adjust allocation for other VDCs as per the simulation based on the formula prescribed for

9. Recommendations

In accordance with its commitment towards decentralization and functional devolution at the local level, Government of Nepal is providing more and more resources to the local bodies. However, due to several reasons, both at the national level and at the grass root level, local bodies has not been able to spend the allocated amount in enhancing service delivery and their capacity improvements. Often times, this has raised the rationale for increasing the volume of grants for local bodies without addressing the binding constraints for expenditure effectiveness at the grass root level. The present study recommends the following for expenditure effectiveness at the grass rot level.

a. Institutional Set up

The long absence of an elected body at the grass root level is not only hindering the day today work of the grass root level bodies but also in prioritising development programs and implementing it. To overcome it, a Development Coordination Committee (DCC), chaired by the VDC secretary with representatives from locally active political party, NGOs/CBOs, disadvantaged groups, women, local level development activist and government agencies be formed with mandate for development prioritisation and implementation supervision. Piloting of such development coordination body has been found more effective at the grass root level (PR Ligal et al, 2009). Such coordinating body not only fill up the vacuums created due to absence of elected body but also check political pressure resulting into a more need based program selection and prioritisation.

At present, VDCs are mostly running by one single person, the VDC secretary- a junior level position (Khardar). With more resources pumping in and more development activities being carried out at the VDC level, it is recommended that the position be upgraded to at least Non-gazetted Class one (Subba)¹. Besides, the VDC secretariat should also have at least an assistant cum accountant, a technical manpower possibly at the sub-overseer level and a peon for taking care of the day today work and development activity.²

¹ With VDC boundary increased to Elaka level, the position needs upgraded to section officer level.

² The present system of taking charge of all development activities by an overseer at the DTO is found delaying in approving development programs and its implementation as the overseer at the DTO is responsible, in many cases, for looking after more than 6 VDCs.

The formula based grant system is regarded as a better system for allocating inter-governmental transfer of resources –such as the central grants to the local bodies. However, the credibility of such grants system demands transparency in the formula that uses reliable national level data and strong political neutrality. This requires a politically independent autonomous body in designing and recommending grants allocation. In many countries an independent Fiscal Commission does this function. Based on their recommendation, government allocate resources to the provinces, districts and other units of local government.

In Nepal, the recommendation for intergovernmental transfer is done by LBFC. But, LBFC still needs to prove its independence. With minister as the chairman and joint-secretary of MoLD as its member secretary, it is acting more like a department of MoLD rather than an independent body. This needs to be changed. An independent credible person should chair the commission and the commission itself should appoint the member secretary as well as the relevant technocrats. However, some technocrats could be drawn from relevant ministries such as, MoLD, MoF etc., depending upon the need of the Commission. Such changes in the Commission and the transparency of formula will enhance the credibility of grant allocation.

The main advantages of an independent grants commission include: (1) reduced political influence from both the central and the regional governments and, as a result, (2) the possibility of exercising fair judgments over disputes among different sub national governments and between levels of governments; and (3) that the recommendations made by the independent Commission are easier to be accepted by the parties involved. However, on the negative side, the disadvantage of an independent grants commission mainly has to do with its limited authority in obtaining data and other supports from the sub national governments.

In Nepal, the formula based grant system has been in place for allocating grants to DDC since 2004. In between now and then many improvements have been made to make it more practical. Since 2065/65, government of Nepal also expended it for allocating grants to VDCs. The present work is to make refinements in the DDC and VDC grant formula. Based on a scientific method, the Weightage of key variables are changed and in case of VDC even more variables are added to make it need based, and the cost index are updated the resulting allocation may be different than what some VDCs/DDCs are getting as annual grant amount from the government. This may cause some problem in implementation. This is because of the differences in the amount they received as grant in the last fiscal year. As such, it is recommended that a gradual adjustment be made in the grant allocation and the possibility for increasing the VDC grant pool be explored. The increase in the grant pool will ease the adjustment process.

b. Budgetary Release and Accountability

It is observed that the VDC secretary has to spend most of his time to get budget release from DDC and project approval from DTO. It is recommended that these systems be simplified to provide VDC secretary more time to concentrate on VDC activities and service delivery improvements. This will require a direct budgetary release system from District Treasury and Control Office (DTCO) to respective VDCs. Such changes will not only speed up budgetary release and work done at the VDC but also will improve the control system – as VDC secretary will have to submit the statement of previous statement of expenditure (SOEs) for getting second tranche of approved budget from the DTCO. At present, the control system is seen weak due to lack of regular flows of SOEs to DTCO. All the DTCO office are now computerized and they are found capable in releasing budget direct to VDCs and maintain its expenditure records.

At the VDC level, it is recommended that a practice of consolidated budget – including line agency and NGOs/CBOs budget – be prepared and discussed at the VDC level Development Coordination Committee (DCC). This will provide better prioritisation of resources and save duplication of work. Besides, it will also provide opportunity for allocating or topping up of VDC resources on sectors relevant to the need of the people. Such practices will not only improve the effectiveness of service delivery but also improve its quality.

It is observed that the budgetary formats as practiced by DDCs and VDCs are not uniform and transparent. As a result, not only, it is difficult to analyse the budget from the program budget point of view but also, it is difficult to make a comparable budgetary analysis of these local bodies. Besides, most of the VDC secretaries are found not properly trained in accounts keeping its management. As such, it is recommended that a uniform budgetary format for DDC and VDC be developed and implemented. A formal training in accounts keeping and management be provided to all VDC secretaries as well as to those personnel who are responsible for account keeping.

The present system of auditing at the local body level is not in commensurate to the basic principle of check and balance system. The appointment of an auditor by VDC itself does not serve this purpose. With an increased volume of resources going to VDCs and a change in the budgetary release system, there is a need to change the present practice of appointing auditor at the VDC level. In the absence of AGO at the district level, it will be appropriate that the DTCO appoint the auditor from the locally available registered auditor to carry out VDC audit.³ This will improve the check and balance by insuring better use of the budget at the VDC level. This may however, require changes in the present Local Body Financial Rules and Regulations.

The present system of AGO auditing DDC's expenses, auditing only central government grant and leaving expenditure based on DDC's own source, also need to be changed and a system should be put in place to carry out consolidated audit by AGO at the DDC.

The volume of resources transferred to local bodies strongly demands AGO or its authorised agencies (say DTCO for the VDC audit appointment) to take up all the audit matters of local bodies and the audited report be made as a part of the AG's annual audit report. This will improve transparency and also the accountability at the local body level.

³ At present AGO does not have district level office and as such it will be too difficult for them to look after the audit matters at the VDC level. The system could be transferred to AGO at a later stage when they are ready to take this responsibility.

Chapter I: Introduction

1. Introduction

Since 1980's countries around the world have increasingly been adopting decentralization as a means for promoting good governance, democracy, poverty reduction and development. The devolution of central government functions to local jurisdictions is noted to have improved the quality of service delivery at a much lower cost as, part of the burden of financing services can be shifted to sub-national units and private providers. It has been argued that decentralization improves governance and public service delivery by increasing - **allocative efficiency** — through better matching of public services to local preferences, and - **productive efficiency** — through increased accountability of local governments to citizens, fewer levels of bureaucracy, and better knowledge of local costs.

The process of Decentralization to improve governance and increase people's participation has been championed for a long time in Nepal. The Constitution of Nepal 1991 has incorporated Decentralization into its directive of the state policy and is stated as "*Decentralization should be the means for ensuring optimum participation of people in governance and hence enjoy the benefit of democracy*". The promulgation of three separate local governments Acts (DDC, Municipality and VDC) in March 1992 and Local Self Governance Act (LSGA) in 1999 and the enactment of LSGR and LBFAR was the beginning of a systematic process to Decentralization in the country. The Interim Constitution of Nepal 2063 (2006) furthers the concept of decentralization in Nepal and endorses it as a means for the overall equitable development of Federal Democratic Republic of Nepal.

Local Bodies plays crucial role in the affairs of local level development in Nepal. With decentralization being recognized as the key to development in the country by the Constitution of Nepal 1990, a number of steps in furthering decentralization of tasks and functions have been implemented. Besides LSGA 1999 and the regulation, LBFAR 2000, considered as the landmark documents in the process, the formation of Decentralization Coordination and Implementation Monitoring Committee (DCIMC) at the apex and the implementation of Decentralization Implementation Plan (DIP) remained another landmark steps in furthering it. The creation of institutions at the micro and meso level along with the central level institutions have played not only a crucial role in lobbying decentralization of tasks and functions to the level downwards and strengthening local bodies at the grass root level but also in creating ground work and thereafter the implementation of decentralization implementation plan including devolution of primary functions eg., management of primary school and health services, agriculture and livestock extension and rural infrastructure programs that includes, small irrigation, rural roads and community drinking water.

However, as decentralization progresses a mismatch between expenditure requirements, revenue collection and fiscal capacity emerges leading to vertical and horizontal fiscal imbalances. To contain these imbalances across the level of government a system of intergovernmental fiscal transfer is adopted. Such transfers from Central government to Local Bodies are made in the form various conditional and unconditional grants. Overtime, such resource transfer from central government to local government units helped minimize, to some extent at least, contain the vertical as well as the horizontal imbalances among local bodies. Nevertheless, Local Bodies are still facing serious financial crisis in implementing various economic and social development programmes to meet the expectation of its people.

Government of Nepal has been providing grants to all DDCs based on criteria that include population, cost of development, geographical area and Human Development Index. But, until recently, it was providing equal amount of Rs. one million, as unconditional grant to the VDCs. Some correction was however made in fiscal 2065/66 and a crude formula taking into account of population and area of the VDC along with the cost index of DDC was used to transfer funds to the VDCs. As such, the amount of grant to VDCs in fiscal 2065/66 varied ranging from Nepalese Rupees 1.5 million to 3 million per VDC depending upon its remoteness.

In this context, the present study intends to design a more realistic formula based grant system for VDC and also update the cost index used in the grant formula for the DDC.

2. Objective of the Study

The overall objective of the study is to design a formula based grant system for VDC and update cost index in the grants distribution formulas of DDC. However, the specific objectives are;

- a. To prepare cost index of all VDCs by incorporating the prices of major construction materials and labors used in different construction activities in the VDC,
- b. To design and estimate a formula based grant system for VDC that takes in to consideration of area, population and the cost of development,
- c. Suggest appropriate Weightage that should be used in the formula based grant system for VDC and suggest annual grant allocation for all VDCs, and
- d. Assess existing cost structure of DDCs and update cost index to be used in the formula based grant system for DDC.

3. Scope of Work

The scope of work, as per the TOR of the study is as follows:

- e. *Prepare cost index for developmental activities in the VDCs. This will be used as a component in the grant distribution formula.*
- f. *Prepare appropriate Weightage for components used in the formula based on the importance of the factors affecting developmental activities in the VDC.*
- g. *Prepare VDC wise grants amount based on the new formula, and*
- h. *Update cost index in the grants distribution formula for DDC.*

4. Approach and Methodology of the Study

The nature of the study demands extensive review of documents and use of both primary and secondary data. Combination of various study approaches is the key for addressing the objectives and the scope of the work. The following approaches are therefore, adopted to complete the study:

- i. Review of secondary data available on budget expenses, types of programs and Projects and modality of implementation for all DDCs and VDCs
- ii. Survey of select 6 districts representing mountain, hill and tarai in five development region for cost updating and VDC survey
- iii. Select 5 representative VDCs in each district for estimation of socio-infrastructure development and cost structure in developmental activities at the local level.
- iv. Review of types of developmental activities carried out in the VDC and the cost structure in such activities.
- v. Carry out interactions with all stakeholders, both at the centre as well as at the district and VDC.
- vi. Conduct relevant surveys for collecting prices of construction materials at the nearby markets and trade originating urban centres.
- vii. Prepare cost index and suggest formula for VDC grant distribution.
- viii. Update cost index for DDC.
- ix. Estimate grant distributions based on new formula and compare it with the present allocation.
- x. Prepare draft report, hold dissemination seminar and submit final report accommodating all comments received.

Briefly speaking, the study composed of two assignments namely, Updating of the existing grants based formula used for allocating funds by district, and prepare formula based grant system for VDCs.

a. Updating Grants formula for DDC

For updating grants formula for DDC, the team reviewed the existing formula based grant system, identify the gaps and improve the formula by updating the cost index used. The cost index is revisited and improved upon by taking into account the actual types of developmental activities undertaken by the district, the proportion of budget on such activities and the key inputs used in these activities. As the DDCs are found spending more than 60 % of their overall

budget on rural roads, small irrigation and drinking water schemes and construction of community housing, school buildings etc., these activities are chosen for the detailed analysis. An inputs structure and cost estimates for each of these activities are obtained from the District Technical Office. Proportion of budget spend on each of these activities are obtained from the DDC. Similarly, District approved price list are collected for preparing the weighted price index of construction materials and other inputs for the district.

b. Preparing formula based grants system for VDCs

The second and the key task of the study are to prepare a formula-based grants system for the VDCs. This is done by identifying the importance of the types of development activities undertaken by VDCs in 2065/66 and its cost structures. An effective weighted price index with proportion of budget spend on these selected activities and the input structure as weights are prepared for the VDC adjusting cost of transportation for imported items (in VDC from outside) at different distances from the district headquarter. These weights and the cost for transporting inputs in VDCs located at different distances from the district headquarter are used for capturing the importance of the factors and the effective Weightage of each of the components that have some effects on the demand for services and the supply of it. A stepwise regression techniques using VDC level population, Area, population density and the price index of development inputs are used for determining the Weightage of each of these components in the size of the allocation to be provided for each VDC.

c. Collection of data

Data for the study are collected from both primary as well as secondary sources. Besides collecting data from the sampled DDCs and VDCs at the field, the study team request LBFC to send circular to all DDCs and VDCs to send the required data. The data thus requested comprised of;

- i. Types of development activities carried out in 2065/66 and the amount spent in each activities,
- ii. List of the types of inputs used by types of activities such as, rural/agri roads, community drinking water and the small irrigation schemes, construction activities in terms of community building, school etc,
- iii. Detail cost structure of rural roads, drinking water, small irrigation and school/community building etc, and the proportion of inputs used in each of these activities,
- iv. Price of development inputs approved by DDC and the transportation cost of inputs as approved by DDC/VDC for different distances.

Besides, data relating to DDC and VDC allocation for fiscal 2065/66 as well as other necessary data at the VDC level are collected from LBFC and other sources such as, NPC and CBS.

Sample survey

Sample survey of DDC and VDCs are carried out to collect primary data.

i. Selection of Districts and VDCs

As per TOR, in consultation with LBFC, the following six districts representing different topographical areas and development region are selected for the field survey.

Region/Topography	Mountain	Hill	Terai	Remarks
EDR	Sbhanhuwasabha		Jhapa	Poor to moderate resource based and performing district
CDR		Nuwakot		Average district
WDR		Kaski		Performing district
MWDR	Jumla			Remote and weak district
FWDR			Kailali	Moderate district
Total	2	2	2	

At the field level, it is observed that the costs of development materials are found directly correlated to the distance from the district headquarter (Corr Coeff ranging between 0.92 – 0.95). This is specially true in the mountain and the hill districts where, because of the only road/ air network with outside districts, every development materials has to be transported from the district headquarter to the respective VDCs of these districts. As such, selection of VDCs, in each district, was selected to capture the change in the cost of key development inputs due to distances from the district headquarter. This was done in consultation with the officials in the districts itself. Broadly, the following criteria are followed while selecting VDCs in each district.

- VDC at 0 - 5 Kosh from the district headquarter
- VDC at 5 – 10 Kosh from the district head quarter
- VDC at 10 - 15 Kosh from the district head quarter
- VDC at 15 - 20 Kosh from the district head quarter
- VDC at 20 and more Kosh from the district headquarter

The table below provides the list of selected VDCs in each district along with its distance from the district headquarters. Although, 30 VDCs, 5VDCs each from the sampled six DDCs were proposed for the survey, however, due to non- availability of required data, the following twenty-eight VDCs of different distances from the district headquarter are selected for each district.

List of VDCs selected for survey

Region	Topography	District	Sampled VDCs	Distance from Dist HQ in Kosh
Eastern Dev Region	Mountain	Sankhuwasabha	- Syabun - Sichukhola - Tamaphok - Makalu	7 16 18 18
	Terai	Jhapa	- Anarmani - Giladubba - Pathemari - Shantinagar	3.3 5.5 6.25 7.5
Central Dev region	Hill	Nuwakot	- Phikuri - Lachhang - Sundaradevi - Sikre - Sikharbesi	5.5 6 9 11 13
Western Dev Region	Hill	Kaski	- Lumle - Mauja - Bhachowk - Bhijure danda - Bhadure tamagi	1.5 3.5 7.5 8 9
Mid western Dev Region	Mountain	Jumla	- Chandan nath - Mahat - Patmara - Raralehi - Guthichour	0 0.5 8 13 18
Far western Dev Region	Terai	Kailali	- Beladur - Hasulia - Pahalmanpur - Narayanpur - Pandun	2 10 17 23 33

ii. Types of questionnaire used in the field survey

A formatted but separate set of questionnaire are used for the survey purpose. This questionnaire collects data in relation to;

- Details of recurrent and capital expenditures (Regular and development budget spending/best estimate for 2066/67) of VDC
- Types of development activities carried out and the detail project/program wise budget
- List of projects/program implemented thru contract, user's committee and other implementation modality
- Estimates of costs (with its details by program) as prepared by District technical office (DTO) for the VDC activities and tentative beneficiaries
- Price of development materials and labour wage (both skilled and unskilled) as approved by DDC/VDC for each of the three years
- VDC area, distant to district headquarter, and population

ii. Interaction with DTO and the respective overseers supervising VDC projects

AS all the VDC level development activities are cost estimated and supervised by the designated overseers at the DTO, an interaction with the Overseer can provide valuable information in identifying importance of items in the cost index preparation.

iv. Interaction with other stakeholders

Similar interaction with DDC /VDC past chairman, LDO and VDC secretaries along with some elite people can through elites in identifying the relevance of the data in preparing cost index.

v. Collection of annual approved price of development materials and labour from DDC

Collection of DDC approved prices of construction materials and other relevant items for each year provides a basis for comparing prices of such items and also the changes over time.

d. Methodology for analysis

Based on the collected information at the centre, district and the VDCs and the secondary data, cost index for development materials at the VDC are prepared for each category of VDCs. Similar exercise for DDC are carried out to update the cost index. Weightage for each of the VDC factors such as, population, area and cost are determined by using stepwise regression techniques. Simulations of VDC grants are made for grant allocation in all VDCs. These simulation results are then compared with the actual grant distribution to VDCs in fiscal 2065/66. Necessary adjustments were made to make it more operational. Based on the cost index in different category of VDCs by remoteness, topography and region and the simulation of grants, a general formula for grants distribution is recommended for real application from the coming fiscal year.

e. Presentation of the Findings

Presentation of the methodology and the simulation results along with the key assumptions were made at the Ministry of Local Development. Secretary, MOLD chaired the session with key officials from the ministry as well as from LBFC and LGCDP participating. A thorough discussion on the findings was done and suggestions from the secretary as well as from the participants were noted. The report incorporated these suggestions.

5. Limitations of the Study

Although utmost care had been taken in making the study more operational and statistically significant in its result, the unavailability of updated data, such as District and VDC level population, poverty and Human Development index etc., compelled the study team to use whatever national data surveyed by CBS and other national level reports are available for the estimation. Therefore, the output needs constant updating as and when better/ more information at the VDC level are available.

The simulation result for grant distribution in the VDC may differ from what has been given in the past for the same VDC. This may raise problem as, it will be difficult to provide lesser amount (as per the formula) of grant to the VDC than the amount they are receiving at present. In such cases, the amount, which has been given to, the VDC since past years may have to be given in practice. The

fixed amount of Total Grant pool, the mandatory provision for not reducing VDC grants that was allocated in fiscal 2065/66 etc., greatly constrains the flexibility in using the simulation result.

The limited information regarding the cost structure of development activities by VDC needs to be improved in the future. For this, the cost structure of development activities in the VDC prepared by the Overseer at the District Technical Office (DTO) who oversees the program technically should be made to submit the detail technical proposal at the VDC and get approval from it. This will improve the data base of the project and also will help VDC members in monitoring its performances.

The Cost updating for DDC grant formula is based on the information provided by DDC in the form of its approved rates of development/construction materials including wage rates for labour, both skilled and unskilled and the rates for supervision charged by the technical personnel. The DDC board approved rates may differ with the actual local prices of these inputs.

As the design of the formula and the coefficients estimated varies with the quality of data available, effort must be made to collect more reliable data. This will only generate better result.

6. Organization of the Report

The report is organised in six chapters. Chapter I basically deal with the methodological approach taken in completing the study. Chapter II reviews the rationale for intergovernmental fiscal transfer in theory and practice. Building upon the theoretical aspect of intergovernmental fiscal transfer, it reviews its practices in some selected countries including Nepal and the issues that the country experiences in practicing it. Chapter III deals about the rationale for updating cost index in the presently used DDC grant formula. It discusses the methodology used for the estimation and make comparison with cost indexes estimated in 2003 for the grant formula purpose. Chapter IV discusses designing of grant formula for the VDCs in Nepal. In doing so, it first identifies the components for the VDC grant formula and estimates weights for each of these components by applying stepwise regression techniques. Besides, it prepares the weighted cost index of development inputs for VDC by taking into account of the prices of materials and labour, the cost structure of key development programs and the inputs used in such programs and the use of development budget in such programs by VDC. Chapter V simulates the VDC grant formula prepared and compare the output with the actual Grant amount by VDC for the fiscal year 2065/66. Chapter VI briefly outlines the key issues in operationalizing DDC and VDC grant formula for respective grant distribution from the Central government to local bodies. It also recommends areas in which the improvements should be made.

Chapter II: Intergovernmental Fiscal Transfer System: Why and How?

2.1 Why Intergovernmental Fiscal Transfer

A sound system of intergovernmental fiscal transfers is considered as a pre-condition for stable decentralization process. The need for intergovernmental fiscal transfers arises mainly due to fiscal imbalances between own source revenue of Local Bodies and its expenditure needs. The retention of key revenue sources at the central government has been found as the principal reason for such imbalances. The low revenue base, caused by such policies and the high expenditure needs for discharging services at the local level along with responsibility for development causes fiscal imbalance at the local level. Such imbalances can be **vertical or horizontal** in nature - **the vertical dimension**, concerned with the distribution of revenues between central and local governments and **the horizontal dimension**, concerned with the allocation of financial resources among the recipient local bodies. A vertical imbalance occurs when the expenditure responsibilities of sub-national governments do not match with their revenue raising power where as, a horizontal imbalance occurs when the fiscal capacities of sub-national government to carry out the same functions differ across sub-national governments. This necessitates transfer of resources from the central government to the local bodies.

Intergovernmental transfers serve basically three fundamental objectives, namely, one, to address the vertical imbalance – the inadequacy of revenues of sub-national governments to discharge effectively their expenditure liabilities, - two, to reduce horizontal imbalances, the disparities in the revenue capacity of the local, and three, to off-set cost and benefit spillovers. Besides, Central Government also provide such transfers to carry out some agency functions for the central government.

Vertical imbalances arise because of the gap arising due to imbalances in the expenditure assignment with the tax assignment. In addition, the differences in terms of tax effort and expenditure among different levels of LBs also contribute to vertical fiscal imbalance. As the local bodies are supposed to deliver tasks committed by the state, it is necessary for the state to make arrangements for the financing of such services, since finance should follow functions. Normally an arrangement to this effect ends up in the form of grants from central government to the local bodies.

Horizontal fiscal imbalance, on the other hand, refers to the mismatch between revenue and expenditures of governmental units within a level of government. It arises because of revenue and expenditure differences of LBs as a result of - the differences in the fiscal capacity or fiscal effort and also due to differences in the quantity or quality of public services or differences in the cost of services. Differences in the level of infrastructure development, resource endowments and also the level of social and human development contribute more towards horizontal imbalances among local bodies. Thus, horizontal imbalances occur mainly due to:

- Differences in the fiscal capacity and effort of local bodies, that is in their tax base and therefore in their ability to raise a particular level of revenue even with standard rates and administration effort.
- Differences in the expenditure needs of local bodies because of differences in the costs in providing services due to differences in needs arising from different demographic profiles such as, the percentage of school going children or the percentage of people in the retirement age etc., geographical, topographical or the climatic conditions, level of poverty and unemployment etc.
- Spillover effects on other jurisdictions. The need for maintenance of inter-state highways, water and air pollution control, higher education, hospital services, fire control system etc., not only benefits the spending districts or region but also provides benefits to other neighboring districts or regions.
- High expenditure needs arising because of high proportions of poor, or high rural –urban migration causing pressure on public utility services.

Intergovernmental fiscal transfers have been employed in countries to achieve a variety of political and economic objectives. Politically, transfers contribute towards a nation-building role as an important instrument for the central government to keep the country together by enabling the LBs to pursue their own goals. Bahl (1998) observed that intergovernmental transfers serve following economic objectives:

- Address the vertical imbalance – the inadequacy of revenues of sub-national governments to discharge effectively their expenditure liabilities, arising from assignment of functional responsibilities and insufficient own resources among different governmental levels,
- Alleviate horizontal imbalances, the disparities in the revenue capacity of the local bodies in order that all of them may be in a position to provide basic public services to their citizens at a reasonable level,
- Off-set inter-jurisdictional cost and benefit spillovers especially for merit goods. In addition, transfers may also be given to carry out some agency functions for the central government,
- financing merit goods - avail LBs with resources for their contribution in providing services of national priority, and
- Administrative efficiency -harness efficiency gains in revenue collection from certain sources (such as income tax) and distribute the resource to local bodies.

Reasons for Intergovernmental Transfers

Roy Bahl observes that governments introduce intergovernmental transfers for one of four good reasons, and for a number of not-so-good reasons (Table 2-1). It is commonly observed that the design of an intergovernmental transfer system is a reflection of the objective and reasons that is at the core. Therefore it is strongly stressed that there should be clarity on the objectives for devising a good transfer system.

Table 2-1: Different Reasons for Intergovernmental Transfers

Good reasons	Motive or objective
Vertical balance	Fulfill inadequacy of the fiscal resources with different levels of government to accomplish the assigned tasks and provide the services to citizens at the specified quality and quantity.
Horizontal balance and equalization	Minimize difference of in the resources and service they provide among local bodies within the same level
Offset impact of externalities	Compensate the local bodies with funds for their financing for services that also benefit people or area beyond the LB's jurisdiction.
Financing merit goods	Avail LBs with resources for their contribution in providing services of national priority
Administrative efficiency	Harness efficiency gains in revenue collection from certain sources (such as income tax) and distribute the resource to local bodies
Not-so-good reasons	
Delay/resist fiscal autonomy to local bodies	Give resource rather than fiscal autonomy and authority to keep the power with central body
Attempt to maintain uniformity among LBs	If majority of resources goes through central grants then it is easier to enforce uniformity
Mechanism to uphold public accountability	Suspicion that LBs will misuse if powers are given to them and that LBs may prove better and challenge the workings of central agency
Use as cushion to offload the budget deficit on LBs	By getting the things going through mechanism of LB grants, public will question the LBs if services are not delivered. At times of resource crunch central body will not be blamed for not providing services

The success of decentralization process hinges, by and large, on how the system of fiscal decentralization is designed and implemented. Roy Bahl (1999) suggests the following twelve “rules” for the implementation of a policy of fiscal decentralization:

Rule 1: Fiscal decentralization should be viewed as a comprehensive system

Rule 2: Finance follows function

Rule 3: There must be a strong central ability to monitor and evaluate decentralization

- Rule 4: One intergovernmental system does not fit the urban and the rural sector
- Rule 5: Fiscal decentralization requires significant local government taxing powers
- Rule 6: Central governments must keep the fiscal decentralization rules that they make
- Rule 7: Keep it simple
- Rule 8: The design of the intergovernmental transfer system should match the objectives of the decentralization reform
- Rule 9: Fiscal decentralization should consider all three levels of government
- Rule 10: Impose a hard budget constraint
- Rule 11: Recognize that intergovernmental systems are always in transition and plan for this
- Rule 12: There must be a champion for fiscal decentralization

As the ultimate objective of the decentralization process is to bring governance closer to the people, and thereby, increasing the efficiency, effectiveness and equity of fiscal policies, the benefits of decentralization can only be materialized if local governments are given a level of discretion in-

- a. determining local policy priorities,
- b. collecting local revenue and,
- c. Selection and implementation of local projects and programs.

Factors to be considered in Designing Intergovernmental Transfers

The volume of transfers cannot be decided in an ad hoc manner but must be anchored to a macro framework defined by parameters of fiscal adjustment along with incentives to induce prudent and efficient fiscal management. It thus, calls for a holistic approach assessing the tasks and function assigned to local bodies, their fiscal capacity and the ability to discharge such functions efficiently. As far as possible, the design of fiscal transfers should be such as can serve the objectives of closing the vertical gap and reducing, if not removing, the horizontal disparities so that LB's can provide basic public services to their people at reasonably comparable levels.

First and foremost, the design of the transfer system should depend upon the rationale for such a transfer system. The rationale should essentially lay down the objective of a transfer system. Thus, transfers meant for offsetting vertical fiscal imbalances or to ensure horizontal equity or stabilize intergovernmental competition ought to be unconditional. However, the amount of such grants should neither, be considered as a free money that cannot be used in any way nor, should remain outside the ambit of fiscal rules and regulations. It should at least, not discourage the efforts of LBs to mobilize own source revenue. The Grants given to offset spillovers or those given to ensure minimum outlays on specified services (merit good reasons) must be purpose specific with matching requirements from the states.

While the objectives of intergovernmental transfers are important in designing the system it however, needs to minimize political influence and infuse confidence in the central government or the independent institution who manages the transfer system as a whole. This will require the system to be more objective and formula based. However, the formula-based system should not be a rigid mechanical exercise; it should have sufficient flexibility to take account of changing situations and complexities in intergovernmental fiscal relationships.

Intergovernmental transfers can be designed in a variety of ways and the effect of transfers depends on the way they are designed. Although the theoretical rationale helps to identify the objectives of transfers and provides broad guidance on their design, serious considerations have to be made regarding the volume of transfers, components of the distribution formula, flow of funds and method of transfer as well as the management and sustainability of transfer system as a whole. The formula employed may have implications both on equity and incentives and also may have to address various political, historical and economic compulsions.

2.2 Review of Intergovernmental Transfer System

Universal Principles of Transfer Design

While designing the intergovernmental transfer system it is important to take note of the international practices. The following universal principles of transfer design provides a good guidance for designing a system of fiscal transfer that is theoretically sound and hopefully less problems in its implementation:

- Should provide adequate resources to LBs that balances national priorities and local autonomy
- The formula should be fair, especially for poor jurisdictions
- Transfers should be provided in a predictable manner. The formula should be stable
- Simple, transparent, and understandable
- Should not create negative incentives for revenue mobilization, neither induce inefficient expenditure choices.
- General allocation transfers or equalization transfers should be granted as unconditional lump-sum grants, and
- During the introducing of the new system it should avoid sudden large changes in funding for local governments

The broad objectives of central grant to local bodies are to fulfill the fiscal gap, reduce fiscal inequity among jurisdictions, offset the impact of inter-jurisdiction spillovers, and achieve fiscal harmonization. Each of the different grants serves an objective better than others, if the grant system is properly packaged with other factors. For example, expenditure harmonization can be accomplished by the use of (non-matching) conditional grants, provided the conditions reflect national efficiency and equity concerns, and where there is a financial penalty associated with failure to comply with any of the conditions.

There are three different forms of intergovernmental transfers, and the right choice for a country depends on the objectives to be achieved:

- c. Conditional grants: This could be in any of the three following forms such as matching open ended conditional grant; matching closed-ended conditional grant; and non-matching conditional grant.
- d. Unconditional General purpose grants: General purpose grants flexible enough to be used as per the local requirements and
- e. Promotional/Performance grants: Such grants are provided to encourage local governments to follow rules and regulations of the central as well as local governments. Compared to other two types of grants, the volume of promotional grants used to be small and confined only to those local governments who strictly follow the set of rules and regulations. Such grants may be both conditional and unconditional in nature

A formula based transfer system is considered appropriate method. It has at least three advantages over the discretionary system. It avoids bargaining of fund at the political level and increases chances for fair distribution. Depending upon the factors included in the formula, it also encourages for local tax efforts and imposes hard budget constraints and thus stops over-spending. Formula grants are generally unconditional, which gives locals a maximum of flexibility in deciding on the purpose of expenditures. Further, if the grant pool is determined through shared taxes then some degree of certainty in the distribution is also attained which is desired as per the principles of transfer.

Instruments of Intergovernmental Fiscal Transfer

The following are considered as the mechanism through which central government transfer resources to the local bodies.

More Tax Authorities at the local level

Provision of major tax head to local bodies complementing with programs enhancing their capacity to raise revenue at the local level is considered as the best and sustainable way to empower local bodies. This improves fiscal position of local body and there by reduces dependency upon the central government on fiscal matters, which is considered as pre-requisite for decentralization in the true sense.

Revenue Sharing

Central government may attempt to fulfil the fiscal gap of local bodies through systems variously described as "tax sharing" or "revenue sharing." In a revenue sharing arrangement the central government shares a portion of revenue from a given source with local bodies. Example of revenue sharing in Nepal includes sharing revenues from forest resources, from levy of electricity generation, property registration etc. Another approach in sharing revenue is the sharing of tax base. In this approach, local or central tax is piggy- backed on the normal rates applied on tax base as a surcharge or fee. Local development fee, in Nepal, can be considered as an example of base sharing since local development fee at the rate of 1.5 % or so used to be levied until last fiscal year on all imports of goods except project goods, raw materials etc., on top of normal import duties.

Central Government Grants to Local Bodies

This is the most common form of resource transfer from the central government to the local bodies. Annually central government provides fixed sum of amount, based on a formula that takes into account of the population, area of the local body, cost of development and people below poverty line etc., or on an adhoc basis, to local bodies to deliver basic services to the people at their jurisdiction and also to carry out some development function for making people's life easy.

Fiscal Transfer Module in Some selected Countries

India

India started providing Intergovernmental fiscal transfers from the central government to the states in 1919. As in other countries, the purposes of India's fiscal transfer system include correcting vertical fiscal imbalances between the federal and the states and correcting horizontal imbalances in fiscal capacity among the states.

The Indian intergovernmental transfer system consists of three elements: (1) a general purpose Grants mechanism designed to assist the backward areas using states' shares of income taxes and excise tax (a revenue-sharing scheme). The Finance Commission operates this system. (2) Transfers from the federal government to state development. The Planning Commission authorizes such transfers. The plan transfers consist of formula-based conditional transfers and specific purpose transfers some of which are matching grants, and (3) Local government borrowing authorized by the central government.

On the distribution method, during 1980's, the Finance Commission (1984) followed what is known as the "gap-filling" approach. This consists of assessing the revenue receipts and expenditure based on the actual numbers and recommending on-plan deficit grants to fill the financing gaps arrived at on this basis. This approach has encouraged the state governments to understate the predicted growth of their own tax revenues to increase their commitments on non-plan expenditure, and to run deficit budgets in the expectation that their financing gaps would be filled by grants from the Finance Commission. The tenth Finance Commission has suggested following criteria for the grant distribution to the states: (a) 20 percent on the basis of population (; b) 60 percent on distance of per capita income from the highest income major state; (c) 5 percent on the basis of infrastructure; (d) 5 percent on the basis of the area of states subject to certain normative limits; and (e) 10 percent on the basis of tax effort defined as the ratio of per capita own tax revenue to the square of per capita income. This formula differs from the previous ones by reducing the weight of population; increasing the weight given to "distance" of per capita income; introducing a weight for infrastructure; and removing the "gap filling weight."

The detailed procedure for applying the above formula is as follows:

Step 1. Divide the whole pool for transfers into five parts, 20%, 60%, 5%/65, %, 10%.

Step 2. Allocate 20 percent of the pool on the basis of population. That is, the *i*th state gets P_i/P of the 20 percent, where P_i is the *i*th state's population, and P is the country's total population. The population figures used are those in the 1971 Census.

Step 3. Allocate 60 percent of the pool on the basis on income distance. The population of the states multiplies the respective "distances" and the share of each state is obtained by dividing the product for that state by the sum of the products for all states. That is, the *i*th state gets $P_i D_i / \sum P_j D_j$ of the 60 percent, where P_i is the *i*th state's population, and D_i is the per capita income distance of the *i*th state from the state with the highest per capita income (Goa in the case of the Tenth Commission). Goa is taken to be the same as for the state with the second highest per capita income (Punjab) from that of the next one (Maharashtra) since otherwise Goa will not get any share at all.

Step 4. Allocate 5 percent of the pool on the basis on area, i.e., the *i*th state gets A_i/A of the 5 percent, where A_i is the *i*th state's area, and A is the country's total area. An adjustment is however made so that no state gets a share higher than 10 percent or less than 2 percent.

Step 5. 5 percent for infrastructure is on the basis of an aggregate index computed by an expert group. (The details are given in Appendix 5 to the Tenth Commission's report)

Step 6. 10 percent for tax effort is allocated using the ratio of per capita own tax revenue to the square of per capita income with the respective products being scaled by population as in the distance criterion. That is, the *i*th state gets $P_i E_i / E_j P_j E_j$ of the 10 percent where E_i is the *i*th state's effort index defined as $E_i = (R_i P_i) / (Y_i / P_i^2)$.

Indonesia

Indonesia collects two thirds of the total revenue at the centre and transfers more than half of the centrally collected revenues to sub national governments through grants. Central government grants finance about 65 percent of expenditure at the provincial level and 70 percent of expenditure at the district level. Indonesia provides two types of transfers namely, general purpose transfers and specific purpose transfers to provinces and districts. There are four types of general-purpose transfers provided by the centre to the province and districts:

(1) Provincial Development Grant. This is a formula-based grant scheme. However, 85 percent of the funds are distributed by giving equal share to each province and the remaining funds are allocated in proportion to the total area of each province. The centre has recently given the provinces more flexibility in the use of these funds.

(2) District Development Grant. This is a formula-based grant scheme with two components: a minimum grant and a per capita grant for each local government. Funds are not transferred to local governments but are simply deposited with the local branches of the central bank or the authorized bank branches. This is done to prevent diversion of grant funds to non-approved projects. Most of the funds from this grant program have been spent on local road renovations and improvements.

(3) Village Development Grant. This is an equal per village grant.

(4) Less-developed Village Grant. This is a per capita grant program initiated in 1994/95.

Pakistan

Pakistan follows a formula based grant system for distributing its grant pool to provinces. The Finance Commission determines a number of specific support schemes as well as the total grant pool for transfer to provinces. Pakistan's transfer system is based entirely upon the size of the population of the provinces. However, the backward provinces are provided with special grants.

Vietnam

Until recently, the transfer system in Vietnam consists of a gap filling type general transfer to the provinces, which have not enough revenues from own source revenue and shared taxes to finance expenditures. The gap filling transfer amount is determined as follows;

General transfer requirement to a province = Approved budget of the province– own source revenue– revenue from shared taxes.

There is no explicit mechanism to determine the level of transfers except the outcome of the negotiation between the provincial authorities and the Ministry of Finance plus the adjustment by the

National assembly. Vietnam does not have an explicit capital transfer program nor does it have a system of transfer earmarked to specific types of expenditures.

With the implementation of the 1996 budget law however, government replaced the system of negotiated annual transfer with a formula based transfer system for each province. The formula uses different demographic and regional variables as approximation of needs. However, the budget law requires transfer system to be stable for a period of 3 to 5 years.

Japan

As in many other countries, the fiscal relations between the central and local governments in Japan deal with the vertical fiscal imbalance at the local level. Transfers from the central government to the local governments are the primary means to address the vertical imbalance. There are five types of transfers from the central government to local governments: the local allocation tax, central government disbursement, local transfer taxes, special traffic safety disbursements, and transfers as a substitution for fixed-assets tax. Of these transfers, the local allocation tax and central government disbursements are the most important, and comprise about 90 percent of the total transfers from the central government to local governments.

The tables below briefly summarises the modality of intergovernmental transfer in some selected developing countries in the South and East Asian Countries.

Table 2.2: Comparative Grant Systems in Asia and the Pacific⁴

Design Features	Indonesia	Lao	East Timor	Solomon Islands	Nepal	Bangladesh
Allocation criteria	ILGR and DIALOG: Formula: Based on size of the population, taking into account the density.	Formula with: i) Small equal shares component, ii) population-based component and iii) poverty component (weighted by population).	Formula: Based on: i) size of the population and ii) small equal shares component for sub-districts for those districts which have SD assemblies. In pilot areas with only District Assemblies, population based allocations are used. This is due to lack of poverty data.	Formula with 2 criteria: i) Equal share 20 % and ii) population 80%.	Formula: Based on i) population, ii) land area, iii) HDI and iv) cost index + performance adjustments according to the results on the performance measures.	Formula: Based on i) population, ii) land area and iii) flat rate per LG + performance adjustment for the piloting.
Adjustment mechanism of the grants	All MCs have to be complied with in each stage. Failure to meet the requirement does not mean that the districts are dropped from the programme. Then can not "graduate" to the next stage of the Programme, which implies that they cannot receive the investment funds in time. As an example 2 districts did not fulfil the pre-investment requirements in 2006, while the other 12 districts started the implementation of investments in Year 1, 2007. The two districts just started in 2008 (after they fulfilled the requirements for 2007).	Non-compliance with MCs results in 50% reduction in following year's block grant.	Non-compliance with MCs results in 100% reduction in following year's block grant.	MCs: Only on-off triggers in form of the MCs and reporting requirements. No-compliance leads to 100 % withdrawal of funds. In future performance measures and adjustment will be introduced.	MCs + Adjustment of the grant according to the performance (+ up to 30 % extra and minus up to 20 % if performance is poor).	The scores on the MCs have decided the eligibility. UPs will have to comply with all MCs. Best performing LGs are enrolled in the first phase of the support. Adjustment of basic allocation formula against the performance will be introduced in subsequent phases under the LGSP (started already in the pilot districts).

Cambodia (2003)	One general purpose grant for the commune/sangkats- the so-called C/S Fund, which is divided in an administration and a local development component (2003)	The allocation formulas vary for the administrative and the development components: 1) The General Administration Component cannot be more than 1/3 of the total distributable resources of the CSF. This component is distributed to each Commune Council in proportion to its number of councillors. 2) The Local Development Component, which cannot be less than 2/3 of the total distributable resources of the CSF. This component is allocated by three shares (criteria): 1) an equal share, 2) a share proportional to the size of the population in the Commune, 3) and a share proportional to a poverty index, weighted by the population of the commune. For the poverty assessment, a Commune database with data on social indicators, by village, is used to produce a poverty ranking of the Communes. ⁵ E.g. the FY2002 allocation formula, used weights for the equal share, population, and poverty components, respectively, of 50, 30 and 20 percent.
Philippines (as of 2005)	One major scheme, the Internal Revenue Allotment (IRA) The size of this is set as a fixed percentage, which is 40 % of the national internal revenues three years prior to the current Fiscal Year. Small number of capital transfers (typical project specific)	The allocation is distributed among the different tiers of local governments as follows: Provinces (23%), Cities (23%), Municipalities (34%), Barangays (20%). The resulting amount is further divided among the LG at each level with the use of the following formula: 1) Population (50%), 2) land area (25%), and 3) equal sharing (25%).
Pakistan (2002) ⁶	The size is based on recommendations from the Finance Commission (grant constitutes a significant part of the LG resources) In addition there is a number of smaller support schemes	Entirely on basis of population, although with a special grant targeted to the two backward provinces. A number of the smaller schemes have no clear criteria and seem to be impacted by political considerations. Small matching grant for provincial resource mobilisation that rewards (to a certain limit) provincial revenue effort in excess of their historical average growth rate.
Indonesia ⁷ (2005)	The support from CG (DAU) represents minimum 25 % of the National Budget and accounts for about 60 % of the LG revenues No explicit system for development transfers (but grants may be partly used on development). DAK: Earmarked grants with various criteria	DAU: Both fiscal capacity (measured as variation in the local gross domestic product) and expenditure needs criteria (population, area, inverse HDI, relative per capita GDP, and price differentials) are including in formula The costs of the existing salary structures are deducted from the pool of equalisation prior to the calculations. DAK: Various allocation criteria (general, special and technical criteria).
Bangladesh (2007)	1) Development block grant from government to be integrated with a donor basket fund arrangement- "topping up" of funds: a) a system for the entire country gradually phased in and b) additional funds for 6 districts	Previously: Fixed amount, population and land, but not fully clear in practice. Programme (UNCDF): Fixed amount, population and land. Future system: Minimum allocation per unit and then additional funds allocated using the size of LG population, finally adjusted against the LGs' performance Some districts will get additional supplementary performance based grants.

Adapted from Jasper Steffensen (2007)

⁵ ADB/UNDP, 2003.

Paul Smoke 2002.

⁷ A. Shah: Local Governance in Developing Countries, 2006.

2.3 Key Components in Designing Fiscal Transfer

Transfers should be determined as objectively and openly as possible. Transfers should not be subject to hidden political negotiation. A formula is considered ideal for the purpose. The transfer system is decided in various agencies in different countries: by the central government alone, by an expert body e.g., a grants commission, or by some formal system of central-local committees. In the case of Nepal the Local Bodies Fiscal Commission (LBFC) is an autonomous body that makes suggestions which is ultimately subject to the decisions by the central government.

Bahl and Linn (1992) and later Shah (1995) have pointed out that the most appropriate form of a transfer depends largely upon its objective. Regardless of the particular design, however, experience demonstrates that good intergovernmental transfer programs have certain characteristics in common:

a) Revenue adequacy: The transfer system should be such that it avails sufficient resources to local bodies to undertake the assigned the responsibilities

b) Local tax effort and expenditure control: An effective transfer system ensures the local bodies put in sufficient efforts to raise local taxes. Similarly the system should ensure that local bodies do not spend more than their resources, in other words the transfer system encourages local bodies to control overspending by local bodies.

c) Transparency and stability: Transfer system should be based on transparent formula that should be made known to the public and the local bodies in advance. This should be such that the local bodies are able to forecast its own total revenue including the transfers to prepare their budget. The system should also be stable for a reasonable number of years to allow the local bodies to prepare their medium-term plans. Grants should be designed such that they fill ex ante gap between sub-national revenues and expenditures. Ex post gap filling could give rise to excessive expenditures at local level, as central government will foot (part of) the bill. One system that appears to achieve the dual objective (stability and flexibility as well for periodic negotiation) is to set the total level of transfers as a fixed proportion of total central revenues, subject to renegotiation periodically (say, every 3-5 years). The formula (or formulae, if there is more than one grant) is transparent, based on credible factors, and as simple as possible.

d) Clarity on the objective: First and foremost, the design of the transfer system should depend upon the rationale for such a transfer system. The rationale should essentially lay down the objective of a transfer system. Thus, transfers meant for offsetting vertical fiscal imbalances or to ensure horizontal equity or stabilize intergovernmental competition ought to be unconditional. The Grants given to offset spillovers or those given to ensure minimum outlays on specified Services (merit good reasons) must be purpose specific with matching requirements from the states.

e) Neutrality: While the objectives of intergovernmental transfers are important in designing the system it however, needs to minimize political influence and infuse confidence in the central government or the independent institution who manages the transfer system as a whole. This will require the system to be more objective and formula based.

It is considered better to rely on a mix of general and specific purpose grants and sectoral transfers, even in the medium to long run. Exclusive reliance on general-purpose grants might give too much discretion to the local government while, heavy reliance on sectoral transfer may result in to a situation where by the local government's existence would be minimized. Hence, a mix between two types of transfers with some degree of control and accountability would be a preferred solution for at least the near to medium term.

2.4 Intergovernmental Fiscal Transfer System in Nepal

In Nepal, as a mechanism of intergovernmental fiscal transfer Ministry of Local Development (MOLD) started providing block grants to Local Bodies (LBs) since 80s. In the absence of any systematic mechanism, distribution of block grants to, until recently, was motivated more by political consideration and access to power. Often times, question was raised about the basis of such

distribution system, both at the grass-root level and at the centre. Critics are of the view that distribution system lacks sound basis and the lack of any changes in the amount of distribution compared to earlier years raised the validity of the new allocation system. With a view of initiating a formula based grant distribution system MoLD constituted a Committee to design a formula for distributing block grant to District Development Committees (DDCs). The Committee recommended an interim formula, which has been adopted by MoLD for distributing grants to DDCs since FY 2003/04.

2.4.1 Fiscal Transfer System for DDC

Grants to DDCs

GON provides both administrative and development grants to DDC. Administration grants to DDC are determined based on the administrative liability of the central government. LSGA 1999 and the regulation clearly mention about the types of personnel central government has to depute at the DDC and the types of personnel DDC can recruit locally. All the liabilities of the centrally deputed personnel plus the liability of VDC Secretaries plus some administrative expenses are borne by the central government. Development grants to DDCs constitute of both specific purpose conditional grants and the general purpose unconditional grants. The bases for determining such conditional and unconditional grants are, however, until recently, determined on an ad-hoc basis with out assessing the need of the respective DDCs.

DDCs receive *recurrent grant* from the Center to meet their administrative expenses. The purpose of this grant is to enable the DDCs to meet salary cost of staff deputed from the center, staff hired by the DDC, welfare fund contribution of the staff so hired and salary cost of the VDC secretaries. Up to fiscal year 2002/03, the MoLD used to specify the amount allocated for each purpose. With effect from 2003/04, DDCs are, however, given the discretion of budgeting funds required for this purpose out of the recurrent grant provided to them by the center.

Capital grant is provided to DDCs to enable them to execute development activities in the district. DDCs have the sole discretion on the use of capital grant for the purpose they wish by following the planning and budgeting procedures as set out in the local self-governance law. Prior to fiscal year 2003/04, capital grant to DDCs was provided as the development grant.

Conditional Grant: Center is also providing the DDCs with funds to implement projects in different sectors. These include rural drinking water and sanitation, local infrastructure and rural road projects, construction and rehabilitation of large and local level suspension bridges, and development programs based on people's participation. Starting from fiscal year 2004/05, the DDCs have been given full authority regarding planning including selection of the projects and allocation of funds from the conditional grants.

The MoLD has been using an interim formula for the distribution of *block* grant to DDCs with effect from fiscal year 2003/04. District area, rural population in the district, level of human development and transport cost factors are considered while determining the size of *block* grant to DDCs. In the interim formula, the available divisible pool of the grant is divided by giving a Weightage of 50 percent to the human development index whereas 20 percent Weightage each is given to the rural population and cost factor of the district followed by 10 percent Weightage to the area of the district. Besides the allocation of grants based on the above mentioned formula, DDC also receive annual conditional grants for initiating development activities especially in drinking water, irrigation and rural roads. On top of such grants, DDC also receive performance grants based on the performance of the DDC in fulfilling Minimum conditions set for such grants. LGCDP since last fiscal year is continuing such topping up on grants to those DDCs that met the minimum conditions set for the purpose.

2.4.2 Fiscal Transfer system to VDCs

The Center followed the practice of providing every VDC with an equal amount of Rs. 500,000 per annum in the form of *block grant* until FY 2007/08. This approach does not take into consideration the expenditure needs of VDCs lying in different geographical locations, with varying population size

and area. On per capita basis, the existing practice tends to favor the VDCs of Hills and Mountain districts, which are less developed and remote but have a lower population. Considering this problem, since FY 2008/09 the Center has started providing block grant to VDCs with a range of minimum of RS 1.5 million to maximum of Rs 3 million on the basis of a formula that takes into account of the VDC level population, cost and area. While doing that, it took population census 2001 data for VDC population and the district cost indexes same for all VDCs in the district.

2.5 Key Issues in Fiscal Transfer System to DDC and VDC

a. Size of the grant pool

Determination of the size of the grant pool is one of the key issues. There are three common approaches to determining the size of the grant pool. Most countries use one or more of these three methods: (i) determination as a share of some center revenue source, (ii) on the basis of cost reimbursement, or (iii) on an ad-hoc basis. Each of these approaches has its advantages and disadvantages. However, a systematic approach of determining the size of distribution pool, as a proportion of an identified tax resource or the overall revenue collection by Center is considered most appropriate.

Most recent studies in intergovernmental fiscal transfer in Nepal (Ligal et al, 2005) has recommended to move from ad-hoc system to a more systematic tax sharing system in determining the total grant pool to LBs with respect to general purpose (block) grants. The study suggests allocating 10 percent of total internal revenue (after deducting debt services) for general-purpose grants to local bodies. It then suggests dividing the amount of total grant pool as 50 percent for VDCs, 30 percent for Municipalities, and 20 percent for DDCs, in accordance with the size and functional coverage of the respective level of LBs. In the case of sectoral services, the study recommends to use a compensatory basis of transfer, which is basically a continuation of the existing system. Similarly, a technical note (Jesper et.al,2008) on Expanded Block Grants (EBGs) in Nepal, after briefly reviewing the existing capital grant system and the core challenges in the system suggests for roll-out of the expanded block grants (EBG - topping up of the capital grants) under the Local Governance and Community Development Programme (LGCDP)⁸. The report although suggests the factors to be looked upon in designing a formula based grant system for local bodies in the future, it, however, failed to provide any concrete formula for doing so.

b. Adhoc Vs Formula based grants system

Although Nepal has been using formula based grant system to DDC since fiscal 2003/04, the choice of variables as well as the Weightage given to each of the variable has been adhoc in nature. It is to be noted here that a formula based grant system has an advantage in terms of political neutrality and the certainty of grants amount. However, the amount is very much sensitive to the choice of factors (variables), the reliability of the data and the Weightage given to each of the determining factors. Therefore, it is important that the data base used should be reliable and the Weightage given should be based on some hard facts. The study by PR Ligal, et al (2005) in designing a formula based grant system for DDC and also for VDC was an attempt to determine the choice of factors and the Weightage for each of the factors in the grant formula for DDC grant allocation. As recommended, the formula needs reviewing as and when a new data is available.

VDC grant remained adhoc until fiscal 2065/66 when some attempts were made to allocate VDC grants on the basis of a formula. However, the choice of factors and the Weightage remained ad-hoc in nature. Besides, the use of district level cost index for the entire VDCs in the district remained serious flaws in the formula used for the allocation of VDC grants for fiscal 2065/66.

c. Minimizing the gap in fiscal capacities

The resource base and internal revenue potential of local bodies differ widely due to differences resulting from the varying level of infrastructural development, accessibility and economic activities. The remoteness, on the one hand increases the cost of delivering services and on the other reduces

⁸ See the latest draft Programme Document: Final Draft Programme Document: Local Governance and Community Development Programme, 3 June 2008.

the tax base and the capacity to mobilise own source revenue. This needs central government to make provision for some program focussing on the enhancement of the capacity to mobilize own source revenue besides allocating more grants for tackling the issues overtime.

f. Assurance of predictable and steady inflow of resources

The inter-governmental fiscal transfer should ensure predictable of resource flows to local bodies so that they can plan and prepare their program and budget in a realistic way. It is seen that the budgeting and programming processes of the local bodies are completed well in advance of undertaking such exercises by the central government. In such a situation, the budget and program of local bodies are bound to undergo revision if there is difference in the level of funds previously anticipated and those actually received from the centre. This causes mismatch in programming and prioritization. To do away with, Central government should, at least inform local bodies in advance, the amount they will be getting as central grants for the next fiscal year.

g. Authority with accountability

With central government increasing the size of the grant pool and the amount received by each local bodies, and more authority being delegated to the local bodies in terms of planning, programming and implementation of development activities, it is necessary that some measures be taken to ensure the accountability of local bodies in terms of service quality and delivery as well as adherence to fiscal rules and regulations. This will require on the one hand, tying up of some funds to performance in terms of quality of service delivery and adherence to fiscal rules and regulations and on the other, improvements in the central monitoring system to check these adherences.

Chapter III: Updating Cost Index for DDC Grant Formula

Ministry of Local Development (MoLD), GoN, provides grants to all the DDCs. Cost is a major component to determine the size of the DDC grants. The topographical differences in Nepal make cost of construction activities widely differing from one place to another. The remoteness of most of the hill and mountain district necessitates spending huge amount of money for transporting goods, especially the construction materials. This makes construction activities in the hill and mountain district more expensive. Remote district therefore, needs extra spending in carrying out the same task than that in the terai district, where the accessibility is easier.

The present study thus, felt strongly about the need for updating the estimation of the cost index to be included and updated in the grant pool distribution formula. The interim grant formula used by MoLD for distributing grants to DDC have used transportation cost index as one of the factor determining grants allocation. The index was borrowed from a study on decentralization (Manoj Shrestha). However, the study fails to mention any scientific basis for it; neither has it provided the methodology used for estimating such index nor the data base and the sources of such information. Later a study on designing intergovernmental transfer grants formula (P.R. Ligal and team) had prepared and proposed a cost index for DDC grant formula. The cost index prepared by the study needs updating. Present study is focused on updating the cost index.

3.1 Methodology for Estimation of Cost

The present study conducted a field survey of 6 districts representing topographical and regional differences and collected data from the DDC/ DTO and also from the retail level survey of construction materials at the district headquarter and the place from where these materials are imported. Team selected following districts on the basis of development and ecological regions and collected information of different construction materials as well as the wages of different types of skilled and unskilled manpower. Thus all together, the information from 6 districts was collected.

Team also obtained cost data information of 35 districts from LBFC and used for estimating cost index for construction activities.

Table 3.1 Data Obtained from Districts for Estimation of Cost Index

Region	Mountain	Hill	Terai	Total
Eastern	Sankhuwasabha*	Bhojpur, Dhankuta, Ilam	Jhapa*	5
Central	Dolakha, Rasuwa	Kathmandu, Kavrepalanchowk, Lalitpur, Makawanpur, Okhaldhunga Nuwakot*	Morang, Parsa, Rautahat	11
Western	Manang, Mustang	Arghakhachi, Baglung, Gorkha, Gulmi, Lamjung, Myagdi, Palpa, Parbat Kaski*	Kapilbastu	12
Mid-western	Jumla*	Dailekh, Jajarkot, Kalikot, Rolpa	Banke, Bardiya	7
Far-western		Baitadi. Achham, Dadeldhura,	Kanchanpur, Kailali*	6

		Darchula		
Total	6	26	9	41

*Surveyed districts

3.2 DDC Expenditure Pattern and Key Development Activities

DDCs allocate budget to various development activities. Development activities comprise social sector and infrastructural development projects. DDCs allocate expenditure on health, education, Women, children & social welfare programs in social sector. A big proportion of the expenditure is occupied by infrastructure that lies mainly on drinking water, irrigation, roads and building construction. The study focuses on key infrastructural development activities. Expenditure pattern of the activities in percentages of surveyed districts is presented in table 3.2 below.

Table 3.2 Percentage of budget allocation in selected development project 2065/66

Development region	Districts	Drinking Water	Irrigation	Road	Building	Total
Eastern	Jhapa	7.5	17.1	13.3	1	38.9
	Sankhuwasabha	10.6	4.4	3.2	2.6	20.8
Central	Nuwakot	5.5	0.9	40.4	9	55.8
Western	Kaski	8.9	4.6	44.6	2.3	60.4
Mid-western	Jumla	2.2	0	36	7.5	45.7
Far - Western	Kailali	11.5	6.2	5.4	1.4	24.5

The expenditure on these development activities is allocated as under capital expenditure. Some budget also is allocated to focused-programs. Expenditure is met through DDCs internal sources: i.e internal revenue, government conditional and unconditional grants and donors funding. A study revealed that 80% of DDCs expenditure is met by central grants in most of the DDCs.

3.3 Estimation of Cost of Key Development Inputs

Major Key development inputs are construction materials as well as labor; construction materials include cement, iron rod, zinc sheet, wooden frame, sand, stone, pipe fittings, glass and others. Labor includes skilled and semi-skilled manpower. Its requirement varies according to the type of development activities. Key development activities in the districts are Drinking Water (DW), Irrigation (IRR), Road (RD) and Building (B). Besides labor, other material inputs are used variably in different development projects. Six districts from 3 topographical and 5 development regions were selected for collecting cost data. Average cost contribution to major development activities is given in table 3.3

Table 3.3 Itemized Average Cost Structure in Major Development Activities of DDCs

Regions	Mountain				Hill				Terai			
	DW	Irrigation	Road	Building	DW	Irrigation	Road	Building	DW	Irrigation	Road	Building
Labour												
Skilled	10.0	22.0	20.0	25.0	19.0	25.5	20.0	15.0	9.0	21.5	21.0	33.5
Unskilled	20.0	50.0	60.0	15.0	21.5	37.5	35.0	12.5	20.0	48.5	55.0	15.0
Cement	15.0	5.0	0.0	5.0	14.5	6.5	3.0	10.0	16.5	6.0	3.5	5.0
Iron Rod	1.0	0.0	0.0	0.3	0.7	13.5	0.0	17.5	1.0	2.0	0.0	3.2
Zinc sheet	0.5	0.0	0.0	15.0	0.0	0.0	0.0	2.5	0.5	0.0	0.0	7.5
Wooden frame	0.5	0.0	0.0	0.5	0.0	0.3	0.0	6.8	0.8	1.0	0.0	2.8
Sand	5.0	3.0	0.0	0.2	4.8	6.0	0.0	5.4	8.0	5.0	2.0	0.5
Boulder/stone	15.0	10.0	15.0	30.0	4.0	10.0	0.0	8.1	15.0	10.0	7.0	10.6
Paint	0.0	0.0	0.0	0.5	0.0	0.0	0.0	3.0	0.0	0.0	0.0	1.8
Pipe and fitting	25.0	0.0	0.0	3.0	24.0	0.0	0.0	2.8	25.0	0.0	0.0	4.3
Window glass	0.0	0.0	0.0	2.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	3.3

Supervision/others	8.0	10.0	5.0	3.5	11.5	3.3	42.0	7.0	4.5	6.0	11.5	12.8
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Composite cost data have been calculated for each ecological region. DDCs development activities are basically confined to small drinking water, small irrigation, rural roads and building construction projects. These projects demand more labor so labor cost in all three regions is higher in comparison to other construction materials. See details in annex 3.3. Table 3.4 depicts the itemized average cost contribution to development activities by ecological region.

Table 3.4 Itemized cost Structure by ecological regions

S.N	Itemized Head	Mountain	Hill	Terai
1	Labour			
2	Skilled	19.25	19.88	21.25
3	Unskilled	36.25	26.63	35.63
4	Cement	6.25	8.50	7.63
5	Iron Rod	0.33	7.93	1.54
6	Zinc sheet	3.88	0.63	2.00
7	Wooden frame	0.25	1.75	1.00
8	Sand	2.05	4.05	3.69
9	Boulder/stone	17.50	5.53	10.65
10	Paint	0.13	0.75	0.44
11	Pipe and fitting	7.00	6.69	7.31
12	Window glass	0.50	1.13	0.81
13	Supervision and others	6.63	17.19	8.56
	Total %	100.00	100.00	100.00

3.4 Estimation of weighted Cost Index of Development Inputs by DDC

The DDC cost index was estimated by collecting data from 6 surveyed districts and obtaining data of 35 districts from MoLD consisting of different construction materials as well as different types of skilled and unskilled manpower. DDC/ DTO used prices of each of these materials and the wage rates of different types of skilled and unskilled manpower for costing development projects. DTOs of surveyed district were contacted and cost information was collected. The information was complemented by the retail level survey where ever found necessary. For determining the Weightage of each of these items in the overall construction activities, information of a typical construction activity were collected. Based on the information of the prices of materials and labor, and the Weightage of each of these items in a typical construction activity, cost of construction index was estimated for the selected districts and this was later extrapolated to all the 75 districts. The base of weighted Index has been taken from Rupandehi district. Study has also compared the cost index 2005 (presented by PR legal and the team) with latest cost index 2009. Minimum index is in Jhapa and Rupandehi district and maximum is in Dolpa district in Index 2009. Maximum decrease is in Achham district and maximum increase is in Okhaldhunga district. The Standard deviation has been decreased from 0.79 to 0.49.

Table 4.4 Estimation of Cost Index for 75 Districts

S.N	District	Index 2005	Index 2009	Diff
1	Achham	2.5	1.40	1.10
2	Arghakhachi	1.5	1.22	0.29
3	Baglung	1.5	1.56	-0.05
4	Baitadi	2	1.22	0.78
5	Bajhang	2	3.26	-1.26

6	Bajura	2.5	3.32	-0.82
7	Banke	1	1.13	-0.13
8	Bara	1	1.03	-0.03
9	Bardiya	1	1.16	-0.16
10	Bhaktapur	1.5	1.31	0.19
11	Bhojpur	2	1.33	0.67
12	Chitwan	1	1.14	-0.14
13	Dadeldhura	1.5	1.41	0.09
14	Dailekh	2	1.36	0.64
15	Dang	1.5	1.15	0.35
16	Darchula	2.5	3.57	-1.07
17	Dhading	1.5	1.32	0.19
18	Dhankuta	1.5	1.21	0.29
19	Dhanusha	1	1.00	0.00
20	Dolakha	2	2.74	-0.74
21	Dolpa	3.5	3.71	-0.21
22	Doti	2	1.44	0.56
23	Gorkha	1.5	1.23	0.27
24	Gulmi	1.5	1.28	0.22
25	Humla	3.5	3.53	-0.03
26	Ilam	1.5	1.38	0.12
27	Jajarkot	2.5	1.42	1.08
28	Jhapa	1	1.00	0.00
29	Jumla	3.5	3.31	0.20
30	Kailali	1	1.15	-0.15
31	Kalikot	3.5	3.01	0.49
32	Kanchanpur	1	1.01	-0.01
33	Kapilbastu	1	1.15	-0.15
34	Kaski	1.5	1.29	0.21
35	Kathmandu	1.5	1.31	0.19
36	Kavre	1.5	1.31	0.19
37	Khotang	2.5	1.56	0.95
38	Lalitpur	1.5	1.29	0.21
39	Lamjung	1.5	1.32	0.19
40	Mahottari	1	1.05	-0.05
41	Makawanpur	1.2	1.24	-0.04
42	Manang	2.5	3.01	-0.51
46	Myagdi	2	1.32	0.69
43	Morang	1	1.08	-0.08
	Mugu	3.5	3.52	-0.02
45	Mustang	2.5	2.83	-0.33
47	Nawalparasi	1	1.15	-0.15
48	Nuwakot	2	1.34	0.66
49	Okhaldhunga	2.5	1.40	1.10
50	Palpa	1.5	1.27	0.23
51	Panchthar	2	1.34	0.66
52	Parbat	1.5	1.21	0.29
53	Parsa	1	1.08	-0.08
54	Pyuthan	2	1.34	0.66
55	Ramechhap	2	1.34	0.66
56	Rasuwa	2	2.45	-0.45
57	Rautahat	1	1.11	-0.11

58	Rolpa	2.5	1.54	0.96
59	Rukum	2.5	1.60	0.90
60	Rupandehi	1	1.00	0.00
61	Salyan	2.5	1.60	0.90
62	Sankhuwasabha	2.5	2.70	-0.20
63	Sarlahi	1	1.15	-0.15
64	Sindhuli	1.5	1.22	0.28
65	Sindhupalchok	2	2.45	-0.45
66	Siraha	1	1.15	-0.15
67	Solu	2.5	3.34	-0.84
68	Saptari	1	1.15	-0.15
69	Sunsari	1	1.12	-0.12
70	Surkhet	1.5	1.25	0.25
71	Syangja	1.5	1.29	0.21
72	Tanahu	1.5	1.30	0.20
73	Taplejung	2	2.79	-0.79
74	Tehrathum	2	1.44	0.56
75	Udaypur	1.2	1.25	-0.05

Standard Deviation

3.5 Comparison of cost of development inputs

Study team collected the price list of major construction materials and labour available in local area from 6 surveyed district as well as information available in LBFC of 35 districts. Study team has analyzed the cost of development inputs; a comparison has been made between the costs of inputs of 2005 with 2009 in surveyed districts. A comparative cost has been presented in table below.

Comparison of Local Price of major construction materials between FY 2005 to FY 2009 of surveyed districts

S.N	Items	Unit	Average price 2009			Average Price 2005			Increase (%)		
			Mountain	Hill	Terai	Mountain	Hill	Terai	Mountain	Hill	Terai
1	Labour										
2	Skilled	day	404.71	310.19	308.89	304.71	210.19	233.89	24.7	32.2	24.3
3	Unskilled	day	329	250.93	226.67	199	145.93	186.67	39.5	41.8	17.6
4	Cement	sack	1192.86	544.89	518.51	2522.86	450	435.62	-111.5	17.4	16.0
5	Rod (2,4,5)	kg	205	105.85	96.37	137	65.23	56.37	33.2	38.4	41.5
6	Wooden frame	Sqr.fts	1060	1244.28	1041	920.12	854.28	741	13.2	31.3	28.8
7	Zinc sheet	bundle	6672.45	5065.32	4241.36	5112.45	4315.32	3991.36	23.4	14.8	5.9
8	Sand	c m	1739.29	1006.89	722.11	589.29	856.89	643.11	66.1	14.9	10.9
9	Stone	cm	880	714.25	699.44	525	314.25	574.44	40.3	56.0	17.9
10	Paints	litre	265.65	205.45	180.56	165.65	155.56	125.5	37.6	24.3	30.5
11	Pipe fitting	per ft	113.57	83.37	48.28	68.57	53.37	38.28	39.6	36.0	20.7
12	Glass 3mm	sqr.fts	325.26	215.32	195.86	250.26	165.32	150.86	23.1	23.2	23.0
13	Supervisor	day	283.29	250.93	221.67	183.29	200.93	196.67	35.3	19.9	11.3

The tendency of increment in cost of construction is still higher in mountain region than that of hill and Terai regions.

DDC Cost Index (Rupandehi district = 1)

District Cost Index (DDI)

S.N	District	Index	Weighted Index
1	Achham	361.17	1.396
2	Arghakhachi	314.41	1.215
3	Baglung	402.31	1.555
4	Baitadi	314.47	1.216
5	Bajhang	843.52	3.261
6	Bajura	857.68	3.315
7	Banke	292.63	1.131
8	Bara	266.83	1.031
9	Bardiya	301.18	1.164
10	Bhaktapur	339.28	1.312
11	Bhojpur	342.93	1.326
12	Chitwan	293.97	1.136
13	Dadeldhura	365.18	1.412
14	Dailekh	352.55	1.363
15	Dang	296.68	1.147
16	Darchula	924.04	3.572
17	Dhading	340.21	1.315
18	Dhankuta	312.67	1.209
19	Dhanusha	258.69	1.000
20	Dolakha	709.82	2.744
21	Dolpa	959.03	3.707
22	Doti	371.91	1.438
23	Gorkha	318.85	1.233
24	Gulmi	330.09	1.276
25	Humla	913.93	3.533
26	Ilam	357.80	1.383
27	Jajarkot	367.70	1.421
28	Jhapa	258.25	0.998
29	Jumla	855.08	3.305
30	Kailali	296.69	1.147
31	Kalikot	778.55	3.010
32	Kanchanpur	261.57	1.011
33	Kapilbastu	297.18	1.149
34	Kaski	333.90	1.291
35	Kathmandu	338.18	1.307
36	Kavre	338.97	1.310
37	Khotang	402.31	1.555
38	Lalitpur	334.00	1.291
39	Lamjung	340.27	1.315
40	Mahottari	271.36	1.049
41	Makawanpur	319.77	1.236
42	Manang	778.60	3.010
43	Myagdi	340.21	1.315
44	Morang	279.99	1.082
45	Mugu	911.40	3.523
46	Mustang	730.94	2.825
47	Nawalparasi	296.23	1.145

S.N	District	Index	Weighted Index
48	Nuwakot	346.85	1.341
49	Okhaldhunga	361.04	1.396
50	Palpa	328.33	1.269
51	Panchthar	347.08	1.342
52	Parbat	312.52	1.208
53	Parsa	278.33	1.076
54	Pyuthan	347.08	1.342
55	Ramechhap	347.08	1.342
56	Rasuwa	634.65	2.453
57	Rautahat	286.12	1.106
58	Rolpa	397.97	1.538
59	Rukum	413.07	1.597
60	Rupandehi	258.69	1.000
61	Salyan	413.07	1.597
62	Sankhuwasabha	699.29	2.703
63	Sarlahi	296.68	1.147
64	Sindhuli	316.26	1.223
65	Sindhupalchok	634.72	2.454
66	Siraha	297.03	1.148
67	Solukhumbu	864.43	3.342
68	Saptari	297.03	1.148
69	Sunsari	289.45	1.119
70	Surkhet	324.40	1.254
71	Syangja	334.54	1.293
72	Tanahu	337.37	1.304
73	Taplejung	720.92	2.787
74	Tehrathum	371.91	1.438
75	Udaypur	324.41	1.254

Based on the updated cost index, a stepwise regression analysis was carried out taking into account of population (2001), area, population below poverty (2004) and the updated. This was done mainly to check the changes in the Weightage of these variables due to changes in the cost index data. A brief summary of the result along with the changes in the Weightage are given in the table below. The details of the stepwise regression analysis showing the improvements in the explanatory power of the additional variables along with the improvements in the significance level of the coefficients are given in the annex.

<i>District</i>	<i>Area (Sq km)</i>	<i>Pop</i>	<i>Pop below poverty</i>	<i>HDI 2001</i>	<i>New cost Index</i>	<i>Allocation 2009/10</i>	<i>Allocation obtained from MOLD formula*</i>	<i>Allocation obtained from formula suggested in present study**</i>
Average	1962.41	308689.24	125643.45	0.45	1.65	22933.33	22933.33	22933.33
Maximum	7889	1081845	316579	0.652	3.71	32927.00	36618.16	58622.96
Minimum	119	9857	3736	0.304	1.00	12650.00	14535.86	7368.85
Standard deviation	1147.09	209988.21	76764.04	0.07	0.79	3898.52	3795.83	10818.42
Coefficient of variation (%)	58.45	68.03	61.10	14.91	47.82	17.00	16.55	47.17

*Weight assigned are
 Pop = 0 .20
 Area =0 .10
 HDI = 0.50
 Cost = 0.20

**Weight assigned are
 Pop = 0 .60
 Area =0 .18
 PBP = 0.17
 Cost = 0.05

Weightage estimated in 2005 study
 Pop = 0.15
 Area = 0.15
 Pop below poverty = 0.35
 Cost index = 0.35

A comparison of the Weightage of the variables determined on the basis of regression coefficients shows sharp increase in the Weightage of population from 15 % in 2004 estimate to 60 % in the new estimates and those of area, population below poverty and cost index are declined. A sharp decline in Weightage is noted in the case of Cost index, from 35 % in 2004 estimate to 5 % in the present estimation. One reason for such a sharp change in the Weightage may be due to differences in the reference year of the data for population, poverty below population and cost index itself. For example, population data was used from 2001 census, poverty data from Human Development Report 2004 and the cost index data from 2009 estimation.

Chapter IV: Designing Formula Based Grant System for VDC

4.1 Identifying Key Components for VDC grant Formula

As discussed earlier, intergovernmental transfer arises because of the horizontal and vertical imbalances due to a mismatch between revenue and cost of delivering services at the local level. The differences in fiscal capacity of local bodies caused mainly by the skewed nature of natural resource endowments and its harnessing, infrastructural development and economic activities, capacity to raise and manage resources etc. Besides, the spill over effects caused mainly by the differences in the facilities available for services in the neighbouring jurisdiction also necessitates to spend more on such service provision than required by its own people. This further widens the imbalances between expenditure requirements and resources.

The size of the population, the settlement pattern and the area of the jurisdiction where such services have to be delivered are the principal factors that contribute on the demand side of the services. The concentration of poverty and the higher proportion of socially excluded and marginalised population, higher dependency ratio are other factors that demands for allocation of higher resources for taking care of the special requirements of these people. Besides, the inadequate level of infrastructural development and weak service delivery capacity in the local bodies are some of the other factors that contribute on the demand for more expenditure requirements. The scattered pattern of settlement and the inadequate level of infrastructural development add cost in delivering services at the local level. Hence, these factors have to be adequately considered in designing a formula based grant system for the local body.

The availability of reliable national level data is another important factor that needs to be considered while selecting the variables determining grants allocation at the local level. A review of the nature of data availability shows that at the VDC level only population related data that too of 2001 population census, land area of VDC and some information on budgetary data are available. The settlement data, which could be an important factor in estimating expenditure requirements and the poverty and Human Development related data, data relating to infrastructural development are not available at the VDC level. The cost data relating to construction material and other developmental inputs are available for the district level. With some adjustment for the transportation to the VDC, a cost data for the VDC can be estimated.

This shows that among the factors that may have some effect on the expenditure side, population, land area, population density – an indicator for the concentration of population at the VDC and also a proxy for the proportion of settlement to total land area in the VDC and the cost data weighted for the input structure used in the development activities and budgetary spending can be identified as the best possible data to be used for designing grant allocation formula for the VDCs.

4.2 Methodology used for estimating cost of development inputs

In estimating VDC level cost index, estimation of cost index for districts based on the data available for 41 districts representing different topographical areas and remoteness in the country etc., are taken as the primary basis. Of these 41 districts, the information relating to the DDC approved cost of construction materials, wages of skilled and unskilled labours and transportation cost for 35 districts were collected through LBFC and for 6 districts the study team collected the relevant information from the field itself. As mentioned above, the 6 districts were chosen in consultation with LBFC, as the representative districts for mountain, hill and terai and also representing five development region of the country. As most of the mountain and hill districts including some terai districts where alternate accessibility network is poor, have single accessibility point that connects to district headquarter and all development materials has to be transported to VDCs from district headquarter. This is also true because of concentration of business activities at the district headquarter. Given this situation, depending upon the types of construction activities and the inputs structure there in, the additional cost of transporting development materials to the VDCs is considered as the adjustment factor for

estimating VDC level cost index. This is an important assumption but it may change overtime with the development of alternate accessible points to reach the VDC and also the development of the pattern of trading routes in the district.

Thus, while estimating VDC level cost index, district cost index (table- 3.5) is taken as the primary base for VDC cost index. A weighted cost index for the VDCs are estimated adjusting the cost of transportation of key development inputs that need to be transported from the district headquarter to the VDC, the proportion of VDC budget allocated to different types of development activities and the input and cost structure of these development activities.

a. Adjustment for the cost of transportation

An in depth consultation with the DDC officials as well as with the VDC secretaries of the sampled VDCs were made regarding the cost structure of the construction materials and the wages of labour – both skilled and un-skilled and the adjustment factors that are made to arrive at the VDC level cost price of these materials and labour. It is found that the practice in the DDC and VDC for calculating the prices of the imported materials (those materials that are brought from outside the VDC) used for construction activities is to adjust the cost of transporting these materials from the district headquarter to the respective VDCs. The adjustment factor, that is the cost of transportation is however, approved by DDC on an annual basis. The field survey found following approved cost of transporting development material from the district headquarters to the VDCs by the DDC board.

Table 4.1: Approved Price Adjustment on transportation by distance

S.N	District	VDC	Distance in kosh	DDC approved cost adjustment
1	Jumla			Rs. 2*distance/kg
		1 Chandan nath	0	0
		2 Mahat	0.5	1
		3 Patmara	8	16
		4 Raralehi	13	26
		5 Guthichour	18	36
2	Nuwakot			Rs. 2*distance/kg
		1 Phikuri	5.5	11
		2 Lachhang	6	12
		3 Sundara Devi	9	18
		4 Sikre	11	22
		5 Sikher Bashi	13	26
3	Kailali			Rs. 1.44*distance/kg
		1 Beladvipur	2	2.88
		2 Hasulia	10	14.4
		3 Pahalman pur	17	24.48
		4 Narayanpur	23	33.12
		5 Pandun	33	47.52
4	Sankhuwasabha			Rs. 1.5*distance/kg
		1 Syabun	7	10.5
		2 Sichukhola	16	24
		3 Tamaphock	18	27
		4 Makalu	18	27
5	Kaski			Rs. 2*distance/kg
		1 Lumle	1.5	3
		2 Mauja	3.5	7
		3 Bhachowk	7.5	15
		4 Bhijure Dada	8	16
		5 Bhadure Tamagi	9	18
6	Jhapa			Rs. 5*distance/kg

	1 Aanarmati	3.3	1.65
	2 Ghila Dubba	5.5	2.75
	3 Pathemari	6.25	3.125
	4 Shantinagar	7.5	3.75

Table 4.2: VDC prices list of construction materials and labor etc based on distance from headquarter 2065/066

S.N	Materials	Unit	Sankhuwasabha				Jumla					Nuwakot					Kaski				
			Syabun	Sichukhola	Tamaphock	Makalu	Chandan nath	Mahat	Patmara	Raralehi	Guthichou r	Phikuri	Lachhang	Sundara Devi	Sikre	Sikher Bashi	Lumle	Mauja	Bhachov	Bhijure Dada	Bhadur e Tamagi
1	Cement	50 kg	1675	2350	2500	2500	1670	1720	1636	2920	3420	1100	1150	1450	1650	1850	745	945	1345	1395	1495
2	Rod (2,4,5)	kg	115.5	129	132	132	102	102	116	126	136	76	77	83	87	91	115	119	127	128	130
3	Barded wire	Kg	115.5	129	132	132	124	124	138	148	158	81	82	88	92	96	133	137	145	146	148
4	Gabling Wire	Kg	115.5	129	132	132	124	124	138	148	158	74	75	81	85	89	107	111	119	120	122
5	CGI Sheet, 24 gauge	bundle	9510.5	9524	9527	9527	8317	8317	8331	8341	8351	6511	6512	6518	6522	6526	9633	9637	9645	9646	9648
6	CGI Sheet, 26 gauge	bundle	11011	11024	11027	11027	6597	6597	6611	6621	6631	6011	6012	6018	6022	6026	4773	4777	4785	4786	4788
7	CGI Sheet, 28 gauge	bundle	12011	12024	12027	12027	4555	4555	4569	4579	4589	5011	5012	5018	5022	5026	5518	5522	5530	5531	5533
8	Polythene Pipe 1/2"	meter	38.5	52	55	55	53.49	53.49	67.49	77.49	87.49	41	42	48	52	56	34.49	38.49	46.49	47.49	49.49
9	Polythene Pipe 3/4"	meter	50.5	64	67	67	69.47	69.47	83.47	93.47	103.47	61	62	68	72	76	50.15	54.15	62.15	63.15	65.15
10	Polythene Pipe 1"	meter	70.5	84	87	87	100.49	100.5	114.49	124.49	134.49	111	112	118	122	126	56.11	60.11	68.11	69.11	71.11
11	Polythene Pipe 2"	meter	105.5	119	122	122	315.22	315.2	329.22	339.22	349.22	186	187	193	197	201	301	305	313	314	316
12	Polythene Pipe 3"	meter	105.5	119	122	122	625.48	625.5	639.48	649.48	659.48	186	187	193	197	201	606	610	618	619	621
13	Polythene Pipe 4"	meter	120.5	134	137	137	915.24	915.2	929.24	939.24	949.24	436	437	443	447	451	896	900	908	909	911
14	Hume Pipe 30 cm	meter	0	0	0	0	4597	4597	4611	4621	4631	7139	7140	7146	7150	7154	5708	5712	5720	5721	5723
15	Hume Pipe 45 cm	meter	0	0	0	0	6497	6497	6511	6521	6531	0	0	0	0	0	8188	8192	8200	8201	8203
16	Hume Pipe 60 cm	meter	0	0	0	0	8847	8847	8861	8871	8881	0	0	0	0	0	10740	10744	10752	10753	10755
17	Hume Pipe 90 cm	meter	0	0	0	0	16462	16462	16476	16486	16496	0	0	0	0	0	19252	19256	19264	19265	19267
18	Brick	piece	20	20	20	20	0	0	0	0	0	3.9	3.9	3.9	3.9	3.9	9.9	13.9	21.9	22.9	24.9
19	Stone	m3	1000	1000	1000	1000	1452	1452	1452	1452	1452	550	550	550	550	550	853	857	865	866	868
20	Cursor Stone	m3	0	0	0	0	715	715	715	715	715	1100	1100	1100	1100	1100	1183	1187	1195	1196	1198
21	Gravel	m3	80	80	80	80	1980	1980	1980	1980	1980	550	550	550	550	550	693	697	705	706	708
22	Sand	m3	60	60	60	60	2500	2500	2500	2500	2500	850	850	850	850	850	1183	1187	1195	1196	1198
23	Labor	per day	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Skilled	per day	350	350	350	350	410	410	410	410	410	300	300	300	300	300	430	430	430	430	430
25	Unskilled	per day	250	250	250	250	300	300	300	300	300	175	175	175	175	175	350	350	350	350	350
26	Carpenter	per day	300	300	300	300	410	410	410	410	410	300	300	300	300	300	430	430	430	430	430
27	Mason (Dakarmi)	per	300	300	300	300	305	305	305	305	305	300	300	300	300	300	430	430	430	430	430

		day																		
28	Painter	per day	300	300	300	300	425	425	425	425	425	300	300	300	300	300	430	430	430	430
29	Plumber	per day	235	235	235	235	425	425	425	425	425	300	300	300	300	300	430	430	430	430
30	Supervisor	per day	225	225	225	225	425	425	425	425	425	300	300	300	300	300	430	430	430	430

S.N	Materials	Unit	Jhapa				Kailali				
			Aanarmati	Ghila Dubba	Pathemari	Shantinagar	Beladvipur	Hasulia	Pahalman pur	Narayanpur	Pandun
1	Cement	50 kg	582.5	637.5	656	687.5	629	1235	1739	2171	2891
2	Rod (2,4,5)	kg	97.15	98.25	98.62	99.25	95.58	107.7	117.78	126.42	140.82
3	Barded wire	Kg	71.65	72.75	73.12	73.75	72.28	84.4	94.48	103.12	117.52
4	Gabling Wire	Kg	64.65	65.75	66.12	66.75	65.28	77.4	87.48	96.12	110.52
5	CGI Sheet, 24 gauge	bundle	5601.65	5602.75	5603.12	5603.75	6402.28	6414.4	6424.48	6433.12	6447.5
6	CGI Sheet, 26 gauge	bundle	6083.65	6084.75	6085.12	6085.75	5952.28	5964.4	5974.48	5983.12	5997.5
7	CGI Sheet, 28 gauge	bundle	4612.65	4613.75	4614.12	4614.75	3732.28	3744.4	3754.48	3763.12	3777.5
8	Polythene Pipe 1/2"	meter	50	62	72	81	34.37	45.89	55.97	64.61	79.01
9	Polythene Pipe 3/4"	meter	81	94	115	125	50	62	72	81	95
10	Polythene Pipe 1"	meter	300	310	320	332	81	94	115	125	125
11	Polythene Pipe 2"	meter	305	615	624	639	300	310	320	332	332
12	Polythene Pipe 3"	meter	895	909	922	932	305	615	624	639	639
13	Polythene Pipe 4"	meter	7130.28	7142.4	7152.48	7161.12	895	909	922	932	932
14	Hume Pipe 30 cm	meter	883.65	884.75	885.12	885.75	7130.28	7142.4	7152.48	7161.12	7175.5
15	Hume Pipe 45 cm	meter	1219.65	1220.75	1221.12	1221.75	9704.28	9716.4	9726.48	9735.12	9749.5
16	Hume Pipe 60 cm	meter	1617.65	1618.75	1619.12	1619.75	18086.28	18098	18108.48	18117.1	18132
17	Hume Pipe 90 cm	meter	2857.65	2858.75	2859.12	2859.75	27062.28	27074	27084.48	27093.1	27108
18	Brick	piece	7.5	7.5	7.5	7.5	6.78	18.9	28.98	37.62	52.02
19	Stone	m3	1072	1072	1072	1072	502.28	514.4	524.48	533.12	547.52
20	Curser Stone	m3	500	500	500	500	502.28	514.4	524.48	533.12	547.52
21	Gravel	m3	1000	1000	1000	1000	450	450	450	450	450

22	Sand	m3	769	769	769	769	530	530	530	530	530
23	Labor	per day	0	0	0	0	0	0	0	0	0
24	Skilled	per day	275	275	275	275	300	300	300	300	300
25	Unskilled	per day	220	220	220	220	150	150	150	150	150
26	Carpenter	per day	275	275	275	275	300	300	300	300	300
27	Mason (Dakarmi)	per day	275	275	275	275	300	300	300	300	300
28	Painter	per day	275	275	275	275	300	300	300	300	300
29	Plumber	per day	275	275	275	275	260	260	260	260	260
30	Supervisor	per day	210	210	210	210	287	287	287	287	287

Table 4.3 A: Distance Adjusted price of construction materials/items for VDCs (Mountain)

S.N	Items	Average	Distance in Kosh				
			0	5	10	15	20
1	Labour						
2	Skilled	475	475	475	475	475	475
3	Unskilled	350	350	350	350	350	350
4	Cement	752.5	752.5	762.5	772.5	782.5	792.5
5	Rod (2,4,5)	157.25	157.25	167.25	177.25	187.25	197.25
6	Zinc sheet	6550	6550	6560	6570	6580	6590
7	Wooden frame qm	1060	1060	1060	1060	1060	1060
8	Sand	881.25	881.25	881.25	881.25	881.25	881.25
9	Stone	707.5	707.5	707.5	707.5	707.5	707.5
10	Paint/litre	412	412	412	412	412	412
11	Pipe fittings	109.25	109.25	119.25	129.25	139.25	149.25
12	Glass	581.25	581.25	591.25	601.25	611.25	621.25
13	Supervision and others	358.25	358.25	358.25	358.25	358.25	358.25
	Adjusted VDC Price	18.70	18.70	18.75	18.82	18.89	18.96
	Cost Index	100.00	100.00	100.29	100.65	101.01	101.37

Table 4.3B: Distance Adjusted price of construction materials/items for VDCs (Hill)

S.N	Items	Average	Distance in Kosh				
			0	5	10	15	20
1	Labour						
2	Skilled	347.60	347.60	349.09	349.09	349.09	349.09
3	Unskilled	273.80	273.80	276.36	276.36	276.36	276.36
4	Cement	618.08	618.08	625.58	633.08	640.58	648.08
5	Rod (2,4,5)	116.16	116.16	123.66	131.16	138.66	146.16
6	Zinc sheet	5858.00	5858.00	5865.50	5873.00	5880.50	5888.00
7	Wooden frame	1231.08	1231.08	1169.27	1169.27	1169.27	1169.27
8	Sand	929.40	929.40	1128.18	1128.18	1128.18	1128.18
9	Stone	979.92	979.92	1285.45	1285.45	1285.45	1285.45
10	Paints	300.40	300.40	299.09	299.09	299.09	299.09
11	Pipe fitting	91.42	91.42	98.92	106.42	113.92	121.42
12	Glass	571.00	571.00	578.50	586.00	593.50	601.00
13	Supervisor	280.80	280.80	266.36	266.36	266.36	266.36
	Adjusted VDC Price	3.267	3.267	3.275	3.282	3.289	3.296
	Cost Index	100.000	100.000	100.254	100.466	100.677	100.888

Table 4.3C: Distance Adjusted price of construction materials/items for VDCs (Terai)

S.N	Items	Average	Distance in Kosh				
			0	5	10	15	20
1	Labour						
2	Skilled	267.22	267	267	267	267	267
3	Unskilled	180.56	181	181	181	181	181
4	Cement	486.73	486.7	492	497	502	507
5	Rod (2,4,5)	96.37	95.98	101	106	111	116
6	Zinc sheet	4205.56	4194	4199	4204	4209	4214

7	Wooden frame	1041.11	1041	1041	1041	1041	1041
8	Sand	597.67	598	598	598	598	598
9	Stone	488.89	498	498	498	498	498
10	Paints	292.22	292	292	292	292	292
11	Pipe fitting"	48.28	47	52	57	62	67
12	Glass	337.22	337	342	347	352	357
13	Supervisor	221.67	222	222	222	222	222
	Adjusted VDC Price	3.05	3.050	3.055	3.060	3.065	3.071
	Cost Index		100	100.17	100.33	100.50	100.67

Analysis of the effects of changes in prices due to distances shows 0.06 percentage point increase in the cost index of mountain region VDC prices per kosh distance from the district headquarter. The proportion of increase in the hill and terai VDCs are estimated as 0.05 percentage point increase per Kosh distance from district headquarter in the Hill VDCs and 0.03 percentage point increase per kosh distance from district headquarter in the Terai VDCs respectively.

Correlation between Distance of VDC and change in Price

In all surveyed DDC and VDCs, it is observed that the DDC board approves prices of construction materials, wages for the skilled and un-skilled labour and the transportation cost of the materials with in its jurisdiction. Transportation cost is normally approved in terms of Rs per kosh of transportation. It is customary that DDC board approve prices of these items in each year and these prices are followed strictly while estimating the cost of constructing development activities such as, a drinking water, irrigation or construction of community/school building etc with in the district and in evaluating the bid for tendering these activities. While, approving annual prices for these items, DDCs are seen taking in to account the prices of these materials in the import source (nearest market from where these items are mostly imported) and the transportation and handling cost to the district head quarter. A table 4.1 and 4.2 provides the details of the prices of construction materials and labour in the surveyed VDCs of the sampled districts. Table 4.3A thru 4.3C provides the adjusted prices of these materials at different distances from the district headquarter.

Table 4.4: Aggregate Price Changes Due to Distance in sampled VDCs

District	VDCs	Distance from DHQ	% change in price
Sankhuwasabha	- Syabun	7	13.5
	- Sisuwakhola	16	26.2
	- Makalu	18	28.6
	- Tamafok	18	28.6
Jhapa	- Anarmani	3	9.1
	- Ghailadubba	13	28.1
	- Pathemari	6	16.0
	- Shantinagar	10	23.1
Nuwakot	- Phikuri	6	15.7
	- Lachhang	9	23.0
	- Sundaradevi	9	23.0
	- Sikre	13	31.6
	- Sikharbesi	11	28.0
Kaski	- Lumle	8	19.9
	- Bhadure tamaqi	3	4.4
	- Majuwa	0	-4.9
	- Bhachowk	4	9.8
	- Mijure danda	4	8.5
Jumla	- Chandan nath	0	10.5
	- Guthichour	18	30.8
	- Patmara	13	26.1

	- Lihi	4	16.0
	- Mahat Gaun	1	11.3
Kailali	- Beladevipur	10	20.1
	- Hasulia	10	20.1
	- Narayanpur	23	37.2
	- Pahalmanpur	17	30.3
	- Pandaun	33	46.0

Source: Field Survey

Table 4.4 above shows the relationship between the distances from the district headquarter and the percentage change in the weighted price index of these materials and man power used. A correlation analysis of the distance with price changes shows high correlation between the two as depicted below.

Correlation between distance and change in price index of VDCs

Pearson Correlation		Distance from DHQ	Percentage Change in Price index
	Distance from DHQ	1.0	.928*
	Percentage Change in Price index	.928*	1.0
Spearman's rho	Distance from DHQ	1.0	.951*
	Percentage Change in Price index	.951*	1.0
	N=28		

*significant at the 0.01 level (both 1-tailed and 2-tailed test)

b. Structure of developmental activities in the VDC budget

Analysis of 28 VDCs selected from six sampled district located at different distances from the district headquarter shows that the proportion of the VDC budget allocated to four activities namely, Rural roads, small irrigation, Community drinking water and community and school building construction. These four activities share around 60 % to 77 % of the total budget in these sampled VDCs. As such, the input structure of these development activities and the prices of such inputs are the factors mostly contributing in the overall cost index for the VDC developmental activities.

Table 4.4: Aggregate Budget proportion of surveyed VDCs

S.N	Region	DW	Irrigation	Road	Building	Total%
1	Mountain	7.31	8.90	14.49	30.04	60.74
2	Hill	8.09	5.27	25.54	38.73	77.63
3	Terai	3.12	12.66	36.76	19.68	72.23

Source: Field survey

c. Input structure of development activities in the VDC

The table below presents the aggregative input structure of development activities in the VDC by topographical location. As noted in the table, the development activities in the VDCs are mostly labour based, using more than 50 % of inputs as labour and roughly only 20 % of the inputs used such as, cement, zinc sheet, iron rod, paints etc., are from outside the VDC. This shows a very little effect of the rise in the imported construction materials on the VDC cost index.

Table 4.5: Itemized cost structure of VDCs by ecological regions

S.N	Itemized Head	Mountain	Hill	Terai
1	Labor			
2	Skilled	16.75	7.33	14.63
3	Unskilled	35.63	43.11	36.88
4	Cement	9.00	9.79	10.38

5	Iron Rod	2.41	5.18	4.50
6	Zinc sheet	2.63	1.29	1.13
7	Wooden frame	1.31	2.06	2.31
8	Sand	3.21	4.22	5.19
9	Boulder/stone	13.13	6.22	8.19
10	Paint	0.11	0.54	0.30
11	Pipe and fitting	7.20	8.32	7.08
12	Window glass	0.56	0.96	0.94
13	Supervision / Others	7.88	10.87	8.25
	Total	100	100	100

Source: Field survey

4.3 Estimation of Cost Index for VDCs

The table below presents the weighted average price index for the sampled VDCs. The weights being the product of the input structure of four types of development activities where about two third of the VDC budget are used and the proportion of budget spent on these activities. The prices taken for the purpose are the prices of materials and other inputs adjusted for the cost due to different distances from the district headquarter.

Table 4.6: Cost index of sampled VDCs

Mountain	VDCs	Cost Index	VDCs	Cost Index
Tablejung	Ambegudin	3.36	Liwang	3.54
	Ankhop	3.54	Mamankhe	3.48
	Chaksibote	3.18	Mehele	3.54
	Change	2.94	Nalbu	3.36
	Dhungesaghu	3.00	Nankholyang	2.94
	Dokhu	2.85	Nidhuradin	3.06
	Dummrise	3.24	Olangchung Gola	4.02
	Ekhabu	3.00	Papung	3.78
	Hangdeva	2.85	Pedang	3.48
	Hangpang	3.42	Phakumba	3.18
	Kalikhola	4.26	Phawakhola	3.06
	Khamlung	2.94	Phulbari	2.94
	Khejenim	3.18	Phungling	2.70
	Khewang	2.94	Phurumbu	2.94
	Khokling	3.78	Sadewa	3.90
	Lelep	3.54	Sangu	3.54
	Limbudin	3.06	Santhakra	3.12
	Lingtep	3.12	Sanwa	2.94
	Linkhim	3.06	Sawadin	3.30
Mountain	VDCs	Cost Index	Tellok	3.30
Tablejung	Sawalakhu	3.12	Thechambu	3.06
	Sikicha	3.18	Thinglabu	3.12
	Sinam	3.36	Thukima	3.24
	Surumakhim	3.78	Thumbedin	3.36
	Tapethok	3.60	Tiringe	3.00
	Yamfudin	3.78		
Hill	VDCs	Cost Index	VDCs	Cost Index
Rolpa	Aresh	2.11	Jungar	2.21

	Bhawang	1.91	Kareti	1.81
	Bhirul	2.36	Khumel	1.51
	Budagaun	2.31	Khungri	1.71
	Dhawang	1.61	Korchawang	1.71
	Dubaring	2.36	Kotgaun	1.56
	Dubidanda	2.61	Kureli	2.21
	Eriwang	2.46	Liwang	1.21
	Fagaam	1.91	Masina	2.21
	Gaam	2.61	Mijhing	2.21
	Gairigaun	1.91	Nuwagaun	2.11
	Gajul	1.61	Pachhawang	2.61
	Gharti Gaun	1.91	Rangsi	2.01
	Ghodagaun	1.81	Rank	2.46
	Gumchal	2.11	Sakhi	2.01
	Harjang	2.31	Seram	2.41
	Jailwang	2.21	Sirpa	2.21
	Jaimakasala	2.01	Siuri	2.41
	Jankot	1.56	Talawang	2.21
	Jauli Pokharai	2.01	Tewang	1.96
	Jedwang	1.71	Thawang	2.61
	Jhenam	2.41	Uwa	2.61
	Jinawang	2.41	Wadachaur	1.96
	Pakhapani	2.61	Whama	1.71
	Pang	2.31	Wot	2.11
	Rangkot	2.41		
Terai	VDCs	Cost Index	VDCs	Cost Index
Kailali	Baliya	1.85	Geta	1.23
	Basauti	1.86	Godawari	1.53
	Beladevipur	1.44	Hasuliya	1.44
	Bhajani	1.2	Janakinagar	1.86
	Boniya	1.68	Joshiapur	1.83
	Chauha	1.37	Khailad	1.65
	Chaumala	1.86	Khairala	2.04
	Dansinapur	1.68	Kota Tulsipur	1.83
	Darakh	1.83	Lalbojhi	1.65
	Dododhara	1.86	Malakheti	1.32
	Durgauli	1.92	Masuriya	1.41
	Gadariya	1.40	Mohanyal	2.04
	Munuwa	1.86	Ramsikhar Jhala	1.77
	Narayanpur	1.83	Ratanpur	1.47
	Nigali	1.44	Sadepani	1.74
	Pahalmanpur	1.65	Sahajpur	1.68
	Pandaun	2.13	Sreepur	1.22
	Pathariya	1.86	Sugarkhal	2.34
	Pawera	1.44	Thapapur	1.77
	Phulwari	1.35	Udasipur	1.44
	Pratapapur	1.89	Urma	1.35

Chapter V: Simulation of VDC Grant Formula

5.1 Estimation of Weightage for VDC Grant Formula

As discussed earlier, *population, area, population density* and *cost factors* are identified as the best plausible factors that captures the demand for VDC services in the available data circumstances. Bivariate and multivariate regression techniques of the following linear form are used for determining the weights of each of these factors in the VDC grant formula. The variables considered in the model are:

- a. Total Grant Allocation
- b. Population
- c. Area
- d. Population density, and
- e. Cost Index

Total grant allocation is the dependent variable and all other variables are independent variables.

The descriptive statistics of each of the variables considered in the models are presented in Table 5.1.

Table 5.1: Descriptive Statistics of the Variables

Variables	Mean	Standard Deviation	No of observations
Grant Allocation FY 08/09	1999.89	292.66	3915
Population	5038.54	3404.08	3915
Density	355.00	416.97	3915
Area	36.10	76.93	3915
Cost Index	1.88	0.89	3915

The matrix below (table 5.2) shows the correlation coefficient of the variables used in regression for determining the Weightage of the variables in the grant formula. As is clearly seen, there is no multicollinearity problems in the variable selected.

Table 5.2: Correlation Matrix of the Variables

	Grant Allocation	Population	Density	Area	Cost Index
Grant Allocation FY 08/09	1.00	0.45	- 0.18	0.29	0.25
Population		1.00	0.29	- 0.05	-0.32
Density			1.00	-0.24	-0.34
Area				1.00	0.45
Cost Index					1.00

Both Bivariate and multivariate regression analysis was carried out to examine the robustness of the estimates. The model selected is of the type;

$$\text{Model 4 - Total grant allocation to VDC}_i = a + B_1\text{Population}_i + B_2\text{Area}_i + B_3\text{Pop density}_i + B_4\text{Cost index}_i + U_i$$

The modelling showed that Model 4 as shown in Table 5.1 has the highest explanatory power and the coefficients are statistically significant. 43 percent of the variance across VDCs has been explained by this model. Therefore the indicators namely population, area, population density and cost index are identified as the suitable factors to be considered in the formula given the availability of data at the

VDCs level. This model however, can not be considered as the best one. Due to unavailability of data at the VDC level many other indicators could not be introduced in the model.

A computer SPSS statistical package is used to carry out step wise regression adding one additional variable each time observing the improvements in the adjusted R square and the significance of the coefficient of the variables added. The final results thus obtained are given below.

a. Regression Result for VDC Grant Formula

Table 5.1: Regression Coefficients of the Variables Used in the Models

Model	Coefficient of variables				R ²	R ⁻²
	Population	Density	Area	Cost Index		
Model 1	0.449*				0.20	0.20
Model 2	0.552*	- 0.349*			0.31	0.31
Model 3	0.545*	- 0.288*	0.244*		0.36	0.36
Model 4	0.627*	0.318*	- 0.233*	0.119*	0.43	0.43

* Coefficients are statistically significant at 0.05 levels

Based on the regression result, the coefficients of the variables of Model 4 have been used to obtain the weights of the respective variables. The weights thus obtained are as follows.

Variable	Weights
Population	0.48
Population density	0.18
Land Area	0.09
Cost index	0.25

5.2 Simulation of VDC Grants and Comparison with the Allocation at Present

The following model is used for simulation of VDC grants.

$$\text{Total Grant Allocation to VDC}_i = (\text{Weightage_population} \times (\text{Population}_i / (\sum_{\text{for all } i} \text{Population}))) + (\text{Weightage_land area} \times (\text{Land area}_i / (\sum_{\text{for all } i} \text{Land area}))) + (\text{Weightage_population density} \times (\text{population density}_i / (\sum_{\text{for all } i} \text{population density}))) + (\text{Weightage_cost} \times (\text{cost}_i / (\sum_{\text{for all } i} \text{Cost}))) \times \text{Total VDC Grant pool}$$

The following table provides the simulation result for sample VDCs in the Mountain, Hill and Tarai region. The details of the simulation results by each VDC are provided in a separate annex volume as well as in a computer software diskette attached with the report.

While doing the simulation exercise, the following assumptions were made and the simulation result for all 3915 VDCs were provided in a comparative format for each assumption.

- Assumption for SIM1 – Allocation estimated as per the formula based upon the stepwise regression analysis.
- Assumption for SIM2 – Total grant pool increased to Rs. 8 billion from Rs. 7.82 billion last year.
- Assumption for SIM3 - Total grant pool increased to Rs. 9 billion from Rs. 7.82 billion last year.
- Assumption for SIM4 – Fixing Minimum and maximum amount at Rs. 1.5 million and 3.0 million respectively and taking amount in-between- whichever is higher comparing the actual allocation for last year and SIM1.
- Assumption for SIM(N1) – Change in Weightage for pop = 0.50, area = 0.10. cost = 0.20, pop density = 0.20
- Assumption for SIM(N2) – Change in Weightage for pop = 0.50, area = 0.10, cost = 0.25, pop density = 0.15.

Mountain

District	VDC	Pop	Pop Den	Area	Distance	Cost	Alloc.	Sim 1	Simu 2	Simu 3	Simu 4	Adj Sim-1	Simu(N1)	Simu(N2)
Taplejung	Ambegudin	3018	183.10	16.48		3.36	1950	1735	1773	1994	2216	1950	1610	1737
	Ankhop	2540	121.86	20.84	14	3.54	1950	1651	1687	1898	2109	1950	1509	1662
	Chaksibote	1100	162.76	6.76	8	3.18	1500	1253	1280	1440	1600	1500	1115	1238
	Change	4720	192.28	24.55	4	2.94	1950	1997	2041	2296	2551	1997	1914	2016
	Dhungesaghu	4254	156.16	27.24	5	3.00	1950	1901	1943	2185	2428	1950	1808	1924
	Dokhu	3914	219.10	17.86	3	2.85	1950	1814	1853	2085	2316	1950	1728	1818
	Dumrise	1981	167.80	11.81	9	3.24	1500	1467	1499	1686	1873	1500	1336	1461
	Ekhabu	2346	38.32	61.22	5	3.00	2150	1588	1622	1825	2028	2150	1485	1634
	Hangdeva	3763	159.67	23.57	3	2.85	1950	1753	1791	2015	2239	1950	1663	1769
	Hangpang	4345	146.36	29.69	12	3.42	1950	2032	2077	2336	2596	2032	1918	2059
	Kalikhola	730	17.32	42.15	26	4.26	1500	1498	1531	1722	1913	1500	1303	1524
	Khamlung	1420	283.08	5.02	4	2.94	1500	1363	1393	1567	1741	1500	1253	1329
	Khejenim	2642	70.47	37.49	8	3.18	1950	1606	1641	1846	2051	1950	1487	1636
	Khewang	3039	102.54	29.64	4	2.94	1950	1611	1646	1852	2058	1950	1507	1635
	Khokling	3658	185.50	19.72	18	3.78	1950	1987	2030	2284	2538	1950	1847	1996
	Lelep	2319	2.88	805.14	14	3.54	2150	5398	5516	6205	6894	2150	5675	5862
	Limbudin	2284	90.94	25.11	6	3.06	1950	1465	1497	1684	1871	1950	1345	1482
	Lingtep	1823	69.51	26.23	7	3.12	1500	1377	1407	1583	1759	1500	1248	1394
	Linkhim	2281	181.40	12.57	6	3.06	1950	1494	1526	1717	1908	1950	1377	1488
	Liwang	1746	104.03	16.78	14	3.54	1500	1462	1494	1680	1867	1500	1309	1467
	Mamankhe	1367	36.91	37.03	13	3.48	1500	1407	1437	1617	1796	1500	1257	1432
	Mehele	2364	165.57	14.28	14	3.54	1950	1629	1665	1873	2081	1950	1487	1628
	Nalbu	1894	17.52	108.08	11	3.36	1760	1810	1849	2080	2311	1810	1708	1882
	Nankholyang	4015	191.51	20.97	4	2.94	1950	1844	1884	2120	2356	1950	1753	1855
	Nidhuradin	2837	223.60	12.69	6	3.06	1950	1643	1679	1889	2098	1950	1535	1635
	Olangchung Gola	273	0.39	698.74	22	4.02	1950	4603	4703	5291	5879	1950	4779	4992
	Papung	1570	4.30	365.00	18	3.78	1950	3127	3195	3594	3993	1950	3141	3341
	Pedang	1843	140.49	13.12	13	3.48	1500	1483	1515	1705	1894	1500	1336	1481
	Phakumba	4144	62.43	66.38	8	3.18	2150	2028	2072	2331	2590	2150	1936	2087
	Phawakhola	1457	46.61	31.26	6	3.06	1500	1293	1321	1487	1652	1500	1165	1314
	Phulbari	4076	188.89	21.58	4	2.94	1950	1856	1897	2134	2371	1950	1766	1869
	Phungling	11912	494.72	24.08	0	2.70	2450	3608	3687	4147	4608	3000	3628	3632
	Phurumbu	2605	91.99	28.32	4	2.94	1950	1511	1544	1737	1930	1950	1402	1532
	Sadewa	1147	137.38	8.35	20	3.90	1500	1435	1466	1650	1833	1500	1257	1426
	Sangu	4087	93.49	43.72	14	3.54	1950	2031	2076	2335	2594	2031	1911	2072
	Santhakra	2861	224.87	12.72	7	3.12	1950	1665	1701	1914	2127	1950	1554	1657
	Sanwa	2587	64.96	39.82	4	2.94	1950	1538	1571	1768	1964	1950	1432	1570
	Sawadin	1532	138.87	11.03	10	3.30	1500	1364	1394	1568	1742	1500	1223	1359
	Sawalakhu	2501	255.13	9.80	7	3.12	1950	1613	1648	1854	2060	1950	1501	1595
	Sikicha	2503	74.54	33.58	8	3.18	1950	1564	1598	1798	1998	1950	1442	1590
	Sinam	2210	219.45	10.07	11	3.36	1950	1586	1620	1823	2026	1950	1455	1572
	Surumakhim	1911	22.59	84.61	18	3.78	1760	1812	1852	2083	2315	1760	1676	1871
	Tapethok	1545	7.06	218.99	15	3.60	1950	2349	2400	2700	3000	2349	2292	2481
	Tellok	2350	125.37	18.74	10	3.30	1950	1545	1578	1775	1973	1950	1412	1552
	Thechambu	3772	182.47	20.67	6	3.06	1950	1819	1859	2091	2324	1950	1719	1830
	Thinglabu	2806	60.91	46.07	7	3.12	1950	1654	1691	1902	2113	1950	1543	1692
	Thukima	2772	110.39	25.11	9	3.24	1950	1626	1661	1869	2076	1950	1502	1643

Thumbedin	2638	240.43	10.97	11	3.36	1950	1693	1730	1946	2163	1950	1569	1680
Tiringe	2003	94.35	21.23	5	3.00	1950	1380	1410	1586	1762	1950	1259	1391
Yamfudin	804	2.57	312.58	18	3.78	1950	2718	2777	3124	3471	2718	2697	2897
Total	134309	6374.85	3629.47	483	163.98	93270	93687	95727	107692	119658	95247	88773	95686
Average	2686	127	73	10	3	1865	1874	1915	2154	2393	1905	1775	1914
Min	273	0	5	0	3	1500	1253	1280	1440	1600	1500	1115	1238
Max	11912	495	805	26	4	2450	5398	5516	6205	6894	3000	5675	5862
Stdev	1689	92	157	6	0	217	780	797	896	996	292	855	863
Co-eff of var	159	138	46	171	970	859	240	240	240	240	653	208	222

Hill

District	VDC	Pop	Pop Den	Area	Distance	Cost	Alloc.	Sim 1	Simu 2	Simu 3	Simu 4	Adj Sim-1	Simu(N1)	Simu(N2)
Salyan	Badagaun	3710	179.44	20.68	15	1.96	2150	1512	1545	1738	1932	2150	1469	1523
	Bafukhola	2864	113.86	25.15	21	2.26	2150	1387	1417	1594	1771	2150	1316	1404
	Bajh Kanda	900	49.22	18.29	20	2.21	1760	899	919	1034	1149	1760	805	908
	Bame	4894	68.96	70.97	7	1.56	2150	1770	1809	2035	2261	2150	1773	1837
	Bhalchaur	5278	170.30	30.99	16	2.01	2450	1866	1907	2145	2384	2450	1838	1897
	Chande	4629	108.40	42.70	10	1.71	2150	1659	1695	1907	2119	2150	1641	1701
	Chhyachhetra	4304	129.70	33.18	5	1.46	2150	1505	1537	1730	1922	2150	1494	1535
	Damachaur	5057	143.36	35.28	10	1.71	2450	1739	1777	1999	2221	2450	1724	1774
	Damakot	4249	231.45	18.36	5	1.46	1950	1523	1557	1751	1946	1950	1516	1528
	Dandagaun	1878	66.21	28.36	19	2.16	2150	1140	1165	1310	1456	2150	1063	1159
	Devsthan	3356	77.23	43.45	16	2.01	2150	1468	1500	1687	1875	2150	1421	1506
	Dhajari Pipal	4333	84.13	51.50	18	2.11	2150	1728	1765	1986	2207	2150	1688	1777
	Dhakadam	5260	164.18	32.04	15	1.96	2450	1849	1889	2125	2361	2450	1823	1881
	Dhanwang	5176	163.61	31.64	12	1.81	2450	1790	1829	2058	2287	2450	1771	1821
	Hiwalcha	3992	113.31	35.23	6	1.51	2150	1452	1484	1669	1855	2150	1436	1484
	Jimali	2807	129.95	21.60	12	1.81	2450	1255	1282	1442	1603	2450	1208	1267
	Kabheechaur	4630	38.67	119.72	8	1.61	2150	1946	1988	2236	2485	2150	1968	2042
	Kajeri	4848	152.85	31.72	5	1.46	2150	1624	1660	1867	2075	2150	1620	1655
	Kalagaun	5787	142.63	40.57	18	2.11	2150	2010	2053	2310	2567	2150	1982	2054
	Kalimati Kalche	3016	20.45	147.49	20	2.21	2450	1917	1959	2204	2449	2450	1908	2020
	Kalimati Rampur	2635	20.71	127.24	16	2.01	2150	1691	1728	1944	2160	2150	1678	1779
	Karagithi	2697	150.67	17.90	6	1.51	2150	1157	1182	1330	1477	2150	1125	1163
	Kavra	971	34.18	28.41	33	2.86	1950	1121	1145	1288	1431	1950	996	1138
	Khalanga	6390	280.33	22.79	0	1.21	2450	1937	1979	2226	2473	2450	1967	1953
	Korbanqlhimpc	6472	119.09	54.34	12	1.81	2150	2105	2151	2420	2689	2105	2104	2167
	Kothara	4509	165.59	27.23	16	2.01	2150	1696	1733	1950	2167	2150	1659	1719
	Kotmula	4221	176.42	23.93	12	1.81	2450	1583	1617	1820	2022	2450	1553	1600
	Kubhinde Daha	5337	105.32	50.67	9	1.66	2150	1817	1857	2089	2321	2150	1811	1870
	Laxmipur	4156	84.34	49.27	8	1.61	1950	1550	1584	1782	1980	1950	1535	1596
	Lekhpokhara	988	35.59	27.76	9	1.66	2150	803	821	924	1026	2150	743	821
	Majhkanda	3933	95.36	41.24	12	1.81	2150	1532	1566	1761	1957	2150	1501	1570
	Marke	4300	124.05	34.66	5	1.46	2150	1505	1538	1731	1923	2150	1495	1538
	Marmaparikanda	3989	110.78	36.01	12	1.81	2150	1532	1566	1762	1957	2150	1500	1565
	Mulkhola	4606	100.12	46.01	16	2.01	1950	1742	1780	2003	2225	1950	1709	1787
	Nigalchula	326	9.61	33.93	12	1.81	2150	722	737	829	922	2150	648	741
	Phalawang	4867	117.23	41.52	9	1.66	2150	1694	1731	1947	2163	2150	1681	1736
	Pipalneta	2011	190.47	10.56	10	1.71	2150	1083	1107	1245	1383	2150	1035	1073
	Rim	3526	123.56	28.54	16	2.01	2150	1473	1505	1693	1881	2150	1424	1496
	Saijuwal Takura	3479	231.46	15.03	20	2.21	2150	1559	1593	1792	1992	2150	1504	1556
	Sarpani Garpa	4313	121.48	35.50	1	1.26	2150	1456	1488	1674	1860	2150	1457	1490

	Sibartha	4941	174.21	28.36	15	1.96	2150	1780	1819	2046	2273	2150	1750	1805
	Siddheswor	4198	148.45	28.28	8	1.61	2150	1519	1552	1746	1940	2150	1499	1543
	Singwang	3404	145.25	23.44	13	1.86	2150	1407	1437	1617	1796	2150	1364	1422
	Suikot	4954	85.06	58.24	19	2.16	2150	1894	1935	2177	2419	2150	1860	1951
	Syanikhal	4194	138.33	30.32	8	1.61	2150	1518	1551	1745	1939	2150	1498	1545
	Tharmarre	945	19.78	47.77	11	1.76	1950	906	925	1041	1157	1950	848	936
	Tribeni	4567	146.55	31.16	7	1.56	2150	1588	1623	1826	2029	2150	1575	1617
	Total	181897	5602	1879	573	86	102060	72410	73987	83235	92483	102015	70984	73948
	Average	3870	119	40	12	2	2171	1541	1574	1771	1968	2171	1510	1573
	Min	326	10	11	0	1	1760	722	737	829	922	1760	648	741
	Max	6472	280	147	33	3	2450	2105	2151	2420	2689	2450	2104	2167
	Stdev	1444	59	27	6	0	151	318	325	366	407	151	339	332
	Co-eff of var	268	202	148	201	600	1437	484	484	484	484	1434	446	474

Terai

District	VDC	Pop	Pop Den	Area	Distance	Cost	Alloc.	Sim 1	Simu 2	Simu 3	Simu 4	Adj Sim-1	Simu(N1)	Simu(N2)
Kailali	Baliya	31851	250.31	127.24	24	1.85	3000	7446	7608	8559	9510	3000	7700	7727
	Basauti	6241	256.40	24.34	24	1.86	1950	2064	2109	2373	2636	2064	2057	2084
	Beladevipur	8049	226.33	35.56	10	1.44	2150	2323	2373	2670	2966	2323	2355	2368
	Bhajani	11318	391.18	28.93	2	1.20	2450	3016	3081	3467	3852	3000	3102	3056
	Boniya	13265	503.00	26.37	18	1.68	2450	3615	3694	4155	4617	3000	3702	3650
	Chauha	16392	213.26	76.86	8	1.37	2450	4085	4174	4695	5217	3000	4209	4222
	Chaumala	18698	133.25	140.32	24	1.86	2450	4891	4997	5622	6247	3000	5033	5094
	Dansinhapur	9635	384.66	25.05	18	1.68	2150	2797	2858	3215	3572	2797	2841	2822
	Darakh	12171	255.48	47.64	23	1.83	2450	3301	3373	3795	4216	3000	3356	3381
	Dododhara	14599	260.36	56.07	24	1.86	2450	3819	3902	4390	4877	3000	3896	3922
	Durgauli	13291	511.81	25.97	26	1.92	2450	3690	3771	4242	4713	3000	3766	3724
	Gadariya	10391	162.29	64.03	9	1.40	2450	2834	2896	3257	3619	2834	2896	2924
	Geta	12224	393.29	31.08	3	1.23	2450	3209	3279	3689	4099	3000	3302	3257
	Godawari	13733	74.04	185.48	13	1.53	2450	4022	4110	4624	5137	3000	4161	4222
	Hasuliya	14040	200.89	69.89	10	1.44	2450	3609	3688	4149	4610	3000	3706	3726
	Janakinagar	5149	368.00	13.99	24	1.86	1950	1918	1960	2204	2449	1950	1909	1904
	Joshiapur	19306	494.73	39.02	23	1.83	2450	4860	4966	5587	6208	3000	4994	4952
	Khailad	10065	117.54	85.63	17	1.65	2450	2902	2965	3336	3706	2902	2955	3009
	Khairala	4034	17.46	231.02	30	2.04	1950	2480	2533	2850	3167	2480	2533	2637
	Kota Tulsipur	10171	484.78	20.98	23	1.83	2150	3020	3086	3471	3857	3000	3070	3030
	Labojhi	10826	394.86	27.42	17	1.65	2450	3038	3104	3492	3880	3000	3096	3072
	Malakheti	15611	305.32	51.13	6	1.32	2450	3889	3974	4471	4967	3000	4006	3990
	Masuriya	16216	226.53	71.59	9	1.41	2450	4050	4139	4656	5173	3000	4169	4180
	Mohanyal	4383	28.47	153.94	30	2.04	1950	2173	2220	2498	2775	2173	2188	2288
	Munuwa	11939	592.39	20.15	24	1.86	2150	3470	3545	3988	4431	3000	3544	3475
	Narayanpur	11560	446.32	25.90	23	1.83	2450	3270	3341	3759	4176	3000	3329	3301
	Nigali	5467	46.79	116.84	10	1.44	2150	2054	2098	2361	2623	2150	2091	2154
	Pahalmanpur	11892	150.44	79.05	17	1.65	2450	3250	3321	3736	4151	3000	3318	3363
	Pandaun	3830	29.65	129.15	33	2.13	1950	1969	2012	2264	2515	1969	1961	2066
	Pathariya	19735	420.95	46.88	24	1.86	2450	4914	5021	5649	6277	3000	5046	5026
	Pawera	6216	472.85	13.15	10	1.44	1950	2112	2158	2427	2697	2112	2145	2088
	Phulwari	19020	427.05	44.54	7	1.35	2450	4637	4738	5330	5923	3000	4789	4741
	Pratapapur	12831	631.09	20.33	25	1.89	2150	3688	3768	4239	4710	3000	3772	3694
	Ramsikhar Jhala	13560	85.08	159.38	21	1.77	2450	3934	4020	4522	5025	3000	4046	4116
	Ratanpur	6926	149.67	46.27	11	1.47	2150	2092	2138	2405	2672	2150	2112	2148
	Sadepani	17956	266.44	67.39	20	1.74	2450	4489	4587	5160	5734	3000	4607	4624
	Sahajpur	7151	49.73	143.79	18	1.68	2150	2576	2632	2961	3290	2576	2628	2704
	Sreepur	13512	395.45	34.17	3	1.22	2450	3468	3544	3987	4430	3000	3574	3528
	Sugarkhal	12762	37.29	342.20	40	2.34	2450	4796	4901	5513	6126	3000	4967	5081

	Thapapur	13559	401.42	33.78	21	1.77	2450	3629	3708	4171	4635	3000	3706	3687
	Udasipur	7877	168.66	46.70	10	1.44	2150	2287	2337	2629	2921	2287	2318	2347
	Urma	11070	133.53	82.90	7	1.35	2450	3016	3082	3467	3852	3000	3093	3127
	Total	508522	11559	3112	737	70	97750	142702	145809	164035	182261	116765	146048	146509
	Average	12108	275	74	18	2	2327	3398	3472	3906	4340	2780	3477	3488
	Min	3830	17	13	2	1	1950	1918	1960	2204	2449	1950	1909	1904
	Max	31851	631	342	40	2	3000	7446	7608	8559	9510	3000	7700	7727
	Stdev	5311.5	170.6	67.1	8.9	0.3	219.8	1084.4	1108.1	1246.6	1385.1	363.8	1134.2	1128.8
	Co-eff of var	228.0	161.3	110.5	196.9	623.4	1058.8	313.3	313.3	313.3	313.3	764.3	306.6	309.0

Overall

	Pop	Pop Density	Area	Distance	Cost	Alloc.	Sim 1	Simu 2	Simu 3	Simu 4	Alloc-sim1	Adj Sim-1	Simu(N1)	Simu(N2)
Min	192.0	0.4	0.9	0.0	1.0	1500.0	679.3	694.0	780.8	867.5	13952.1	1500.0	602.0	679.2
Max	41262.0	8835.1	1464.0	70.0	7.9	3000.0	16952.1	17321.1	19486.3	21651.4	1428.4	3000.0	18171.2	15834.7
Average	5038.5	355.0	36.1	9.1	1.9	1999.9	1999.9	2043.4	2298.9	2554.3	0.0	2174.4	1999.9	1999.9
Std deviation	3404.1	417.0	76.9	6.8	0.9	292.7	880.7	899.8	1012.3	1124.8	798.6	390.6	941.5	887.9
Coeff of var %	148.0	85.1	46.9	132.6	211.3	683.3	227.1	227.1	227.1	227.1	0.0	556.7	212.4	225.2

The variation in the simulated results although shows moderate (44 %) however, it is slightly higher as compared to the present system of grant distribution (15 %). This is because, the present system of grant allocation to VDCs are capped both at the upper (3000) and the lower level (1500). The amount of grant is suppressed in between these two limits. This is bound to fail in reflecting the amount deserved by the factors incorporated in the formula, meaning the greater role of adhocism in built the allocation of grant in the present system.

The total grant pool for the VDC in fiscal 2065/66 is used for the simulation exercise. Alternative simulation with grant pool amount increasing to Rs. 8 billion, Rs. 9 billion and Rs. 10 billion are also made and compared with the present grant pull amount. Similarly, the adjusted grant amount by VDC keeping the lower and upper limit for the grant amount intact and changing the amount in between as per the simulation is also presented. The result shows such adjustments requiring Rs. 8.5 billion, an increment of about Rs. 62 crores for the fiscal year 2066/67.

Chapter VI: Conclusion and Recommendations

6.1 Conclusion

As a commitment towards decentralization and service delivery to its people at the grass root level, Government of Nepal has been providing block grants, both conditional and unconditional to local bodies since many years. The purposes of these grants are basically to provide equalization in service delivery and capacity enhancement of local bodies to deliver these services. Over these years, Local Body Fiscal Commission, mandated by Government of Nepal for recommending fiscal matters besides other things, is carrying out exercise in fine-tuning the grant mechanism to make it more realistic and local need based. In doing so, a formula based grant system that takes into account of the population of the local bodies to whom it deliver services, the area of its jurisdiction, the level of human development and the concentration of poverty there in as well as the cost of providing services was introduced in fiscal 2002. Refinements were made there after and also the ambit of such formula based grant system was expanded in fiscal 2005/06 for the grant allocation to VDCs. The present study tries to further refine the formula based grant system to VDCs and update cost index for the formula based grant system for DDC.

6.2 Some Issues in DDC and VDC Grants System

Lack of reliable national level data has remained the single most challenge in designing VDC level grant formula. The limited information available in terms of population related data of 2001 Census and price and budgetary structure are the only source that can be used in designing the grant formula.

The presently available data at VDC level is from the 2001 census data. It is eight years old and there have been significant changes in the size and structure of population at the DDC and VDC level. With the heightening of arm insurgency in the country, large migration, unparallel in the history of modern Nepal, took place from rural areas of specially mountain and Hill districts to nearby urban centres including in the capital city and outside the country. Particularly, from the mountain and hill districts of mid and far western as well as from the eastern region took place during 2003 onwards. The census does not capture such large migration. The next census, which will take place in 2011, may capture this movement of people from the districts and VDCs of the above-mentioned region to other districts and urban centres. Hopefully, the status of population by district and VDC will be available in 2013 or so. Until then, we have to use the 2001 census data understanding that it does not reflect the size of the population and therefore, the quantum of the demand for services by VDC.

Data relating to Human Development and Poverty are not available at the VDC level. The Human Development and estimation of population below poverty line are available only at the district level. These data are also not updated since 2002. Recently some information on Disadvantaged Groups (DAGs) by VDC is prepared with the support from UNICEF. However, the reliability of the data and its user friendly formats needs some more work and as such, the use of these information in preparing VDC grant formula could not be taken at this stage.

A better proxy for the coverage of the service need could be the proportion of the land area covered by the settlement at the VDC level. But such data at the VDC and DDC level are not available at present. The GIS division in the National Planning Commission and other institutions are trying to estimate the proportion of settlement area by VDC for some selected districts. But it needs more works before the settlement data could be used in the grants distribution formula.

Besides these national level surveyed data for the VDC, the budgetary data at the VDC level are not also properly documented. The insecurity situation in the VDC forced VDC secretaries in most of the districts moved to the district headquarter and resume services from there. While moving from the VDC to district headquarter, lots of information particularly relating to the budgetary use etc have been lost and as such, the secretaries of the sampled VDCs failed to provide budgetary information

for earlier years. Similarly, the budgetary formats used by DDC are also not uniform and needs more improvements for a comparative analysis.

Besides the issues relating to the availability of data, the size of the grant pool and the transparency in applying the formula for grant distribution has been a challenge in its implementation. The allocation in fiscal 2065/66 was done putting limitation on the upper as well as the lower side namely, Rs. 15 lakhs at the lower level and Rs. 30 lakhs at the higher level. VDC allocation was made keeping in view of these two limits. The methodology followed in allocating the funds to VDC in 2065/66 has raised the expectation of the VDC for getting resources in 2066/67. Politically, it is not feasible to apply the simulated grant to VDC as the simulation result shows some VDC getting less than Rs. 15 lakhs and some much higher than Rs. 30 lakhs. Those VDCs for whom the simulation recommends less than Rs. 15 lakhs will not easily accept it. This will require need for an increase in the size of the Grant pool. The exercise shows that it will require Rs. 8.5 billion grant pool, an increase by about Rs 68 crores if the ministry wants to stick on the upper and lower limit and adjust allocation for other VDCs as per the simulation based on the formula prescribed for.

6.3 Recommendations

In accordance with its commitment towards decentralization and functional devolution at the local level, Government of Nepal is providing more and more resources to the local bodies. However, due to several reasons, both at the national level and at the grass root level, local bodies has not been able to spend the allocated amount in enhancing service delivery and their capacity improvements. Often times, this has raised the rationale for increasing the volume of grants for local bodies without addressing the binding constraints for expenditure effectiveness at the grass root level. The present study recommends the following for expenditure effectiveness at the grass rot level.

i. Institutional Set up

The long absence of an elected body at the grass root level is not only hindering the day today work of the grass root level bodies but also in prioritising development programs and implementing it. To overcome it, a Development Coordination Committee (DCC), chaired by the VDC secretary with representatives from locally active political party, NGOs/CBOs, disadvantaged groups, women, local level development activist and government agencies be formed with mandate for development prioritisation and implementation supervision. Piloting of such development coordination body has been found more effective at the grass root level (PR Ligal et al, 2009). Such coordinating body not only fill up the vacuums created due to absence of elected body but also check political pressure resulting into a more need based program selection and prioritisation.

At present, VDCs are mostly running by one single person, the VDC secretary- a junior level position (Khardar). With more resources pumping in and more development activities being carried out at the VDC level, it is recommended that the position be upgraded to at least Non-gazetted Class one (Subba)⁹. Besides, the VDC secretariat should also have at least an assistant cum accountant, a technical manpower possibly at the sub-overseer level and a peon for taking care of the day today work and development activity.¹⁰

The formula based grant system is regarded as a better system for allocating inter-governmental transfer of resources –such as the central grants to the local bodies. However, the credibility of such grants system demands transparency in the formula that uses reliable national level data and strong political neutrality. This requires a politically independent autonomous body in designing and recommending grants allocation. In many countries an independent Fiscal Commission does this. Based on their recommendation, government allocate resources to the provinces, districts and other units of local government. In Nepal, this is done by LBFC. But, LBFC still needs to prove its independence. With minister as the chairman and joint-secretary of MoLD as its member secretary, it is acting more like a department of MoLD

⁹ With VDC boundary increased to Elaka level, the position needs upgraded to section officer level.

¹⁰ The present system of taking charge of all development activities by a overseer at the DTO is found delaying in approving development programs and its implementation as the overseer at the DTO is responsible, in many cases, for looking after more than 6 VDCs.

rather than an independent body. This needs to be changed. An independent credible person should chair the commission and the commission itself should appoint the member secretary as well as the relevant technocrats. However, some technocrats could be drawn from relevant ministries such as, MoLD, MoF etc., depending upon the need of the Commission. Such changes in the Commission and the transparency of formula will enhance the credibility of grant allocation.

The main advantages of an independent grants commission include: (1) reduced political influence from both the central and the regional governments and, as a result, (2) the possibility of exercising fair judgments over disputes among different sub national governments and between levels of governments; and (3) that the recommendations made by the independent Commission are easier to be accepted by the parties involved. However, on the negative side, the disadvantage of an independent grants commission mainly has to do with its limited authority in obtaining data and other supports from the sub national governments.

In Nepal, the formula based grant system has been in place for allocating grants to DDC since 2004. In between now and then many improvements have been made to make it more practical. Since 2065/65, government of Nepal also expended it for allocating grants to VDCs. The present work is to make refinements in the DDC and VDC grant formula. Based on a scientific method, the Weightage of key variables are changed and in case of VDC even more variables are added to make it need based, and the cost index are updated the resulting allocation may be different than what some VDCs/DDCs are getting as annual grant amount from the government. This may cause some problem in implementation. This is because of the differences in the amount they received as grant in the last fiscal year. As such, it is recommended that a gradual adjustment be made in the grant allocation and the possibility for increasing the VDC grant pool be explored. The increase in the grant pool will ease the adjustment process.

b. Budgetary Release and Accountability

It is observed that the VDC secretary has to spend most of his time to get budget release from DDC and project approval from DTO. It is recommended that these systems be simplified to provide VDC secretary more time to concentrate on VDC activities and service delivery improvements. This will require a direct budgetary release system from District Treasury and Control Office (DTCO) to respective VDCs. Such changes will not only speed up budgetary release and work done at the VDC but also will improve the control system – as VDC secretary will have to submit the statement of previous statement of expenditure (SOEs) for getting second tranche of approved budget from the DTCO. At present, the control system is seen weak due to lack of regular flows of SOEs to DTCO. All the DTCO offices are now computerized and they are found capable in releasing budget direct to VDCs and maintain its expenditure records.

At the VDC level, it is recommended that a practice of consolidated budget – including line agency and NGOs/CBOs budget – be prepared and discussed at the VDC level Development Coordination Committee (DCC). This will provide better prioritisation of resources and save duplication of work. Besides, it will also provide opportunity for allocating or topping up of VDC resources on sectors relevant to the need of the people. Such practices will not only improve the effectiveness of service delivery but also improve its quality.

It is observed that the budgetary formats as practiced by DDCs and VDCs are not uniform and transparent. As a result, not only, it is difficult to analyse the budget from the program budget point of view but also, it is difficult to make a comparable budgetary analysis of these local bodies. Besides, most of the VDC secretaries are found not properly trained in accounts keeping its management. As such, it is recommended that a uniform budgetary format for DDC and VDC be developed and implemented. A formal training in accounts keeping and management be provided to all VDC secretaries as well as to those personnel who are responsible for account keeping.

The present system of auditing at the local body level is not in commensurate to the basic principle of check and balance system. The appointment of an auditor by VDC itself does not serve this purpose. With an increased volume of resources going to VDCs and a change in the budgetary release system, there is a need to change the present practice of appointing auditor at the VDC level. In the absence of AGO at the district level, it will be appropriate that the DTCO appoint the auditor from the locally available registered auditor to carry out VDC audit.¹¹ This will improve the check and balance by insuring better use of the budget at the VDC level. This may however, require changes in the present Local Body Financial Rules and Regulations.

The present system of AGO auditing DDC's expenses, auditing only central government grant and leaving expenditure based on DDC's own source, also need to be changed and a system should be put in place to carry out consolidated audit by AGO at the DDC.

The volume of resources transferred to local bodies strongly demands AGO or its authorised agencies (say DTCO for the VDC audit appointment) to take up all the audit matters of local bodies and the audited report be made as a part of the AG's annual audit report. This will improve transparency and also the accountability at the local body level.

¹¹ At present AGO does not have district level office and as such it will be too difficult for them to look after the audit matters at the VDC level. The system could be transferred to AGO at a later stage when they are ready to take this responsibility.

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