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Intergovernmental Fiscal Transfers in a Federal Nepal

Khim Lal Devkota[1]

November 2020

Abstract

Nepal's new federal constitution provides equal state power to each level of federal unit (that is, federal, provincial, and local governments). These governments' functional responsibilities are enshrined in the schedules of the constitution, with expenditure responsibilities devolved to the subfederal units while revenue-raising rights remain highly centralized. To bridge the gap between revenue rights and expenditure needs, the constitution mandates fiscal transfers; subfederal units receive four grant types (fiscal equalization, conditional, special, and matching). The largest category of grant is fiscal equalization, which constitutionally must be distributed based on the expenditure need and revenue potential of the subfederal units, as processed by the independent National Natural Resources and Fiscal Commission (NNRFC), the body charged to make the fiscal transfer process balanced and transparent.

In the short time since the implementation of federalism started in 2017, Nepal has done well with the fiscal transfers system. Subfederal units have received fiscal transfers amounting to 33 percent of the total federal budget and 11 percent of the country's GDP. Fiscal equalization grants alone account for about 3.4 percent of total GDP, indicating smooth vertical allocation of funds. However, the horizontal distribution of fiscal equalization grants has not been as successful, featuring an allocation formula and methodology that many consider unfair and meriting closer study. Accordingly, this paper examines current approaches and proposes alternate allocation formulae and methodologies, including recommendations for coordination and cooperation between the government and NNRFC on fiscal transfer issues.

Keywords: Fiscal transfers, fiscal equalization grant, National Natural Resources and Fiscal Commission, allocation formula, subfederal levels

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1. Background

Nepal formally became a federal country with the promulgation of its new Constitution in September 2015. With the implementation of federalism, the overall structure of Nepal's governance system changed significantly. The State power in the previous unitary system was divided into three tiers of government: federal, provincial, and local. Nepal has seven provinces[2] and 753 local governments.[3] In this new federal context, the first elections were held in 2017. In a very short period since the election, all federal units (federal, provincial, and local governments) are functioning smoothly.[4] The rights of the three tiers of government are included in the schedule of the constitution, including functional rights, revenue rights, borrowing rights, and provision for fiscal transfers.

In terms of functional responsibilities, Nepal's government structure is devolved, with a generally pyramidal distribution of duties (that is, with more expenditure responsibilities at the provincial and local levels and fewer at the federal). For example, as far as education is concerned, the local level is responsible for provision up to secondary education. The province then has responsibility for higher education, including provincial universities. Similarly, for health, the local level has responsibility for basic health care and the province has responsibility for more advanced health

[2] The constitution divides Nepal into seven provinces, named as numbers, and the respective provincial assemblies were given authority to settle the naming issues. As of October 2020, five provinces have adopted names. In fact, the first Constituent Assembly was dissolved due to the naming issues among others. Also see: https://theannapurnaexpress.com/news/federalisms-minor-failings-more-discussed-than-its-major-gains-2158.

[3] Previously there were 3,157 rural municipalities named Village Development Committees and 217 municipalities. In the new federal set up, the government reduced the number of rural municipalities from 3,157 to 460. However, the number of urban municipalities increased from 217 to 293. Currently, the rural jurisdictions are referred to as GauPalika (Rural Municipality). Further, based on the population size, municipalities are also classified in three categories: Metropolitan (larger municipality), Sub-metropolitan (medium size) and Municipality (smaller size). In the pre-federalization period, local governments were referred to as "Local Bodies." However, after federalization, they are referred to as "Local levels." Whether local bodies or local levels, they are the local governments – the only difference is in the labels. Currently, there are 753 local governments. Out of them, 293 are classified as municipalities and 460 as rural municipalities (GauPalika). Appendix 1 also provides local level information.

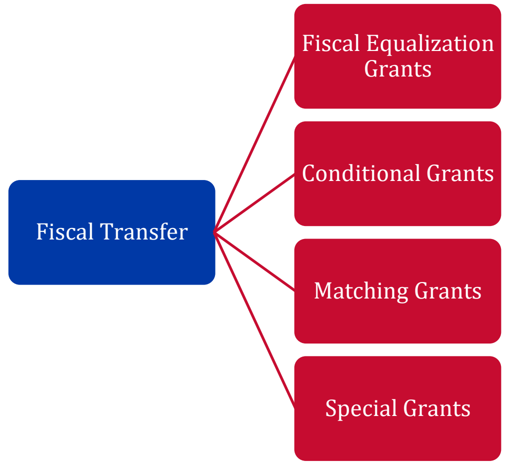
[4] The formation of the three tiers of government represents a novel experiment in Nepal's federal journey. A few problems and uncertainties cropping up are but natural in a new system of governance. https://kathmandupost.com/columns/2020/09/20/achievements-of-the-federal-constitution

care. Likewise, work related to agriculture is on the list of exclusive responsibility of both the province and local levels. In general, the constitution gives responsibilities related to local development and service delivery to the local level, while the provincial government has responsibilities related to provincial development. The federal government typically has responsibilities only related to national policy, foreign relations, national security and currency, inter-provincial plans and programs, and so on.

However, while the constitution has given many responsibilities to the subfederal units, the subnational revenue-raising rights to fulfill these responsibilities are nominal. Instead, the constitution provides most revenue-raising rights to the federal government. The constitution provides for intergovernmental fiscal transfers to reduce the gap between functional responsibilities and revenue-raising rights. According to this arrangement, the province and local governments receive four grant types, namely, fiscal equalization, conditional, special, and matching grants (Figure 1). After the country entered federalism, grants of all four types have been received by provincial and local governments, with the National Natural Resources and Fiscal Commission (NNRFC) managing the fiscal transfers. Both the National Natural Resources and Fiscal Commission Act, 2017, and the Intergovernmental Fiscal Arrangement Act, 2017, have been promulgated to enable legal provisions for the fiscal transfers. These Acts specify the definition and distribution criteria of grants and revenue sharing.

In addition to transfers between the federal and subfederal levels, Nepal's form of federalism includes mandatory fiscal transfers from the provincial to the local level. Accordingly, the provinces have started distributing grants to the local level. Parallel to the four grant types from the federal level, the local level units also receive such grants from their provincial governments. [5] Both the federal government and provincial governments distribute fiscal equalization transfers to their subgovernments based on formulae and allocations approved by NNRFC. In addition to grants, the provincial and local governments have a legal entitlement to receive 15 percent of fiscal resources from value-added taxes (VAT) and excise duties from domestic production under the heading of 'revenue sharing.'[6] Similarly, the provincial and local governments get 25 percent of royalties from natural resources.[7]

Figure 1: Type of Fiscal Transfer



The constitution stipulates that fiscal equalization grants should be distributed on basis of expenditure needs and revenue capacity.[8] In the previous unitary system, local level governments

[5] Provinces started providing fiscal transfers to local governments from their first full budget in FY 2018/19 and transferred about 10 percent of their total budgets to the local level in FY 2020/21. In general, the provinces have established good practices in distributing grants to the local level from their own sources.
[6] Out of total fiscal transfers to the subfederal levels, this heading comprises 33.65 percent (see Table 3). From this heading, the subfederal levels can fund administrative expenses including the salary and allowance of officials.
[7] In the constitution, royalties from natural resources are included in the concurrent list of all three levels of government. As per the Inter-Governmental Fiscal Arrangement Act, 2017, provinces and local levels each receive 25 percent of the royalties from the federal level collected from the use of natural resources such as mountaineering, forestry, electricity generation, mining, etc.
[8] Also see Box 1 and Box 4.

also received unconditional grants[9] based on expenditure needs and revenue capacity. Based on this experience, fiscal equalization is expected to be the most important type of grant received by provincial and local governments. Despite this, subnational governments have found themselves receiving federal funds more from the conditional grant types than fiscal equalization, contrary to their expectations.[10] Similarly, local governments also anticipated fiscal equalization to have been the largest grant type from their provincial governments, but have been surprised by the balance of funds received.

This paper focuses on context of Nepal's fiscal transfers system, primarily at the federal-to-province level, and this disparity between expectations and experiences in its operation. The remaining sections of this paper are as follows. The second section describes functional and revenue-raising powers and provisions for fiscal transfers in the constitution and legal acts. The third section covers institutional arrangements for fiscal transfers, including provisions of the National Natural Resources and Fiscal Commission and some related fiscal transfer issues. The fourth section describes theoretical aspects of a fiscal transfer system and principles of grant allocation. Section five discusses expenditure needs in the context of Nepal and depicts the theoretical aspects of fiscal equalization grants. The sixth section covers allocation of fiscal transfers and features of fiscal equalization. Sections seven, eight and nine briefly analyze some key data patterns related to expenditure need and revenue potentiality. Section 10 critically analyzes allocation methodology and allocation of fiscal equalization grants to the subfederal levels. Section 11 proposes a new allocation formula and methodology for fiscal equalization

[9] According to the new federal structure, there is no such thing as unconditional grant. However, there is an equalization grant envisioned in the constitution as an unconditional grant.

[10] Out of total fiscal transfers, the ratio of conditional grant to the subfederal units is 54 percent (see Table 3). The schemes and programs of this grant are small. There are dozens of programs and projects below one hundred thousand as well. For details, see also an article in Nepali version https://ekantipur.com/opinion/2020/08/20/159789113425662632.html

distribution and the last section summarizes the assessment of the fiscal transfer system. Note that further important analytical details are available in the appendices.

2. Functional and Revenue-Raising Powers and Provisions for Fiscal Transfers

The Constitution refers to the spheres of competence as: a) exclusively federal functions; b) exclusively provincial functions; c) exclusively local functions; d) concurrent functions of federal and provincial governments; and e) concurrent functions of federal, provincial, and local governments. In its schedules, the Constitution assigns powers and functional responsibilities to the federal, provincial, and local governments. There are 35 functions on the federal list, 21 on the provincial list, 22 on the local government list, 25 on the concurrent federal and provincial list, and 15 on the concurrent of federal, provincial, and local list. Table 1 lists the assignment of some important governmental powers.

Table 1. Exclusive and Concurrent Powers by Assignment

<table>
<tr><th rowspan="2"></th><th rowspan="2">Exclusive Powers</th><th colspan="2">Concurrent Powers</th></tr>
<tr><th>Federal and Provincial</th><th>Federal, Provincial, and Local</th></tr>
<tr><td>Federal</td><td>Defense, central planning, currency, foreign affairs, citizenship, passport, etc. (Schedule 5)</td><td rowspan="2">Civil and criminal procedure, supply and distribution of essential goods, population management, social security, casino, etc. (Schedule 7)</td><td rowspan="3">Cooperatives, education, health, agriculture, irrigation, mines, minerals, disaster management, environment, forest, personal events, archaeology, motor vehicle permits, etc. (Schedule 9)</td></tr>
<tr><td>Provincial</td><td>Provincial police administration, provincial civil service, higher education, provincial-level development activities such as electricity, irrigation, roads, land management, etc. (Schedule 6)</td></tr>
<tr><td>Local</td><td>Town Police, management of local services, basic and secondary education, basic health, local roads, drinking water, etc. (Schedule 8)</td><td></td></tr>
</table>

Source: Constitution of Nepal

Many functional responsibilities assigned to the federal, provincial, and local governments previously overlapped and were duplicated among the spheres of governments. To avoid such confusion and better follow the ‘finance follows the function’ principle, the assignment of each function to one or more levels of government was clearly specified in the constitution. “Who will do what” is the essence of the functional assignment.

Based on ‘subsidiarity’[11] and other principles, such as distinguishing between responsibility of policy, regulation, financing, provision, and production of goods and services, an unbundling exercise was carried out, the results of which are enshrined in the new constitution. This unbundling exercise is the foundation of Nepal's federalism and most federal and subfederal laws and regulations have been made based on these exercises. In Nepal’s federalism, functional responsibilities have been constitutionally devolved to the subfederal levels; however, revenue-raising powers are still centralized, meaning that said powers can be and are subject to different assignments than functions are (Table 2). Indeed, the federal government owns more than 80 percent of all revenue.[12] Analysis of revenue assignments reveals that the constitution assigns most revenue-raising powers to the federal government. However, this does not mean that the federal government *uses* all the revenue it raises. Part of this revenue goes to the subfederal units through the fiscal transfer channel, as Article 60 (2) of the constitution requires that “the Government of

[11] The “subsidiarity” principle states that functions should be assigned to the lowest level of government competent to provide efficient delivery of services.

[12] In overall tax revenue collection, VAT makes a lion contribution of 30.88 percent followed by Customs and other import duties (19.52 percent), Payable by enterprises and corporations (15.47 percent) and Excise (15.14 percent) respectively. Further, the share of taxes on use of goods and permission to use goods is 3.52 percent. The cumulative share of these five taxes is around 85 percent. Simply, as per the Constitution, these five tax headings were designated as exclusive revenue-raising powers of federal government. Further, federal government also retains a greater share from the non-tax headings as well (Devkota, 2017). The centralized revenue issue is also discussed at https://theannapurnaexpress.com/news/nepals-ambiguity-filled-federalism-2205

Nepal shall make necessary arrangements for the equitable distribution of the revenue generated by it from its sources, between the federal, province and the local level entities" (Box 1). The constitution also provides for a National Natural Resources and Fiscal Commission (NNRFC) to manage fiscal transfers, which has been formed and is already working within the scope given by the constitution.[13]

Table 2. Revenue-Raising Powers by Assignment

	Federal	**Provincial**	**Local**
A. Tax Revenue	(1) Custom Duty (2) Excise Duty (3) Value Added Tax (4) Corporate Income Tax (5) Personal Income Tax (6) Remuneration Tax	(1) House and Land Registration Fee (2) Vehicle Tax (3) Entertainment Tax (4) Advertisement Tax (5) Tax on Agricultural Income	(1) Property Tax (2) House Rent Tax (3) House and Land Registration Fee (4) Vehicle Tax (5) Land Tax (Land Revenue) (6) Entertainment Tax (7) Advertisement Tax (8) Business Tax
B. Non-Tax Revenue	(1) Passport Fee (2) Visa Fee (3) Tourism Fee (4) Service Fee (5) Gambling/Lottery (6) Fines and Penalties	(1) Service Fee (2) Tourism Fee (3) Fines and Penalties	(1) Service Fee (2) Tourism Fee (3) Fines and Penalty
C. Other Revenue	(1) Other tax and nontax raised/levied according to federal and other prevailing laws.	(1) Other tax and nontax raised/levied according to the provincial law and other prevailing laws on the provincial jurisdiction.	(1) Other tax and nontax raised/levied according to the local law and other prevailing laws on the local government level jurisdiction.

Source: Devkota (2020).

Box 1: Provision of Fiscal Transfer System in the Constitution

[13] However, full-time office bearers have not been nominated in the two years since the Commission was formed in 2018. The commission also has a lack of subject matter staff and experts. The Commission has not been able to carry out effective work even during the three years since the formation of the Secretariat and the two years since the formation of the Commission. Also see https://theannapurnaexpress.com/news/neglect-of-fiscal-commission-puts-nepals-federal-project-in-jeopardy-2704.

Article 60 of the Constitution spells the provision of intergovernmental fiscal transfer system. The key provisions in the constitution are as follows:

1. "The Government of Nepal shall make necessary arrangements to equitably distribute the revenue generated by it from its sources, between the federation, province and the local level entities". (Article 60 (2))
2. "The amount of the fiscal transfer, the province and the local level entities are to receive shall be as recommended by the National Natural Resources and Fiscal Commission." (Article 60 (3))
3. "The Government of Nepal shall distribute fiscal equalization grants to province and local level entities on the basis of their need for expenditure, their capacity in generating revenue and the efforts made by them." (Article 60 (4))
4. Each province shall, in accordance with the province law, distribute fiscal equalization grants out of the grants received from the Government of Nepal and revenues collected from its sources, based on the need of expenditure and revenue capacity of its subordinate local level. (Article 60 (5))
5. "The Government of Nepal shall make arrangements regarding conditional grants to be provided through the Federal Consolidated Fund, complementary grants, or the special grants for other purposes." (Article 60 (6))
6. "The distribution of revenue between the federal, provincial and the local level entity shall be transparent." (Article 60 (7))
7. “While enacting the Federal Act regarding revenue distribution, the matters that need to be included are: national policy, national needs, the autonomy of provinces and local level entities, the service delivery of the provinces and local level entities and the fiscal rights given to them; their capacity to generate revenue; feasibility and use of revenues; their contribution to development works; regional imbalance; poverty and inequality; exclusion, emergency works and the support of meet temporary needs." (Article 60 (8))

Source: Constitution of Nepal

3. Institutional Arrangement of Fiscal Transfers

The Ministry of Finance is the most influential body over fiscal transfers in almost all countries, including Nepal. However, after Nepal’s transition to federalism, the role of the Ministry of Finance is slightly diminished. Some roles, including grant recommendation, have now been transferred to the National Natural Resources and Fiscal Commission (NNRFC). In the previous unitary system, the Ministry of Finance was assigned for almost all work, but the new constitution provides for the NNRFC to work in the field of fiscal transfers. The commission is the key institution to design and implement intergovernmental fiscal transfer mechanisms that reduce instances of vertical and horizontal fiscal imbalances. Based on its rights, roles and responsibilities as stipulated in Article 251 of the constitution, NNRFC makes recommendations for the implementation of fiscal federalism and the mobilization of natural resources to the three levels of government. In particular, the commission's role is crucial in designing and implementing a balanced and transparent intergovernmental fiscal transfer mechanism and in resolving the potential disputes that may arise between the tiers of government, especially in areas of fiscal sharing and natural resource mobilization (Box 2).

Box 2: Constitutional Mandate of the NNRFC

Part 26 of the Constitution provides for a 'National Natural Resources and Fiscal Commission'[14] comprised of a Chairperson and a maximum of four members appointed by the President on the recommendation of the Constitutional Council[15] for a tenure of six years.[16] The functions, duties and powers of the Commission are[17] to:

(a) Determine extensive grounds and measures, regarding the distribution of revenue from the federal consolidated fund to the federal, provincial, and local level governments according to the constitution and law,
(b) Make recommendations, according to law, on distribution of the equalization grants to provincial and local governments from the federal consolidated fund,
(c) Conduct research and studies about making a basis for distribution of conditional grants to provincial and local governments in compliance with national policy and program and standards, and the state of infrastructure there.
(d) Determine extensive grounds and measures regarding the distribution of revenue between provincial and local governments from the provincial consolidated fund.
(e) Make recommendations regarding the measures of reforms on responsibilities of expenditures and revenue generation between the federal, provincial, and local governments.
(f) Making recommendations about the internal loans the federal, provincial, and local governments may take, by analyzing the economic indexes in totality.
(g) Reviewing the bases of revenue distribution between the federal and provincial governments and making recommendations for reform.
(h) Making recommendations about coordination and mitigation of disputes likely to arise between the federation and province, between the provinces, between a province and local level entity, or between local level entities.

Source: Constitution of Nepal

The commission's main function is to make recommendations on the allocation of fiscal transfers. The government must implement the recommendations of the constitutional commission. Further, the constitution holds that the distribution of grants should be transparent and fair. However, recent

[14] Article 250 of the constitution.
[15] The Prime Minister is the chairperson of the Constitutional Council. The Chief Justice, the Speaker of the House of Representatives, the Chairperson of the National Assembly, the main leader of the Opposition Party and the Deputy Speaker of the House of Representatives are members of the Council.
[16] While a member could be elevated to the position of Chairperson, the Constitution mandates that the combined tenure shall not exceed six years.
[17] Article 251 of the constitution.

debate in the Parliament of Nepal on the issue of fiscal transfers reveals that, thus far, the distribution of grants has been non-transparent and appears unfair, with more grants going to some provinces than others (Box 3).

Box 3: Questions over fiscal Transfers in the Parliament

In the budget session of the FY 2020/21, parliamentarians from Province Two raised their voices that the federal government had disregarded them by making fewer fiscal transfers. In the FY 2020/21, all the provinces have received of Rs 161 billion in transfers, which includes conditional types among others. Out of this total, Province Two has received 14 percent, which means it ranks fourth out of seven provinces. However, looking specifically at fiscal equalization, this province received a grant of Rs 55 billion, the lowest figure of all provinces at only around 13 percent. The parliamentarians questioned why the second largest province in terms of population and the worst-ranked in poverty and other social and humanitarian indicators received the lowest amount. The Finance Minister responded that the distribution was done according to the formula of the Finance Commission (for formula, see Table 7). However, according to commission sources, the government has disregarded not only its grant recommendation but also its allocation formula as well (see Box 9).

In the fiscal transfer system, fiscal equalization grants occupy an important place. Even in the former unitary system, local governments had received such grant. At that time, this grant was called an unconditional grant. Currently, the term "unconditional grant" is not used; instead, the constitution uses the phrase "equalization grant." However, it is important to understand that "equalization grant" is, in fact, synonymous with "unconditional grant."

Article 8 of the Intergovernmental Fiscal Arrangement Act and Article 16 of the National Natural Resources and Fiscal Commission Act elaborate the provision of the fiscal equalization grant. The NNRFC Act stipulates that transfers made to each provincial and local government from the federal government, and from provinces to local governments, are made based on several indicators including human and multi-dimensional poverty indices, an infrastructure index, area revenue capacity, area expenditure needs, and so on (see legal terms in Box 4).

Box 4: The Basis of Equalization Grant Distribution

The Commission shall undertake the following criteria while recommending to the Government of Nepal and the Province while availing fiscal equalization grants by the Government of Nepal to the province and Local Level and by the province to the Local Level under prevailing law:

(a) Human Development Index such as education, health, drinking water of the Province and Local Level,

(b) Status of balanced development of other provinces and Local Levels,

(c) Status of economic, social or any other kinds of discrimination of the province and Local Level,

(d) Status of infrastructure development and necessity of the province and Local Level,

(e) Services to be provided to the people by the province and Local Level,

(f) Condition of revenue and its capacity to be levied of the province and Local Level,

(g) Necessity of expenditures the province and Local Level.

Source: Article 16 of NNRFC Act, 2017

4. Objectives and Core Principle of a Fiscal Transfers System

The main objective of fiscal transfers is to make public service delivery effective. In the areas of education, health, drinking water, sanitation, roads, electricity and other basic services, the goal is for the people to get effective and quality services. Fiscal transfers' aim is to provide fast, efficient, and quality service to the people by fulfilling the responsibilities given by the constitution and law. When distributing grants, granting bodies must consider both vertical and horizontal imbalances, as captured by various fiscal need variables, including socio-economic and revenue factors. In terms of the Nepali constitution, the main aim is to bridge the gap between expenditure needs[18] and revenue capacity.

Fiscal transfers are the main source of revenue for subfederal units in most countries around the world. In most federal countries, revenue-raising rights are relatively decentralized to the

[18] The constitution includes the notion of 'expenditure need.' However, its meaning is not clearly defined in laws related to the fiscal transfer. The paper also discusses the theoretical aspect of the terminology 'expenditure need' (see section five).

subfederal units. By contrast, revenue assignment is more centralized in unitary countries. Where revenue-raising rights are relatively more decentralized, fiscal transfers account for a smaller share of subfederal budgets. For example, in federal countries, the share of transfers is 43 percent; in unitary, it is 53 percent (OECD/UCLG, 2019).[19] In the case of Nepal, 66 percent of revenue of subfederal units come through fiscal transfers.[20] Whether unitary or federal, revenue-raising powers are often centralized. In fact, fiscal transfers are the means to address the vertical fiscal imbalance stemming from centralized revenue-raising rights. In some countries, fiscal transfers are provided for in the constitution, while in others, it is in subsequent legal acts. The issue of determining the proper criteria for fiscal transfers, be it constitutional or legal, is very complex. In different countries and within a single country, the criteria for fiscal transfers vary due to the diversity of subfederal units' demographic and geographical structures, income, availability of natural resources, social structure, level of development, etc. Due to these diversities, it is difficult to make a universally accepted standard for a fiscal transfer system. In fact, a necessary condition of a good fiscal transfer system is that it should address varying fiscal needs and be technically sound. Similarly, it must be politically acceptable as well.[21]

[19] This report further states that in low-income countries, subnational governments are highly dependent on central government transfers and subsidies (60 percent of their revenue in 2016), compared to 46 percent in high-income countries. African subnational governments are also mainly funded by grants and subsidies while in Euro-Asia, the Middle East, and West Asia, grants and subsidies amount only to 40 percent of subnational government revenue on unweighted average. Other regions are on par with the global average.

[20] The figure excludes revenue sharing; if included in the transfers heading, the ratio goes to 79 percent (data derived from 57th Annual Report of Office of Auditor General released in July 2020).

[21] For example: The author worked as a fiscal decentralization expert in the then-Local Bodies Finance Commission and Ministry of Local Development for about 10 years. There were some technical errors in the formula used for the first time in the distribution of unconditional grant to the local government. There were two or three attempts to correct that mistake. However, none of the ministers accepted it. The Ministry of Finance also refused. After four years, the grant pool ceiling was increased and only implemented the improved formula.

The design of systems of intergovernmental fiscal transfer systems[22] is generally recognized as being one of the most challenging tasks within the field of public finance. The specific manner through which a transfer system is developed is often based on a complex mixture of political choices, economic principles, historical reasons, and national contextual factors including the size and structure of the system of governments (Steffensen, 2010). It is paramount for any system of intergovernmental fiscal transfers that the objectives of the transfer system are clearly spelled out and that the system design reflects these objectives. The objectives and the key principles[23] of a transfer system can be grouped as follows (see Boadway and Shah, 2007; Steffensen, 2010; Boex, 2012):

1. *Clarity in stated objectives*: Grant objectives should be clearly and precisely specified.
2. *Preservation of autonomy:* Subfederal governments should have complete independence and flexibility in setting priorities, unconstrained by the categorical structure of programs and uncertainty associated with central decision-making.
3. *Enhancement of equity and fairness:* The transfer funds should vary directly with expenditure need factors such as population poverty, geographical area, lower development indices, etc. and inversely with the tax capacity of each jurisdiction.
4. *Responsiveness*: The grant program should be flexible enough to accommodate unforeseen changes in the fiscal situation of recipients.
5. *Stability:* Without any special circumstances, grants received should never be reduced. Similarly, amounts should not increase sharply. Allocation should be predictable over time – sudden major changes should be avoided.
6. *Transparency*. The pool amount, the formula used in the transfers, the bases and indicators selected for the formula and allocation methods all must be transparent.
7. *Wide dissemination*: Allocation funds should be disseminated widely, to achieve broad consensus on the objectives and operation of the program. This wide dissemination is also essential for institutional credibility.
8. *Neutrality*: The grant design should be neutral with respect to subfederal governments' choices. Grant allocation should be based on objective factors over which individual units have little control.
9. *Simplicity*: The formula and allocation methodology should be easy to understand.
10. *Efficiency*: The design should provide incentives for sound fiscal management and discourage inefficient practices. Specific transfers to finance subfederal government deficits should not be made.

[22] The words "transfers" and "grants" are used interchangeably.
[23] Some of these principles concern mostly equalization/unconditional grants while other concern conditional/ targeted grants. Most of the principles laid down here are related to equalization grants.

11. *Distribution of impact*: Grant amount and programs creates winners and losers. Consideration must be given to identifying beneficiaries and those who will be adversely affected to determine the overall usefulness and sustainability of the program.
12. *Safeguarding of grantor's objectives*: Grantor's objectives are best safeguarded by having grant conditions specify the results to be achieved (output-based grants) and by giving the recipient flexibility in the use of funds.
13. *Affordability*: The grant program must recognize donors' grant constraints. This suggests that matching programs should be closed ended.
14. *Accountability for results*: The grantor must be accountable for the design and operation of the program. The recipient must be accountable to the grantor and its citizens for financial integrity and results – that is, improvements in service delivery performance.
15. *Focus on service delivery*: the allocation factors used in the transfer formula should link to the demand for service delivery and infrastructure based on the number of clients and the cost of providing public services.
16. *Balanced national priorities:* Conditions placed on transfers should balance national objectives and priorities. Grant targets may vary depending on the situation at the subfederal levels. In such a case, the grant can be distributed according to a particular geography, region, and class.
17. *Demand orientation:* The transfer allocation should focus on the demand for local public services (e.g., clients and cost variations) rather than the supply (inputs and infrastructure) of subfederal government services.
18. *Gap-bridging*: In some cases, there is a practice of providing a special grant. Such a grant is necessary in cases that the equalization grant cannot address. This grant should help bridge the gap between the rich and poor subfederal units.
19. *Externality correction or adjustment with public goods provision*: Grants may be used to compensate subfederal units for services they provide, which impact areas beyond their jurisdictions i.e. where there are positive or negative "spillover" effects.
20. *Avoidance of large equal shares:* Excessive reliance on the "equal share" principle as a major allocation factor should be avoided. The actual fiscal need of subfederal units cannot be addressed when most allocations are in the form of an equal share, as this practice is unfair to those subfederal units that have larger expenditure needs.

5. Equalization Grants and Expenditure Needs

There is a provision in the constitution that the Government of Nepal should distribute fiscal equalization grants to the provincial and local governments based on expenditure needs and revenue capacity. However, the laws[24] related to grant distribution have not defined and clarified the concept of expenditure needs. The wording of the constitution has been caried over into

[24] These laws include Intergovernmental Fiscal Arrangement Act, 2017, and National Natural Resources and Fiscal Commission Act, 2017.

subsequent laws. Given the lack of a formal definition in law at this time, this section discusses the concept of ‘expenditure needs’ and the experience of such in other, similar countries.

Consider the COVID-19 pandemic now feared all over the world. Regardless of how many people in an area are infected, the per-person cost of care is relatively inflexible. Similarly, even as more people live in quarantine sites, each person needs roughly need the same amount of food, shelter, basic medicine, etc. The cost per person of living in a quarantine of 100 people is very different from the cost of living in 1000 people. Due to the specific location and geographical complexity, food and medical supplies may cost a little more or a little less per person, but the total cost to the government is essentially a function of population. This is a simple example of the COVID-19 pandemic case, but it illustrates a key point: The first basis of the expenditure needs is people i.e. population size. Even in normal conditions, if there is a larger population, a subfederal unit will need more to cover basic services-related costs. If subfederal units have enough of their own resources to bear this cost, it will not be a problem. However, if the revenue is low then there will be a problem. Even if a jurisdiction has many internal resources, if its population is large its spending needs may still surpass those resources. If internal resources are scarce, grants may need to be increased.

For a further example, if the number of students is greater, the school building needs are likely to be large. A larger number of teachers and staff much would also be needed. Expenses for textbooks and furniture, libraries, playgrounds, etc. increase with the population size. The expenditure needs would be also a larger in other service delivery areas such as health, drinking water, sanitation, public toilets, transportation, etc. Based on this fact, it can be argued, the basic principle that should guide the design of a system of fiscal transfers is that the purpose of transfers is not to finance particular government entities but rather to contribute to effective provision of public services to the local population. Since much of government spending is on basic public services meant for citizens – education, health, and social services – the need for these services will depend on the demographic size. The number of people who reside in a jurisdiction is one of the main indicators of a local need in that area. Quite simply: if we have twice as many people in our jurisdiction, all else equal, we have to provide public services to twice as many residents (Devkota, 2015; Bird & Fiszbein, 1998; Shah & Robin, 2007; Boex, 2012).

A parallel challenge occurs in jurisdictions with larger land areas. Holding everything (including the number of residents) equal, a jurisdiction with a larger land area will typically have greater expenditure needs to provide the same level of services. To generate roughly the same level of public services, the roads will need to be longer and there will need to be more (albeit likely smaller) schools, clinics, and other infrastructure installations. In addition to the greater need for infrastructure, it is likely that the production infrastructure (as well as delivery of public services) will be more expensive. In many cases, a larger land area means higher costs of canals/irrigation, roads/transportation, electricity, etc. It can also result in higher service delivery costs because scale economies are harder to achieve in low density areas and it is more costly to entice public officials to reside in rural areas (Boex, 2012 as cited by Devkota, 2015). Dafflon (2004) makes a similar argument, giving an example of Switzerland, and argues that needs are approximated by two criteria: the larger the proportion of mountainous areas in each canton and the lower its population density, the more "needy" the canton.

Boex and Martinez-Vazquez (2004) define expenditure needs in two dimensions. The first dimension is the definition of the aggregate level of affordable local expenditures or the local fiscal envelope, which imposes a budget constraint. The second dimension is the determination of the approach used to apportion those need measurements across subnational governments for all areas of expenditure responsibilities assigned to them. As they said, the expenditure responsibilities are comprised within the jurisdiction given by the constitution and the law.

The role of fiscal equalization grants is to meet fiscal needs of subfederal units (see Box 5). This is the provision in the constitution of Nepal, and subsequent laws echo this provision even phrased in different ways.

Box 5: The Equalization Role of Grants

Grants may be inherently useful in a federation in which fiscal responsibilities have been decentralized to the regions. Decentralization of expenditure and revenue raising inevitably creates different fiscal capacities across regions, making it impossible for them to provide comparable levels of public services at comparable rates of taxation. To provide a given level of public services, different regions require different amounts of spending per capita, for two reasons. First, because the composition of the population differs across regions, the need for public services that are targeted to particular types of people (school-age children, the elderly, the ill, the disabled, the unemployed) differs. Second, the cost of providing a given level of public services differs, because wage costs, transportation costs, population densities, and other factors differ across regions. On the revenue-raising side, different tax bases per capita across regions generally require different tax rates to generate comparable levels of revenue per capita.

Source: Boadway and Shah (2007)

6. Fiscal Transfers Allocation and Features of Fiscal Equalization Grants

The detail of the budgeted fiscal transfers to the subfederal governments in FY 2019-20 and 2020-21 is presented in Table 3. The table shows that the subfederal units have received around one-third of the federal budget. As compared to FY 2019-20, the ratio of fiscal transfer to GDP has decreased in FY 2020-21. In FY 2020-21, the total size of the federal budget was Rs 1,532 billion. Due to COVID-19, the numeric size of the federal budget declined to Rs 1,474 billion in FY 2020-21. The size of the federal budget has decreased compared to the previous year; however, the estimated size of the GDP has increased.[25] Although the fiscal transfer ratio has decreased in proportion to the GDP in 2020-21, the numeric figure of transfers to the subfederal level has increased from Rs 464 billion (FY 2019-20) to Rs 485 billion in FY 2020-21. In fact, the 11 percent to 12 percent of GDP received by subfederal levels in Nepal as fiscal transfers is much higher than in most of federal countries.[26] However, it is equally important to retain the principle that finance follows the function in the transfers as well.

Table 3. Intergovernmental Transfers (budgeted): Vertical Shares (Rs, billion and percentage)

	Provincial		**Local**		**Subfederal Total**	
	2019-20	2020-21	2019-20	2020-21	2019-20	2020-21
Fiscal equalization grant	55.3	55.19	89.95	90.5	145.25	145.69
Conditional grant	44.55	36.35	124	161	168.55	197.35
Special grant	5	3.14	5	6.83	10	9.97
Matching grant	5	5.19	5	4.78	10	9.97
Revenue sharing	65	61.07	65	61.07	130	122.14
Total	175	161	289	324	464	485
Percent of federal budget	11.41	10.92	18.86	21.99	30.27	32.91
Percent of GDP	4.64	3.72	7.67	7.48	12.31	11.20

Source: Devkota (2020)

The role of the fiscal equalization grant is most important in the intergovernmental fiscal transfers system. Since there is no condition to this grant, the subfederal units also expect the higher ceiling as well. In the case of Nepal, its national government has distributed 9.88 percent of its total budget to the provincial and local levels in the form of fiscal equalization grants in the FY 2020/21. Out of that total, the provincial and local level receive 3.74 percent and 6.14 percent, respectively.

[25] The Central Bureau of Statistics (CBS) estimates that the 2019-20 GDP will be Rs 3,767 billion. The CBS has not yet estimated the GDP for FY 2020-21. However, for the GDP estimation for the FY 2020-21, the economic growth and inflation rate were considered at 5 percent and 7 percent, respectively. Although the Government of Nepal estimates that the economic growth rate will be 7 percent in 2020-21, the projection of IMF is around 5 percent. The IMF estimation is considered for the GDP estimation. The inflation estimates derive from the government.

[26] According to the Government Finance Statistics (GFS) portal on the IMF E-Library, in terms of federal transfers as a share of GDP, Nepal is only second to Belgium, where federal transfers were over 14 percent of GDP and over half of the federal budget as of 2018.

Key features of fiscal equalization transfer in federal Nepal are presented in Table 4, highlighting objectives, constitutional status and legislation among other benchmarks. The provision of equalization grants is clearly mentioned in the constitution. In line with the constitution, federal parliament has enacted laws for distribution of grants, enforced via the. The National Natural Resources and Fiscal Commission (NNRFC).

Table 4: Features of Fiscal Equalization Transfer in Nepal

Benchmark	**Status**	**Remarks**
Objective	Yes	To bridge the gap between expenditure need and revenue capacity.
Constitutional Status	Yes	The provision of equalization grants is clearly discussed in the constitution itself.
Legislation	Yes	There is a legal provision in this regard. Parliament has enacted the law.
Independent agency	Yes	As a constitutional body, the NNRFC is in place.
Paternal	Yes	Nepal has a paternal type structure, in which the federal government transfers to subfederal levels and provinces to the local level.
Total pool determination	Partial yes	The resource committee chaired by the vice-chair of the National Planning Commission has some authority. However, the federal government determines the total pool arbitrarily.
Pool and allocation determination standard	No	There is no legal provision. It is determined arbitrarily.
Allocation formula	Yes	It was also used under the unitary system. Now the NNRFC has developed one.
Fixed allocation	Yes	It is 25 percent of the total grant pool.
Performance allocation	Partial yes	In FY 2019/20, it was introduced nominally; however, the government did not implement it in 2020/21. This method was applied in the previous unitary system and was very popular.
Expenditure need equalization	Yes	Despite some problems, there are indicators of grant distribution moving in the same direction as expenditure need equalization.
Revenue equalization	Yes	There is a provision in the constitution; however, it has not been properly implemented yet.
Political consensus	Yes	There is consensus seeking through Parliament and the NNRFC.
Government intervention	Partial yes	For the first time in Nepal’s grant distribution history, the government intervened in setting the pool size for FY 2020/21.

Benchmark	Status	Remarks
		The NNRFC's recommendation on the fund pool was not implemented.
Sunset clause	No	Such arrangement is in the 'revenue sharing' provision (for five years), but not in the fiscal equalization provision.
Dispute resolution agency	Yes	Disputes are resolved by the Constitutional Bench of the Supreme Court.

Source: Author's compilation, 2020

Nepal's fiscal equalization transfer system is a paternal type. The practice of providing fiscal equalization grants (unconditional grants) to lower tiers by the upper tier government has been adopted since early 1980. There is no formal or informal mechanism (horizontal allocation) to share resources from one set of subfederal governments to the same type of subfederal governments.[27] As far as the total pool determination is concerned, there is no formal rule to determine how much of the total tax revenues should be shared between the federal, provincial, and local levels. The federal government, specifically the Ministry of Finance, decides the proportion of state tax resources among the three tiers of governments. Of course, there is a resource committee under the leadership of the vice-chair of the National Planning Commission to deal in this matter. However, this committee sets the annual total budget of the federal government, including current expenditure and capital expenditure. The NNRFC sets the allocation formula including fixed and additional allocation.[28] Furthermore, Nepal had experience implementing performance-based allocations in the past;[29] however, after federalization, it failed

[27] For the first time in 2018, the Kathmandu Metropolitan City provided Rs 10 million each to 10 surrounding municipalities. In 2019, it provided a grant to only one municipality.

[28] Article 16 of the NNRFC Act stipulates that minimum grants and additional grants should be recommended while providing the total fiscal equalization grant recommendations for the subfederal units.

[29] This system was implemented at the local level in the then-unitary system. Out of the total unconditional capital grant, 70 percent was based on performance. In the new setup, the NNRFC Act stipulates that performance measurement should also be taken as a basis while recommending a grant amount. In the FY 2020/21 recommendation, the NNRFC has proposed a 3.8 percent performance grant amount from the total pool. However, neither the performance nor the total pool was implemented (see Box 9).

to establish continuity of this practice. With substantial efforts in the new federal set up, it was implemented at the local level in FY 2019/20. Out of the total pool, performance allocation was only 2.5 percent.[30] In FY 2020/21, the NNRFC has recommended to increase the performance component from 2.5 percent to 3.8 percent of the total pool for the local and provincial governments. However, the federal government declined to implement this recommendation.[31]

There is a provision in the constitution that expenditure needs and revenue capacity should be taken as the basis while distributing fiscal equalization grant. However, the meaning of 'expenditure needs' have not been clearly defined in the law (see section 5 and Box 4). In fact, it is necessary to have continuous discussions among the organs of government including the commission on the distribution of grants. Of course, there is no need for political discussion and debate on the distribution of grants if allocation formulae and methods have already been made part of law. It becomes a different matter for the parliamentarians to raise issues in the parliament.[32] The government's interference in the distribution of unconditional grant was not seen in the unitary system; however, it was observed in FY 2020/21 (also see Box 9).

There is no time limit (sunset clause) in the power to recommend fiscal equalization grant amounts. Each year, the NNRFC can recommend new bases and criteria for equalization grants. However, such an arrangement is unfair and promotes instability. By contrast, the law stipulates that the bases and criteria for revenue sharing must be set for five years. In cases of dispute over the distribution of grants, there is a provision of a constitutional bench in the Supreme Court for resolving it. So far, no case has been filed in the court to date.

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[30] For the performance evaluation, three indicators were considered, including budget approval on time, expenditure in the last fiscal year, and projection of revenue and expenditure.
[31] In this regard, the government's view is that the grant has been reduced slightly due to decrease in revenue collection by COVID-19 pandemic.
[32] See Box 3 and https://www.onlinekhabar.com/2020/08/888907.

7. Subfederal Levels' Population, Geography, and Other Socioeconomic Aspects

The next issue in analyzing the balance of Nepal's fiscal transfers, especially fiscal equalization grants, is that of the role of geography, demography, and other fiscal need variables. Provincial-level data sets have been used to critically analyze fiscal equalization grant level-setting. This provincial-level grant receipt remains the emphasis of the analysis, though subsequent grants local governments were also considered when relevant.

Table 5 presents provincial details including population and land area. Bagmati province has the highest population at 21 percent, followed by Province Two (20 percent) and Province One (17 percent). Karnali and Gandaki provinces have the lowest, with only 7 percent and 9 percent of the country respectively. The largest share of land area is in Karnali (22 percent) followed by Province One (18 percent) and Gandaki (15 percent). Province Two has the least land area (7 percent). Note that in Province One, the share of national population and land area are almost equal, and these two factors are the most important expenditure need variables in grant distribution. Province Two has the highest population density, three times that of the national average, 180 persons per square kilometer.

Table 5: Brief Geographic and Demographic Profile of Provinces

Province	Population (000s)	Area (sq. km.)	Density (per sq. km.)	Local gov'ts	Wards	Prov. assembly members
One	4,535 (17.1)	25,905 (17.6)	175	137	1157 (17.2)	93
Two	5,404 (20.4)	9,661 (6.5)	559	136	1271 (18.8)	107
Bagmati	5,529 (20.9)	20,300 (13.8)	272	119	1121 (16.6)	110
Gandaki	2,404 (9.1)	22,585 (15.3)	112	85	759 (11.3)	60
Lumbini	4,499 (17)	17,318 (11.7)	202	109	983 (14.6)	87
Karnali	1,570 (5.9)	31,873 (21.6)	56	79	718 (10.6)	40
Sudurpaschim	2,553 (9.6)	19,874 (13.5)	131	88	734 (10.9)	53
Nepal	26,495	1,47,516	180	753	6743	550

Source: Government of Nepal, various sources. Note: Figures in parenthesis include percent.

The details of local governments including population and land area[33] are included in Appendix 1. Out of total 753 local entities, there are 460 Rural Municipalities, 276 Municipalities, 11 Sub-Metropolitan Cities and 6 Metropolitan Cities. Province One has the highest number of local governments with 137, followed closely by Province Two with 136 local governments. At the other extreme, Karnali Province, despite having the largest geographical area, has only 79 local level governments. The key service delivery mechanism of local government is the ward[34] level office. There are 6,743 wards in Nepal. During the restructuring of local governments, the former VDCs[35] have been transformed into wards. Province Two has the largest number of wards (18.8 percent) and Karnali the smaller (14.6 percent). In terms of local level population and land areas, the largest and the smallest five local jurisdictions are included in Appendix 5.

Regarding the wards within each local government, the more wards there are, the more access people have to municipal services. The population count each ward serves varies by province: for example, a ward in Bagmati province serves around 4,900 people, while in Karnali, a ward serves around 2,200. Wards' physical size also varies, with a ward in Karnali covering 35 square kilometers (sq. km) but one in Province Two containing only 7 sq. km. Population and land area have their own importance in providing services to the people. Having a large population costs more. Similarly, if land area being served increases, that service costs more per unit. In a related but less linear issue, the size of a provincial assembly also influences costs, due to the need to pay

[33] There are different figures on the population sizes in Table 5 and Appendix 1. Table 5 also includes institutional population (army, police, government officials, etc.). However, the appendix excludes these figures. Similarly, differences can also be seen in land area. Forests, hills, mountains, rivers, etc. have been excluded in some of the local government data sets (Appendix 1). Table 5 includes the total land area of the country.

[34] Wards are the smallest Local governments units in Nepal. Most of the former Rural Municipality (VDCs) have now been converted to wards. It is important to understand a ward serves as a crucial service delivery center.

[35] While determining the number wards, the constitution charges the government of Nepal to find a way to establish at least five and a maximum of twenty-one wards in a rural municipality and at least nine and a maximum of thirty-five wards in an urban municipality.

or administration. Bagmati province has the largest provincial assembly at 110 members, while Karnali has the lowest at 40 members. It is important to look at such aspects seriously in the distribution of grants.

Out of a total of 753 local governments' populations, the largest five account for around 10 percent. The Kathmandu Metropolitan city (the capital city) alone accounts for about 4 percent. Similarly, the largest five governments in land area comprise around 7 percent of country's local level land area. By contrast, the Namkha rural municipality includes around 2 percent of national land area, which makes it almost 50 times larger than Kathmandu Metropolitan city. Local level governments' population varies from 538 to around one million and land area from seven square kilometers to 2,420 square kilometers (see Appendix 5).

Not only do population and land area vary across provinces and local governments, but so do economic, social, and human and infrastructure related indicators (brief socio-economic profiles of each province are included in Appendix 2). Analyzing these indicators, Karnali appears to be the most disadvantaged province followed by Province Two and Sudhurpaschim. On the other end of the spectrum, the Bagmati province seems to be the most capable followed by Gandaki and Province One. The situation is similar at the local levels, with those falling in the more advantaged provinces tending to have a stronger position and vice versa.

8. Remoteness and Level-Cost Differences Among Subfederal Units

Nepal's geography is peculiar, as 17 percent of the total geography is plains. The southern part of Nepal borders with India, a region called Terai. Most of the nation's territory borders China. The northern part of the country is called the Himalayan region, whose area is 15 percent of the country's total. The world's eight highest mountains, including Mount Everest, are in this region. Finally, the middle part of the country is called hilly terrain. Kathmandu, the capital of Nepal, falls in this area. Road transport has not yet reached many places in the Himalayan region. Consumer and producer goods must be transported by air, horse, or mule. The price of every commodity including food, clothes, and construction materials is more expensive in the mountains than in the Terai and hills. The price of a bag of cement in the Terai is Rs 800 and in the Himalayan region it is Rs 5500. However, the population size in this region is lower and the settlements are very scattered, meaning more (small) infrastructure emplacements are required. Similarly, if a new track of one kilometer of road has to be opened for construction, it will cost at least Rs seven to eight million in the Himalayan region; in the Terai region, the same length of road does not cost even Rs one million. Provision of service delivery such as roads, drinking water, schools, health posts, canals, settlement development, etc. is uniformly more expensive in the Himalayan region, meaning the average cost for the service flow and development of every sector is higher. Considering this situation, a cost indicator was used in the grant distribution in the previous unitary system and seems merited in the new system as well.[36]

It is important to look at this geographical aspect in the context of the provinces as well. The level of costs in and cost indices for each province is presented in Appendix 3. These indices show that Karnali has the highest level of costs, followed by Sudhurpaschim and Province One. The situation is the same at the local level. The cost level in local in government units of Karnali is very high, while the cost level is lower for local government units located in the Terai region and in the larger, market-oriented cities. Overall, Karnali province faces the most challenges, followed by Province Two and Sudhurpaschim. It is important to bring these provinces into the mainstream of development (see Box 6). Further, it is equally necessary to pay these provinces and their

[36] The index was designed using a basket of items consisting of construction materials and service the cost of personnel. For the provincial level indices, see Appendix 3.

circumstances special attention in designing fiscal transfers, including formulae for fiscal equalization grants.

Box 6: Mainstreaming Underdeveloped Provinces

Karnali, Province Two and Sudhurpaschim consistently rank the lowest in almost all socio-economic variables. Simply, these provinces are underdeveloped, meaning that these provinces should be targeted for specific additional support. The fiscal equalization formula should be designed in such a way that these provinces receive more per capita in their grants. It is necessary to bring these provinces into the mainstream of development through not only fiscal equalization grants, but also other grants and programs including special grants.

9. Subfederal Units' Own-Source Revenues, Total Revenues and Expenditures

The constitution spells out that revenue capacity should be the main basis for the distribution of fiscal equalization grants. Thus, to consider the ideal formula for fiscal equalization grants, it is necessary to consider the revenue[37] of subfederal levels. In this section, own-source revenues of the subfederal levels are analyzed briefly relative to their total revenues and expenditures. FY 2018/19 data from the Office of the Auditor General (OAG)[38] is taken as the basis, as shown in Table 6. Own-source revenues of provincial and local governments were Rs 24.88 billion and Rs 26.73 billion respectively in this period. Out of the total incomes of provincial and local governments, the share of own-source revenues is 10.86 percent and 7.80 percent, respectively. After including revenue sharing, the ratio rises to 30.31 percent for provinces and 22.03 percent

[37] See Table 2 for the revenue-raising powers assigned to provincial and local governments.

[38] This is a constitutional organ. Its main function is to audit expenditures incurred by all three levels of government. It submits its annual report to the President every year. The information quoted here is from its 57th Annual Report submitted in July 2020. The revenue quoted here also includes revenue sharing figures received from the federal government on Value Added Tax (VAT) and excise duty headings. Of the total divisible pool collected from revenues from these headings, the provincial and local government levels each get 15 percent. In terms of local levels details, the OAG has analyzed 747 local governments (of 753).

for local governments.[39] The ratio of local governments' revenues and expenditures to general government revenues and expenditures is higher than for the provinces. Similarly, the ratio of local government expenditures to GDP (7.78 percent) is higher than the provincial ratio of 3.24 percent. Moreover, the ratio of local government expenditures per person for the local level is higher than the province. Note that provinces formulated their first annual budget in FY 2018/19. Actual revenues (FY 2018/19) of the provinces was Rs 229 billion. In FY 2019/20, the provinces adopted annual budgets of Rs 260 billion. Detailed information on actual revenues and expenditures of FY 2019/20 are yet to be published by the relevant agency. In the current fiscal year 2020/21, provinces have adopted total budgets of Rs 264 billion.

Table 6: Income and Expenditure of Subfederal Levels (Rs, billion, FY 2018/19)

Income and Expenditure	Rs, billion		Per person (Rs, 000)[40]	
	Province	**Local**	**Province**	**Local**
Revenues				
Fiscal transfers[41]	115.00	225.94	4.34	8.61
Revenue sharing[42]	44.54	48.78	1.68	1.86
Own-source revenues	24.88	26.73	0.94	1.02
Cash balance[43]	44.58	41.25	1.68	1.57
Total	229.00	342.70	8.64	13.06
Expenditures	112.08	269.04	4.23	10.25
% of own-source revenue to total revenues	10.86	7.80		
% of own-source and shared revenues to total	30.31	22.03		

[39] Revenue sharing is the division of tax revenue collected from VAT and excise duties. The federal government collects and shares this revenue with the subfederal governments. The Ministry of Finance and NNRFC publications have categorized it as a fiscal transfer. However, in the report of the OAG, it has been included within the classification of subfederal governments' revenue. The subfederal governments have also taken it as their own revenue. Since the federal government shares this revenue with some conditions, there is definitely reason to argue for considering it as a grant, with more discussion needed to settle this matter.

[40] While calculating per person figures, institutional population is not included at the local level. However, it is included in the province. As for the population figures, the census data of 2011 is used. The analysis shows how much per capita grant the province and local level of Nepal have received.

[41] In case of local transfers, transfers from the province to the locality is also included. Out of total local figure of Rs 225.94 billion, province shares include around 7 percent.

[42] Out of the total local government revenue sharing figure of Rs 48.78 billion, around 10.5 percent includes vehicles tax revenue sharing from the province.

[43] The budget/resources not spent last year is called "cash balance." This includes fiscal equalization grant, internal revenue, and revenue sharing movies. Other grant types return to the granting body.

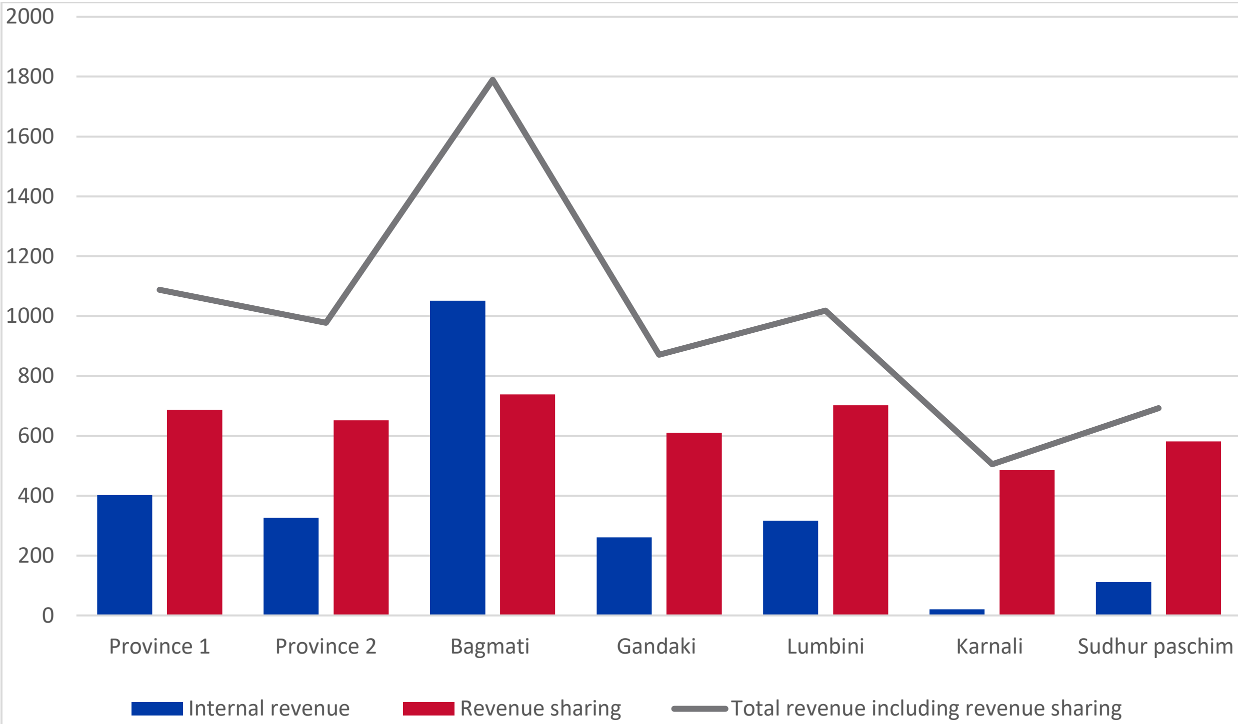
Income and Expenditure	Rs, billion		Per person (Rs, 000)[40]	
	Province	**Local**	**Province**	**Local**
% of expenditures to general government expenditures	10.01	24.02		
% of expenditure to national GDP	3.24	7.78		

Source: Author's analysis based on 57th Annual report of Office of the Auditor General.

In the table above, the internal revenue of seven provinces comprises Rs 24.88 billion. Including revenue sharing, it goes to Rs 69.42 billion. The internal revenue was collected by the provinces themselves, while the revenue sharing figure was collected and distributed by the federal government. The actual internal revenue collection by the provinces in FY 2018/19 is depicted in Figure 2. The figure also includes total revenue and shows that the low internal revenue of the provinces is compensated by revenue sharing. The figure shows that Bagmati occupies the strongest position in internal revenue, followed by Province One and Province Two respectively. On the other hand, the own-source revenue of Karnali is very low, at only Rs 200 million. The Bagmati province also ranks highest in revenue collections to the national treasury. The federal government collects more than half of the national revenue (51.27 percent) from Bagmati province, while Province Two and Lumbini province contribute nearly one-fifth (18 percent) of total revenue. Karnali's share is nominal at only 0.20 percent. This variance in capacity to raise provincial revenue has been observed in the literature as well (Devkota & Acharya 2018). Note that this analysis also includes revenue patterns collected from the customs points.[44] As stated in footnote 39, the Government of Nepal and the fiscal commission pronounce this as a fiscal transfer category. However, the reports of the Office of the Auditor General and the subfederal governments use this as an internal revenue category, meaning a fiscal equalization system should include clarity on this issue.

[44] Nepal's revenue collection is heavily based on international trade. About 50 percent of the revenue is collected from customs points.

Figure 2: Revenues of Provinces (Rs 10 Million)



Source: Author's analysis based on 57th Annual report of Office of the Auditor General, 2020.

10. Analysis of a Fiscal Equalization Grant

The constitution states that fiscal equalization grants should be allocated based on the expenditure needs and revenue capacity of subfederal units. In this regard, the NNRFC Act has also given some explanations of these concept (see Box 1). The law stipulates that the distribution of this grant type should be based on the socio-economic, human development and revenue aspects of subfederal units. The law also includes constitutional provision for taking into consideration expenditure needs. However, there is no explanation on the meaning of "expenditure need." It is important to understand that while in the literature and other countries' practice, this is well-established as a matter of demographics, land area, development patterns, etc. (see also sections 4 and 5), the establishment of a precise, legal definition in Nepal remains an important component to the development of equalization grant formulae and methods. The law also stipulates that a minimum grant amount should also be proposed while recommending each fiscal equalization grant. To address this provision, the NNRFC has recommended 25 percent the total fiscal equalization pool be dedicated for the minimum allocation.[45] The remaining 75 percent has been allocated based on the criteria listed in Table 7. The minimum allocation for the local level is different.[46] In previous fiscal years, the allocation formula for the provinces was different from the one for the local level but it has been made a similar one in the current fiscal year (FY 2020/21). The allocation formula for the local level is roughly similar to previous fiscal years; however, for the province it is slightly different (Table 7). Provincial governments were formed towards the end of last quarter in FY 2017/18. In that time, the federal government transferred Rs 1.02 billion fiscal equalization grant to each province. The distribution has been based on NNRFC recommendation only from FY 2018/19. Table 7 shows the five variables used in the allocation. The greatest weight is given to the expenditure need variable. Unfortunately, not all of these indicators are clearly explained, and the numeric values of these indicators are not even disclosed in the NNRFC recommendations, instead having only immaterial explanations (Box 7).

Table 7: Fiscal Equalization Grant Allocation Formula for the Provinces and Local

S.N.	Criteria	FY 2018/19 & 019/20		FY 2020/21
		Province	Local	Province & Local
1	Multidimensional Poverty Index	15		
	Human Development Index		15	10
2	Economic and social inequality	15	5	5
3	Status of infrastructure development	10	10	10
4	Status of revenue	0	0	5
5	Expenditure need	60	70	70
	Total	100	100	100

Source: NNRFC.

Box 7: Explanation of Expenditure Need

[45] While distributing the minimum allocation, the population and land area has been given equal weight of 50 percent each.

[46] Population factor has been considered when distributing minimum allocation to the local level. Rs 25 million (Rs 20 million in previous fiscal years) and Rs 27.5 million (Rs 22.5 million in previous fiscal years) have been given to those with a population of less than 10,000 and population of 10,000 to 20,000 respectively. Similarly, Rs 112.5 million (Rs 110 million in previous fiscal years) has been allocation to those whose population exceeds 500,000.

In order to assess expenditure need at the provincial and local levels, the study conducted by the Commission on the FY 2018/19 expenditures has been taken as the basis. In addition, a comparative study and analysis of the own-source revenue collected in each province and local level unit and the amount received from the revenue sharing has been done while analyzing the expenditure. Thus, the province and local level should provide daily services including education, health, drinking water, infrastructure, public service as per the responsibility given by the constitution and the proper development work of the area should be done in a balanced manner. Such province and local level units should be brought to the average level in terms of development. Therefore, 70 percent weight has been given for this indicator.

Source: NNRFC fiscal equalization grant recommendation sheet, page, 14, FY 2020/21.

Under the revenue heading, the recommendation document states that all provinces and local government units have made reasonable effort for the collection of revenue and therefore, equal amounts are given for this indicator. If this is the case and equal grants are issued to all parties, there would be no need to use a formula in case of giving equal grant to everyone, and it would be more efficient to simply increase the ceiling of the fixed (minimum) allocation pool. The document does not do so and also remains silent as to its reasons.

Similarly, an explanation for why details of the prior year's formula had to be changed is entirely lacking. It is generally held to be a best practice, as previously discussed, to hold allocation formulae stable when possible. There is not much difference between last year and current year's fiscal equalization pool of province and local levels (see Table 3 for the total allocation pool). Even if there had been some substantive change in these details of the provinces, when the indicators and allocation weight of the formula changes it is difficult to see how they had any relation to the final amounts granted (see Appendix 4).

Furthermore, the choice of which development or poverty index to rely upon and why is not transparent. The correlation coefficient between the Multidimensional Poverty Index (MPI)[47] and the inverse of the Human Development Index (HDI)[48] is 86 percent (see Appendix 8). Statistically, it does not seem to make any sense to change between the MPI and HDI. In aggregate terms, there is not much differences using either MPI or the inverse of the HDI. However, particular provinces and local levels can be affected seriously when replacing MPI with reversed HDI. For example, 51 percent and 48 percent people from Karnali province and Province Two are poor according to the MPI (see Appendix 2). In previous years, the MPI was used for the province and the HDI for the local levels. It seems the same indicator is now used for both the provincial and local levels, but the reasons for and impact of this change has not been closely analyzed or even discussed by the NNRFC.[49]

A brief analysis of fiscal equalization grants for the provincial and local levels is presented in Appendix 4. The provincial-level grant analysis reveals that Karnali is getting the larger share over the years while Province Two has received the lowest amount. The allocation for the latter province is not consistent with the data examined in section 7 and Appendix 2.[50] Further, in terms of local

[47] Following the indicators of the global MPI, the Nepal MPI includes multiple indicators related to health, education, and living standards. The NPC computations show that 28.6 percent of Nepal's population is multidimensionally poor. The indicators that contribute most to multidimensional poverty in Nepal are undernutrition and households that lack any member who has completed five years of schooling (for detail see https://www.npc.gov.np/images/category/Nepal_MPI.pdf)

[48] For the values of MPI and HDI in various areas, see Appendix 2.

[49] The MPI is the recent report and speaks the current situations. However, the HDI report is the old version (almost one decade before, prepared using 2011 census data). The HDI report is more standard than the MPI. In such a situation better to find the meeting point of both the reports. This paper has done so in deriving the weighted poverty index.

[50] Keeping other things same, this province will get 13.5 percent if the weighted values for population and land area are given equal weight (50 percent each). However, this province has received only 12.7 percent of equalization grants. Further, this province is very poor in terms of other socio-human variables. If there is to be real equalization,

level analysis, the allocation is not supportive to some of the bigger local governments in terms of population, such as Kathmandu, Birgunj, Janakpur, etc. Moreover, the allocation is not friendly to the largest local governments in terms of land area (see Appendix 5). The correlation analysis of the provincial fiscal equalization grant and expenditure need variables for the provinces is included in Appendix 8. The analysis reveals that the allocation is not supportive to higher populations and poor people[51] (see Box 8). Further, the grant distribution has the nominal effect (only 3 percent) in the fiscal gap analysis derived from the actual revenue and expenditure of the FY 2018/19. The actual revenue and expenditure of FY 2019/20 has not been made public yet.

The inverse problem appears with the allocations to local level entities. A correlation analysis for grants to local government is reported in Appendix 9. This analysis shows that the allocation is responsive to population and the number of poor persons (positive correlation). However, there is a negative correlation with land area.[52] What these facts show is that the land area has been given more importance in the provinces and population more importance for the local level, with the apparent exception of Kathmandu metropolitan city, whose per capita grant is very low (also see Appendices 5 and 14).

As with the provinces, local level findings may be estimated from a simple arithmetic tool. Other things remaining the same, consider a scenario with a weightage value for population of 95 percent and for only 5 percent land area, resulting in a grant amount of Rs 90 billion (fiscal equalization pool allocated for the FY 2020/21). The Namkha rural municipality would get Rs 92.2 million

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the per person grant of this province should be relatively higher than other, more developed provinces (see Appendix 15).

[51] The NNRFC has complained that their recommendation (both formula and grant pool) was not implemented in FY 2020/21. The NNRFC recommendation figure was also correlated with the population and geographical area. It is found that the recommendation pool is positively correlated (80 percent) with the geographical area and negatively correlated (-58 percent) with the population.

[52] The NNRFC recommendation figure for the FY 2020/21 is positively correlation (around 90 percent) with the population and negatively correlation with the land area (-0.09 percent).

from this estimation. In reality, though, it received only Rs 67.2 million. Similarly, Mugumakarmarog, Phaktanglung, Chumanubri and Khumbu Pasanglhamu rural municipalities would receive Rs 86.8, Rs 100, Rs 76.7 and Rs 79.9 million respectively. Instead, they have in fact received very little fund authorization (see Appendix 4 for fund amount).

All these local level units are in the northern part (bordering with China/Tibet) of the country. The road network has not reached there yet and all kinds of infrastructure, including social and economic infrastructures, is in dire condition. The revenue sources of these local levels are very poor. The prices of all kinds of items, including food, is quite high. Public life is very difficult here. These conditions mean that local level units need *more* in fiscal equalization grant than others, not the relatively small shares observed both in the Himalayan and Hilly regions.

Box 8: Correlation Analysis of Fiscal Equalization Grant and Expenditure Need Variables

The correlation between the annual allocation and the need-based variables for province is included in Appendix 8. The allocation is positively correlated with the land area (47 percent to 80 percent). However, it is negatively correlated with the population (57 percent to 78 percent). This reveals that the allocation is not population friendly.[53]

Further, the allocation is positively correlated with the MPI and Poverty index (reversed HDI). However, it is negatively correlated with the number of poor people derived from the MPI and HDI, which should not be possible and is contrary to the principles, practices, and objectives of grant distribution. In the context of Nepal, it is against the spirit of the constitution. It illustrates that the poverty index is used as the basis for distribution but is not weighted with expenditure need variables such as population, area, poor people, etc.

In terms of local government allocation, it is not supportive to the land area (Appendix 9) and the allocation is not friendly to those people living in the Hilly region. For example, Namkha, Mugumakarmarog, Phaktanglung, Chumanubri and Khumbu Pasanglhamu have received only nominal shares. All else equal, when assigning 95 percent weight to population and only 5 percent to land area, these local level units would get much more than what they have received in the FY 2020/21.

[53] This finding is consistent with the descriptive Tables 5 and 8 as well. Karnali has received grant amounts nearly three times larger than the population ratio. Province Two, where around 50 percent of the people are below the poverty line (see Appendix 2) and with 20.40 percent the population ratio of the country has received a grant of only 12.72 percent.

The simulation analysis of fiscal equalization grant reveals that there are weaknesses and flaws in the allocation. Although the constitution has mandated that the fiscal equalization grant recommendation should be based on expenditure needs and revenue capacity of subfederal levels, analysis demonstrates that the horizontal distribution of recommendations is not fair,[54] regardless that, for the first time in the FY 2020/21, the commission's recommendation was not implemented[55] (see Box 9). After the grant amount was given by the NNRFC formally, the recommendation of the Constitutional Commission must be implemented. There is no alternative. If there is a problem of revenue source, it should have been discussed. In fact, the recommendation of the NNRFC was devalued and not followed with minimal explanation (see Box 9).

Box 9: The Government Devalued the Recommendation of the NNRFC

The government provided a fiscal equalization grant ceiling to the commission to horizontally distribute Rs 57.57 billion for the provinces and Rs 93.74 billion for the local government in FY 2020/21. As per the ceiling, the commission recommended grants. However, the government then distributed Rs 55.19 billion to the provinces and Rs 89.95 billion to the local level. The government did not follow the ceiling itself. If there was any mistake in the recommendation, the commission should have been told to improve. It should have been corrected, or the government itself should have been able to show it by improving it well. The constitution and law do not allow simple dismissal of NNRFC recommendations. However, if the commission did not provide such corrections, it could have been done with good intention. In fact, it is unfortunate that the recommendation by the constitutional body is not implemented. The commission did not say a word formally that the government had not implemented its recommendation. The constitutional commission seemed to instead be in the shadow of the government, the first such incident for Nepal. On the contrary, the government never devalued the recommendations of the commission constituted by law in the pre-

[54] The recommendation of FY 2020/21 was produced after the formation of the commission. The recommendations of the previous fiscal years were made by the Secretariat of the Commission. There is a problem with the recommendation from the beginning. The recommendation for the FY 2020/21 has also been based on previous fiscal years' ground.

[55] The Ministry of Finance explanation is that the commission recommended the grants without adequate discussion with the ministry.

federalization period.[56] Most countries do not have such constitutional commissions for the fiscal transfer mechanism, and it seems that merely having a constitutional commission does not mean much if it is not obeyed.

The weaknesses seen in the distribution of equalization grants for both the provinces and local levels need to be reviewed seriously. There may be possibility of a mistake in the fiscal equalization grant in local level distribution from the provincial[57] sources. Therefore, not only grants to the province and local levels from the federal, but also from the provinces to the local level also need to be reviewed in future.

11. Proposal for the New Allocation Formula

Based on the analysis in the previous sections, the following section proposes a formula for the equalization grant to the subfederal levels (province and local). The allocation methodology is as follows:

$$Y = \alpha + \beta_i X_i$$

where

Y = Total pool of equalization grants

α = Minimum threshold for carrying basic service delivery

X_i = Expenditure, revenue, etc. related variables (explanatory variables)

β_i = Coefficients of explanatory variables

[56] Even though it was a legally constituted commission, the then government implemented all the recommendations of the commission. The author had worked as an expert in this commission for about 10 years.

[57] As per the constitutional provision, the provinces have also started providing fiscal equalization grant to the local levels from their sources. The NNRFC is mandated to support allocation modalities for the provinces.

This study proposes a 30-percent minimum threshold[58] grant to be distributed for carrying a minimum expenditure need[59] from the total equalization grant pool[60] and for the remainder to be distributed using a formula based on expenditure need variables. The methodology for horizontal allocation of the minimum grant is to be allocated equally.[61] The proposal is slightly different for the local levels.

One thing to consider in the fiscal transfer system, particularly in designing its formula, is that it varies from country to country. Similarly, it can be different within the same country among the various governmental units. The international practice also shows there is no single best approach to fiscal transfers and that that one formula will not produce the same results in every country (Bahl & Martinez-Vazquez, 2006). Allocation indicators and formulae may vary and the weights used in the formula may also be different. Table 8 presents three potential scenarios for the distribution of equalization grants. In all scenarios the weight of land area and poverty (number of

[58] Nepal had practiced a 30-percent minimum grant for the previous unitary based local governments. The same model was followed for the province and local levels.

[59] The NNRFC Act stipulates that while allocating fiscal equalization grant amounts, the total pool should be allocated between the minimum threshold and additional ones. In fact, this grant was required to carry out minimum service delivery to the people. Further, its funds are essential to fulfilling mandatory governmental obligations such as office expenses, employee salaries, allowances, pensions, loans repayment, etc. This is also necessary, as additional grants will be distributed based on performance measurement tools. In the previous unitary system's local level granting, the performance-based grant was followed and failing to comply with performance requirements were given only the fixed/minimum grant. Literature on grant distribution also suggests providing minimum threshold grant to various levels of governments (see Shah, 2006; Steffensen. 2010; Boex, 2012).

[60] The NNRFC in its recommendation has divided the pool in three categories, namely fixed, performance and formula. However, no weightage was given for the performance allocation – whether it is for a jurisdiction with 600 population or one million population, the allocated figure seems equal for the local levels. This situation is similar to that of the provinces (see the NNRFC webpage for the recommendation sheets in FY 2020/21).

[61] At present, out of the total equalization grant amount, the share of the minimum grant is 25 percent. The distribution of this minimum grant has been given 50 percent based on the population and 50 percent on the geography. The minimum threshold is also divided based on expenditure need variables. This is a good practice, there is no dispute about it. However, the formula also considers need-based variables. When the additional granting formula contains need-based indicators, it is not necessary to include the same need-based variables in the minimum allocation. In this case, it is better to give everyone equal shares for the minimum segment. Those provinces comprising higher expenditure need variables will automatically receive the higher grants in the other segments. Even in the previous unitary system, equal shares were given to local governments in the minimum threshold pool.

poor people) [62] are given equal weight of at 15 percent.[63] Similarly, in all scenarios the weight of revenue is proposed at 10 percent. Similarly, both the first and second scenarios use the underdevelopment index or remoteness (respectively) with a 60-percent weight in either case. In addition to the above indicators, the fiscal discipline indicator[64] is used in scenario 3. In all scenario, the indices are weighted to account for poverty and the characteristics of the geographical area.

Table 8: Proposed Fiscal Equalization Formula for the Subfederal Levels

S.N.	Criterion	Scenario 1	Scenario 2	Scenario 3
1	Poverty[65]	15	15	15
2	Land area[66]	15	15	15
3	Revenue[67]	10	10	10
4	Under development[68]	60		25

[62] Both the indicators mentioned in the Nepal Human Development Report and the MPI of the NPC are taken as average. According to the MPI, 7.5 million people are poor in Nepal. However, as per the HDI index (derived as to the reversed HDI and weighted to the population), there are 11.6 million poor people. There is also a difference in the provincial poverty counts between these two figures. If only one or the other is taken as the basis, then there is a big difference in some provinces. However, on average, there is not much difference. Therefore, the average of both is taken as the indicator variable for poverty.

[63] This weight is determined by the fact that the grant received in previous years does not differ much. Further, it is analyzed in such a way as to address expenditure needs of the subfederal levels.

[64] There is a common complaint that subfederal units have become very expensive and have spent and are spending a huge amount of resources for the administrative and unproductive sectors. It is important to pay attention to fiscal discipline and good governance from the beginning. It is in this context this indicator is proposed. For the proxy, 'irregularities of figures' (out of total audited amount) is used.

[65] It's weighted with the population. The average number of poor people derived from both HDI and MPI is used.

[66] As highlighted in section 7 and Appendix 2, among the seven provinces, Karnali is the most underdeveloped. Most parts of this province do not have access to road transport, while a quarter of the country's total area lies in this province. The province lags in most social, economic and infrastructure indicators. There is also a political consensus that this province should get a higher ratio of grants. In this context, the weightage of geographical area is given relatively higher import so that the province will get a higher grant. Theoretically, this argument for geographical weightage is unsound, but in practice it is important that grant distribution be politically acceptable. Ideally, the issue would instead be corrected on gradual basis rather than through formula grants.

[67] The constitution states that fiscal equalization grant should be distributed based on revenue capacity. In fact, capacity includes both the efforts of revenue collection and the potentiality thereof. The index is derived from the ratio of revenue (including revenue sharing) to the real expenditure of subfederal levels and was normalized to one. Further, it has been inverted and is weighted with expenditure need variables.

[68] To derive this index, an equal weight for the infrastructure development and social development aspects has been used. The infrastructure development index uses three variables, availability of electricity, access to financial institutions and access to local roads. Further, in social development index, child mortality under age five, underweight children under the age of five, thinness in children under age five and access in health institutions

S.N.	Criterion	Scenario 1	Scenario 2	Scenario 3
5	Remoteness/cost index[69]		60	25
6	Fiscal discipline[70]			10
	Total	100	100	100

Source: Author's estimation, 2020.

The pair-wise correlation between the different indicators at local level is presented in Appendix 9. The allocation shares of provinces under various scenarios in FY 020/21 allocation are presented in Appendices 6 and 15. There are reasonable dispersions across the provinces in all scenarios. In all scenarios, some provinces are winners and some losers. Since Karnali is the most underdeveloped province, in all scenarios this province has received the greatest share. However, the per person amount has declined slightly. Province Two benefits the most in the allocation. In fact, the allocation to this province was unfair and not consistent with the principles presented in section 7 and Appendix 2. Similarly, Province One and Lumbini province also benefit from the proposed scenarios. Since fiscal transfer is also like a "zero-sum game," raising too much at once for some provinces negatively affects others. In such a situation, to improve the formula, the directly affected provinces should be compensated through special grants.[71] As for which scenario would be best, the issue of how to solve the current problem is up to the NNRFC and the government. The scenarios mentioned here are for discussion and debate. The problem should be resolved through mutual discussion. When distributing grants, the previous year should always be taken as the basis. If in the prior year a jurisdiction received a large grant, a reduction or attempted

within 30 minutes is used (for data see Appendix 2). All indicators are normalized to one and weighted with the expenditure need variables. As a proxy, this index has also been used for the local levels.

[69] For the description of this index, see section 8 and Appendix 2. As a proxy, this index has also been used for the local levels.

[70] Irregularities figures is used as a proxy indicator of fiscal discipline. The total audited amount is taken as the basis for calculating the indicator. The principle has been adopted that those who have more irregularities will get smaller grants. Therefore, this index has been inverted. Further, it is weighted with the expenditure need variables.

[71] As per the Intergovernmental Fiscal Arrangement Act, a special grant can be provided for those provinces having poor scores in terms of economic, social, human, and other aspects. The needs of the relevant provinces, including Sudhurpaschim, should be addressed through a special grant.

reduction in the current year could cause fiscal instability. This stability is important part to take seriously while developing procedures for and distributing grants (see Box 10).

Box 10: Grants Should Not Be Reduced

Fiscal transfers should be based on the constitution, law and established principles and procedure. There is no dispute about this. However, an important point that should not be forgotten for transfers is that they should never be drastically less than the prior year. Even if there were allocation mistakes and weaknesses, they must be corrected gradually. Improving at once, and the sudden drop in grant monies that produces, can be politically unacceptable and cause chaos in affected regions. This is also author's experience working in the Ministry of Local Development for about 10 years in the fiscal transfers system. However, at that time, there were no elected representatives at the local level. Politically, the country was in a volatile situation. Due to the frequent change of government, the leaders (Ministers) were not willing to take any risks.

Like the provinces, almost all same procedures are followed for local level allocations. However, out of total fiscal equalization pool amount, 30 percent is deducted for distributing equal funds to ward level entities.[72] This is due to neither local governments nor the federal or provincial governments having previously paid due attention for the development of ward level bodies. Popular opinion holds that the authority of Singha Durbar (the central power) has reached to the local level but not to the ward levels (i.e. to the people). The people’s intention is that the ward levels should be empowered. Therefore, expediting the distribution of funds to the ward levels would follow the people’s voice.

Further, distributing equal amounts to the ward level does not negative the “expenditure need” principle. In fact, the correlation coefficient between the number of wards and the population is 68 percent (see Appendix 9). For the allocation of the remaining pool (minimum and additional

[72] Wards are the smallest local government units in Nepal. There are 6743 wards in 753 local governments. Depending on population, the wards range from five to 35. Some of the local levels of the former unit system have now been transformed into wards. The 'principle of subsidiarity' rule applies only to the ward level in Nepal.

allocation), the same provincial method is followed. As far the data sources are concerned, underdevelopment indices and the Multidimensional Poverty Index available at the provincial level are applied to the local level allocations. Further, the cost index and Human Development index available at the district level are also applied for the local level allocation. They are used as proxy indices and weighted with the expenditure need variables. Other data sets are used for the local level units. The land area of some local level units includes forests, mountains, and rivers, etc. In such a situation, land area weighting is caped with an assumption that there should be at least 20 people in one square kilometer of land area. A similar procedure was followed in the previous unitary system as well.

The descriptive analysis of grant allocation for the local level units is reported in Appendix 7. In FY 2020/21, the local level units have received Rs 90 billion fiscal equalization grant pool. For the analysis purposes, the same figure is allocated under the various scenarios. Since there are 753 local level units, it is very difficult to analyze each local unit's grant figures. The simulation analysis (Appendix 11) reveals that all proposed scenarios are better than the existing allocation.

The Appendix 12 also includes grant amounts under different scenarios in the top five entries for both population and geographical area. The appendix shows that local level units with larger land areas are relatively benefitting. In terms of larger population areas, Kathmandu and Birgunj are the winners. Birgunj, located in Province Two, also includes the larger population in need of an increased grant amount.[73] The subfederal level fiscal equalization funds including the population and land area are included in Appendices 14 and 15. These appendices also make it easy to measure

[73] Also, see this article in Nepali, why this city is needed greater share of grant amount. https://ekantipur.com/bibidha/2019/10/27/157214451469281168.html

the ground reality of grant distribution and suggest that close analysis of its procedures is meaningful.

12. Concluding Remarks

Fiscal transfers are constitutionally recognized in Nepal. The constitution itself envisions four types of fiscal transfers, namely fiscal equalization, conditional, matching, and special grants. Apart from this, there is also a provision of additional fiscal transfers to the subfederal level through law in the form of revenue sharing. The constitution further stipulates that fiscal equalization grants should be distributed based on the 'expenditure needs' and 'revenue capacity' of subfederal governments. Another strong provision of Nepal's federalism is that the constitution has made it mandatory for the provinces to provide fiscal transfers to their local governments as well.

The constitution also provides for a National Natural Resources and Fiscal Commission as a constitutional body to work in the field of fiscal transfers. The parliament has further approved a law to manage the fiscal transfers among other things. Currently, the subfederal levels have received constitutionally granted fiscal transfers. The provinces have also made fiscal transfers to the local level. The constitution also stipulates that the amounts of fiscal transfers received by the province and local levels will be as recommended by the commission. This happened in prior year, but not in FY 2020/21

About 33 percent of the total FY 2020/21 federal budget has been allocated for fiscal transfers to the subfederal units. This is about 11 percent of the country's GDP. Fiscal equalization grants alone account for about 3.4 percent of GDP. When adding revenue sharing to the fiscal equalization grants, the ratio goes to 6.33 percent. The grants received by the subfederal levels within a short time of entering federalism should be taken positively. Nepal's fiscal transfers are in line with the 'finance follows the functions' principle. Further, transfer allocation is somewhat transparent. If it were not at least somewhat transparent, the issue would not have come up in the parliament. Instead, voices have been raised in Parliament that the fiscal transfers allocation is not fair, prompting further consideration of its formulae and methods.

Fiscal equalization grants are allocated based by formula; however, the current formula is not in concert with the spirit of the constitution. Contrary to the intent of the constitution, the expenditure needs and revenue capacity of subfederal levels have not been addressed properly. The grant amounts are not responsive to the population poverty in the provincial level allocations and to land area in local level allocations. Similarly, simulation analyses reveal that 'fiscal need' issues have not been addressed properly in the provincial level allocation either. Further, some technical problems have been observed in the allocation methodology as well. Relative weights have not been given for the 'expenditure need' variables like population poverty at the provincial level and geographical area at the local level. To solve these problems, this paper proposes new allocation formulas along with indicators and allocation methodology. Further, the Commission should be more proactive so that the fiscal transfer system is organized and reliable. Going forward, the transfer should be recommended only after a comprehensive study and analysis of all aspects.

The government has not implemented the recommendation of the NNRFC in FY 2020/21. The government blames the COVID-19 pandemic’s pressure on revenue for this noncompliance. The NNRFC in response has said that the Ministry of Finance devalued the recommendation even after a series of discussions with a formally written pool amount communicated by the Ministry itself. There needs to be more effective discussion and interaction between the NNRFC and the government going forward. Similarly, it is necessary to discuss the distribution of grants in the intergovernmental fiscal council meeting,[74] including the Finance Committee of the Parliament, so that full ownership may be achieved at all levels of government.

[74] The Intergovernmental Fiscal Arrangement Act, 2017, provides for an Intergovernmental Fiscal Council under the leadership of the Finance Minister of the Government of Nepal to consult and coordinate intergovernmental fiscal management between the three levels of government. The finance ministers of all the provinces and local governments' representatives are members of this Council.

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Appendices

1. Local Governments (LGs) Population and Area Details

Table A1 shows number of local level units across the country. The table also includes population and geographical sizes. Out of 753 local level units, 460 and 293 classified as rural municipalities and urban municipalities respectively. Among the urban municipalities, six hold a metropolitan status, 11 hold a sub- metropolitan status and while the remaining are just 276 municipalities. The table clearly indicates that nearly 63 percent of the national population reside in urban municipalities. However, the urban municipalities capture only one third of the national land area.

Table A1: Number of Local Governments, Population, and Land Area by Rurality

Category	Number	Population	Percent	Area	Percent
Rural municipality	460	9,722,573	37.05	92,922	67.86
Urban municipality	293	16,517,925	62.95	44,013	32.14
Total	753	26,240,498	100.00	136,935	100.00

Source: Author's analysis 2020.

The number of LGs by province is presented in Table A2. As per the table, Province One contains the largest number of local level units followed by Province Two and Bagmati. Karnali and Gandaki account for the lowest share LG units. In terms of population per local level unit, Bagmati includes the largest population, around 46 thousand, followed by Lumbini and Province Two. Karnali and Gandaki include the lowest population ratio respectively. Karnali includes the lowest average population; however, this province has the largest average land area of 320 sq. km/local level unit. The average land area in Province Two has the lowest value, only 65 sq.km. The wards are the smallest local governments units. Province Two includes the largest number, followed by Province One and Bagmati.

Table A2: Number of LGs, Wards, Population, and Area by Province

Province	Local levels	Wards	Population	Area (sq. km.)	Pop. & Area per local level	
					Population	Area (sq. km)
One	137 (18.19)	1157	4,501,466	25,133	32,857	183
Two	136 (18.06)	1271	5,380,242	8,895	39,561	65
Bagmati	119 (15.80)	1121	5,442,984	19,393	45,739	163
Gandaki	85 (11.29)	759	2,380,749	21,180	28,009	249
Lumbini	109 (14.48)	983	4,458,253	17,901	40,901	164
Karnali	79 (10.49)	718	1,555,816	25,253	19,694	320
Sudhurpaschim	88 (11.60)	734	2,520,988	19,180	28,648	218
Total	753 (100)	6743	26,240,498	136,935	34,848	182

Source: Authors analysis 2020. Numbers in parenthesis indicates percentage.

2. Socio-Economic Aspects of the Provinces

Table A3 presents brief socio-economic profiles of the provinces. These profiles include economic, social, human, and infrastructure-related indicators. Looking at all these indicators, there is no uniformity among the provinces – some are capable and some poor. For example, per capita income of Bagamati is the largest at USD 1,917. However, in Karnali it is only USD 597. In FY 2019/20 Nepal's GDP reached Rs 3,767 billion (USD 37 billion). Out of that total, Bagmati contributes the largest share at 35.8 percent, while Karnali accounts for only 4.3 percent. Similarly, in terms of HDI, Bagmati exhibits the greatest value for this index while Province Two ranks the lowest. According to the multi-dimensional poverty index (MPI), more than half of all Karnali residents (51.2 percent) and close to half of Province 2 residents (47.9 percent) are considered to be living in poverty. At the other end, only 12.2 percent of Bagmati residents and 14.2 percent of Gandaki residents fall under the poverty line. Karnali also scores the lowest in other variables, such as life expectancy, access to electricity, the child mortality rate, availability of local roads and access to financial institutions. Similarly, Province Two ranks the lowest in literacy rate, underweight in children, and thinness in children.

Out of 13 variables, Bagmati holds the best position in nine variables. Gandaki has the best position in three variables. In five variables, it ranks second and in four variables third. Similarly, Province One placed second in four variables and third in five variables. This analysis reveals that Bagmati, Gandaki and Province One occupy the first, second and third position respectively. Lumbini holds the second rank in one variable, third rank in two variables and fourth position in nine variables. On this basis, it ranks in fourth. The Karnali province ranks last (seventh) according to six indicators and next-to-last (sixth) according to the remaining indicators. Due to this fact, this province ranks last overall among the seven provinces. Province Two ranks last (seventh) in four indicators and next-to-last (sixth) in three indicators. Due to this fact, this province ranks next-to-last (sixth) overall, only better than Karnali province. The remaining Sudhurpaschim ranks in the fifth position overall.

Table A3: Brief Socio-Economic Profile of Provinces

Metric	Nepal	Prov. One	Prov. Two	Bagmati	Gandaki	Lumbini	Karnali	Sudur-paschim
Per capita income (USD)	1,047	919	645	1,917	1,192	803	597	683
Contribution to GDP (%)	100	15.8	13.8	35.8	8.9	14.2	4.3	7.2
Human Development Index (HDI)	0.579	0.598	0.497	0.641	0.59	0.553	0.504	0.501
Multi-dimensional Pov. level (%)	28.6	19.7	47.9	12.2	14.2	29.9	51.2	33.6
Life Expectancy at Birth (Years)	69.7	70.7	68.9	72	73.3	68.8	67	66.3
Literacy Rate (15 years and above) (%)	58	64	40	69	67	58	52	54

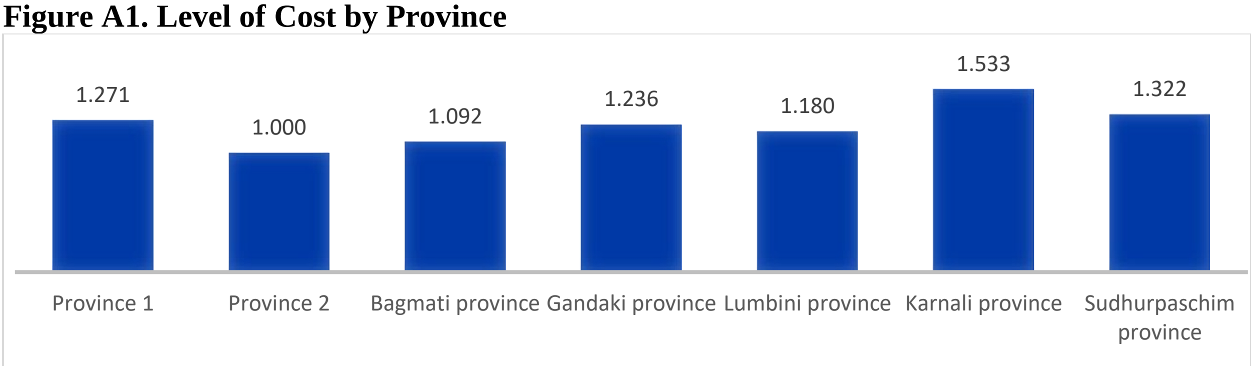
Metric	Nepal	Prov. One	Prov. Two	Bagmati	Gandaki	Lumbini	Karnali	Sudur-paschim
Population with access to electricity (%)	90	86.3	87.25	95.83	87.48	89.07	27.74	67.33
Persons per financial institution	3,363	3,481	4,938	2,770	2,257	2,951	4,958	4,409
Local roads (megameters)	60.2	12.1	5.8	15.1	9.98	8.7	2.7	4.7
Child mortality < 5 (per 1K live births)	39	36	52	36	27	45	58	69
Underweight children < 5 (%)	27	24.4	36.8	13.3	14.9	27.2	35.6	28.1
Thinness in children < 5 (%)	9.7	11.8	14.4	4.2	5.8	7.6	7.5	9.3
Access to HHs health service within 30 min (%)	49.3	50.5	69.1	50.6	46.5	45.3	23.6	28.7

Source: 15th Plan, National Planning Commission and Economic Survey, 2019/20 (Ministry of Finance)

3. Level of Cost Relative to Remoteness

The former Local Bodies Fiscal Commission had designed a cost index. At that time, the index was measured relative to the center point of district headquarters. This index was also named the remoteness index; in this index, a higher value indicates grater inaccessibility. Based on this data set the province level cost index is presented in Figure A1. The figure shows that the Karnali has the highest level of cost followed by Sudhurpaschim and Province One. This means that these provinces are far away from other provinces. Consequently, infrastructure is not well developed and the cost of construction materials (among others) is high.

Figure A1. Level of Cost by Province



Source: Author's derivation based on previous Local Bodies Fiscal Commission data, 2011.

4. Analysis of Fiscal Equalization Grant to the Provincial and Local Levels

A brief analysis of fiscal equalization grants for the provincial and local levels is presented in tables A4 and A5 respectively. In FY 2018/19, provinces received Rs 50.3 billion. In FY 019/20, the figure increased to Rs 55.3 billion. However, in 2020/21 it slightly declined to Rs 55.19 billion. In every year, Karnali has received the largest share. In FY 2020/21, this province has received the largest share of 17.4 percent followed by Sudhurpaschim at 14.6 percent. Province Two has received the lowest share at 12.7 percent. On a per person basis, Karnali has also received the largest amount, around five times greater than that of Province Two. Based on expenditure need variables and other socio-economic aspects, the allocation does not seem fair to Province Two.

Table A4: Fiscal equalization grant of province (Rs, billion)

				Descriptive analysis of FY 020/21	
Province	**2018/19**	**2019/20**	**2020/21**	**%**	**Per person (Rs,000)**
Province 1	6.6	8.2	8	14.5	1.8
Province 2	7.0	7.1	7	12.7	1.3
Bagmati	6	7.6	7.7	14	1.4
Gandaki	6.8	7.1	7.1	12.9	3
Lumbini	6.9	7.5	7.6	13.8	1.7
Karnali	9.1	9.9	9.6	17.4	6.1
Sudhurpaschim	7.9	8	8.1	14.6	3.2
Maximum	9.1	9.9	9.6	17.4	6.1
Minimum	6	7.1	7	12.7	1.3
Average	7.2	7.9	7.9	14.3	2.1
Coefficient of Variation	0.14	0.12	0.11	0.11	0.65

Source: Ministry of Finance and NNRFC.

Table A5 shows that in FY 2018/19 the local governments received Rs 85.20 billion in fiscal equalization grants. The amount has increased to Rs 89.94 billion and Rs 90 billion in 2019/20 and 2020/21 respectively. Despite the pressure of the COVID-19 pandemic on the revenues, the allocation amount has not decreased in FY 2020/21. The Kathmandu Metropolitan city, which includes the greatest population at 3.72 percent of the nation, has received the largest share of 0.80 percent of all equalization grant amounts. However, it has received the lowest per person grant of only Rs 700. Details of grants of the highest and lowest five local levels in population and geography are presented in Appendix 5.

Table A5: Local level fiscal equalization grant (Rs, 10 million)

				Descriptive analysis	
	2018/19	**2019/20**	**2020/21**	**%**	**Per person (Rs, 000)**
Total	8,521	8,995	9,005	100	3.43
Maximum	67.72	75.21	72.28	0.80	125
Minimum	6	6.61	6.6	0.07	0.7
Average	11.32	11.95	11.96	0.13	3.4
Coefficient of Variation	0.5	0.48	0.46	0.46	1.82

Source: Author's analysis, 2020

5. Fiscal Equalization Grant Amounts for Select Local Governments

Table A6 lists the population, area, and FY 2020/21 grant amounts for the five largest and smallest local government units according to population. The Kathmandu Metropolitan City has the highest population at around one million (3.72 percent of nation) and has received the largest share of grant of around Rs 723 million (0.80 percent). However, it has the lowest per person grant of Rs 700 only. The Birgunj Metropolitan city, which is in the top five, has received a per person grant amount of Rs 1800. The Narpha rural municipality has the lowest population at 538 has received grant of Rs 67 million, which on a per person basis equals Rs 125,000.

Table A6: Key Characteristics of Select Local Governments, Population Outliers

S.N.	Name (Province)	Population	Area (sq. km.)	Grant (Rs, 000)	Per person grant (Rs, 000)
Largest population					
1	Kathmandu (Bagmati)	975,453	49	72.28	0.7
2	Pokhara (Gandaki)	414,141	464	57.73	1.4
3	Lalitpur (Bagmati)	284,922	36	46.33	1.6
4	Bharatpur (Bagmati)	280,502	433	46.10	1.6
5	Birgunj (Province 2)	240,922	132	42.88	1.8
Smallest population					
1	Narpha (Gandaki)	538	838	6.71	125
2	Chame (Gandaki)	1129	79	6.71	59
3	Damodarkunda (Gandaki)	1423	1344	6.60	46
4	Chharka Tangsong (Karnali)	1451	346	6.71	46
5	Lomanthang (Gandaki)	1899	727	6.60	35

Source: Author's analysis, 2020 Note: The information in the parenthesis indicate the province

The grant amounts of the largest and smallest local level units by land area are presented in Table A7. The Namkha rural municipality has the largest area of 2,420 sq km. It has received Rs 67 million. In per capita terms, its grant is Rs 1,700. The Khumbu Pasanglhamu rural municipality, which is also in the top five, has received a per person grant of Rs 9,500. The Bhaktpur Muncipality, representing the lowest amount of land area has received a grant figure of around Rs 2,100 million, which in per person terms is only Rs 2,600.

Table A7: Key Characteristics of Select Local Governments, Geographic Area Outliers

S.N.	Name (Province)	Area (sq. km.)	Population	Grant (Rs, 000)	Per person grant (Rs, 000)
Largest area					
1	Namkha (Karnali)	2420	3,900	6.72	17.2
2	Mugumakarmarog (Karnali)	2107	5,396	6.71	12.4
3	Phaktanglung (Province 1)	1859	12,017	9.58	8.0
4	Chumanubri (Gandaki)	1649	6,923	6.87	9.9
5	Khumbu Pasanglhamu (Province 1)	1539	8,989	8.52	9.5
Smallest area					

S.N.	Name (Province)	Area (sq. km.)	Population	Grant (Rs, 000)	Per person grant (Rs, 000)
1	Bhaktapur (Bagmati)	7	81,728	20.95	2.6
2	Madhyapur Thimi (Bagmati)	11	83,036	21.31	2.6
3	Kirtipur (Bagmati)	15	65,602	19.13	2.9
4	Parawanipur (Province 2)	15	22,787	9.79	4.3
5	Yamunamai (Province 2)	17	23,884	9.26	3.9

Source: Author's analysis, 2020.

6. Possible Allocations to Provinces (in Three Sample Scenarios)

The allocation shares under all scenarios using FY 020/21 total fund pool are presented in table A8. The shares range from 11.66 percent to 16.63 percent under scenario 1, 12.11 percent to 16.34 percent under scenario 2 and 11.84 percent to 15.80 percent under scenario 3. Karnali is the least developed province and include one fourth of the country's land area; per the base year allocation (FY 2020/21), this province has received the largest share. This province still receives the greatest share under all scenarios proposed here; however, the ratio is a bit lower. Further, in the base year allocation, Province Two has received the lowest share despite having the greatest share of its population in poverty and holding the lowest levels of HDI among other socio-economic variables. Compared to the base year allocation, this province gets the greatest increase in its share under all scenarios proposed here. Note that raising a grant by too much at once can cause problems of its own, meaning that scenario 2 should be best to minimize disruption, as this scenario does not affect other provinces as much, with the exception of distant and underdeveloped Sudhurpaschim. On the other hand, scenario 3 is also has merit. Under all scenarios, Karnali and Sudhurpaschim receive less in grants than in the base year allocation. The coefficient of variation suggests that either scenarios 2 or scenario 3 would be highly suitable and should be carefully considered by policymakers.

Table A8: Three Scenarios of Allocation Shares for Equalization Grants to Provinces

Province	FY 020/21	Scenario-1	Scenario-2	Scenario- 3
Province 1	14.50	15.38	15.84	15.59
Province 2	12.72	16.63	14.92	15.74
Bagmati	13.99	13.20	13.27	13.42
Gandaki	12.88	11.66	12.11	11.84
Lumbini	13.84	14.38	14.29	14.42
Karnali	17.45	15.51	16.34	15.80
Sudhurpaschim	14.62	13.25	13.24	13.19
Total	100	100	100	100
Maximum	17.45	16.63	16.34	15.80
Minimum	12.72	11.66	12.11	11.84
Coefficient of Variation	0.110	0.119	0.107	0.107

Source: Author's analysis, 2020.

7. Possible Allocations to Local Level Units (in Three Sample Scenarios)

The descriptive analysis of grant allocation for the local level units is presented in Table A9. In the new proposal, the minimum amount figure is lower than in the existing allocation. However, since these grant amounts are derived from the numerical analysis, they address fiscal needs (see Appendix 11). There are only three-four local level units receiving a grant below the existing amount. In a new system, government and the commission should establish the principle that those receiving the minimum grant cannot have its amount reduced. In the previous unitary system, the similar principle was followed at the local level.

The Kathmandu Metropolitan city, which includes the greatest share of the national population (3.72 percent), has received the lowest per person grant (Rs 700) in the existing allocation. As highlighted above, scenarios two and three are better than scenario one. In these scenarios, this city will be better off. Similarly, Birgunj will also be better off. Since this city falls in Province Two, most of social and human development indicators of this city are poor, a known issue raised in multiple fora. The sample scenarios would all provide a better outcome (Appendix 11).

Table A9: Allocation Share to the Local Level

	Total (Rs, million)				Per Person (Rs, 000)			
	20/21	**Scen. 1**	**Scen. 2**	**Scen. 3**	**20/21**	**Scen. 1**	**Scen. 2**	**Scen. 3**
Total	9,006	9,006	9,006	9,006	5.08	5.18	5.22	5.19
Maximum	72.28	59.80	88.57	77.76	125	107	108	107
Minimum	6.60	5.75	5.78	5.77	0.70	0.61	0.91	0.80
Average	11.96	11.96	11.96	11.96	5.08	5.18	5.22	5.19
Coefficient of Variation	0.458	0.420	0.438	0.426	1.232	1.136	1.064	1.232

Source: Author's analysis, 2020.

8. Correlation Analysis of Fiscal Equalization Grant and Expenditure Need Variables at the Provincial Level (A10)

Variables	**18/ 19**	**19/ 20**	**20/ 21**	**Fiscal Gap**	**Pop.**	**Are a**	**MPI**	**Poor via MPI**	**Rev. HDI**	**Poor via rev. HDI**
2018/19	1									
2019/20	0.78	1								
2020/21	0.78	0.99	1							
Fiscal gap	0.03	0.09	0.05	1						
Population	-0.78	-0.57	-0.58	-0.04	1					
Area	0.47	0.8	0.79	0.14	-0.65	1				
MPI	0.77	0.47	0.44	-0.08	-0.26	-0.06	1			
Poor via MPI	-0.03	-0.29	-0.34	0.02	0.52	-0.74	0.6	1		
Rev. HDI	0.75	0.4	0.39	-0.1	-0.35	-0.09	0.86	0.44	1	
Poor via rev. HDI	-0.6	-0.58	-0.6	0.012	0.93	-0.8	0.03	0.78	-0.08	1

Source: Author's analysis, 2020. Note: The grant amount represents the absolute amount in Rs.

9. Correlation Analysis of Fiscal Equalization Grant and Expenditure Need Variables at the Local Level (A11)

Variable	18/19	19/20	20/21	Fiscal Gap	Population	Are a	Ward s
2018/19	1						
2019/20	0.99	1					
2020/21	0.99	0.99	1				
Fiscal gap	0.45	0.43	0.43	1			
Population	0.85	0.88	0.88	0.14	1		
Area	-0.08	-0.09	-0.9	-0.04	-0.08	1	
Ward	0.80	0.81	0.80	0.51	0.68	-0.00	1

Source: Author's analysis, 2020. Note: The grant amount represents the absolute amount in Rs.

10. Pair-wise Correlation of Indicators at the Local Level (A12)

Variables	Area	Poor people	Revenue index (inverted)	Under development index	Remoteness	Fiscal discipline (inverted)
Area	1.00					
Poor people	-0.02	1.00				
Revenue index (inverted)	0.08	-0.06	1.00			
Underdevelop ment index	-0.03	0.11	-0.09	1.00		
Remoteness	0.30	-0.32	0.08	0.21	1.00	
Fiscal discipline (inverted)	0.09	-0.06	0.29	-0.09	0.08	1.00

Source: Author's analysis, 2020.

11. Simulation of Alternate Allocation Scenarios at the Provincial Level (A13)

Variables	Scen. 1	Scen. 2	Scen. 3	Fiscal Gap	Pop.	Area	MPI	Poor via MPI	Rev. HDI	Poor via rev. HDI
Scen. 1	1									
Scen. 2	0.87	1								
Scen. 3	0.97	0.95	1							
Fiscal gap	0.55	0.56	0.53	1						
Pop.	0.3	0.01	0.22	-0.04	1					
Area	-0.14	0.33	0.06	0.14	-0.65	1				
MPI	0.71	0.61	0.66	-0.01	-0.26	-0.06	1			
Poor via MPI	0.75	0.35	0.59	0.06	0.53	-0.73	0.6	1		
Rev. HDI	0.47	0.35	0.38	0.1	-0.42	-0.14	0.91	0.5	1	

Variables	Scen. 1	Scen. 2	Scen. 3	Fiscal Gap	Pop.	Area	MPI	Poor via MPI	Rev. HDI	Poor via rev. HDI
Poor via rev. HDI	0.49	0.1	0.36	0.08	0.93	-0.8	0.03	0.79	-0.09	1

Source: Author's analysis, 2020.

12. Simulation of Alternate Allocation Scenarios at the Provincial Level (A14)

Variables	Scen. 1	Scen. 2	Scen. 3	Fiscal Gap	Population	Area	Wards
Scenario 1	1						
Scenario 2	0.92	1					
Scenario 3	0.97	0.98	1				
Fiscal gap	0.45	0.36	0.41	1			
Population	0.78	0.92	0.88	0.14	1		
Area	0.13	0.17	0.15	0.08	-0.01	1	
Wards	0.86	0.87	0.88	0.51	0.68	0.13	1

Source: Author's analysis, 2020.

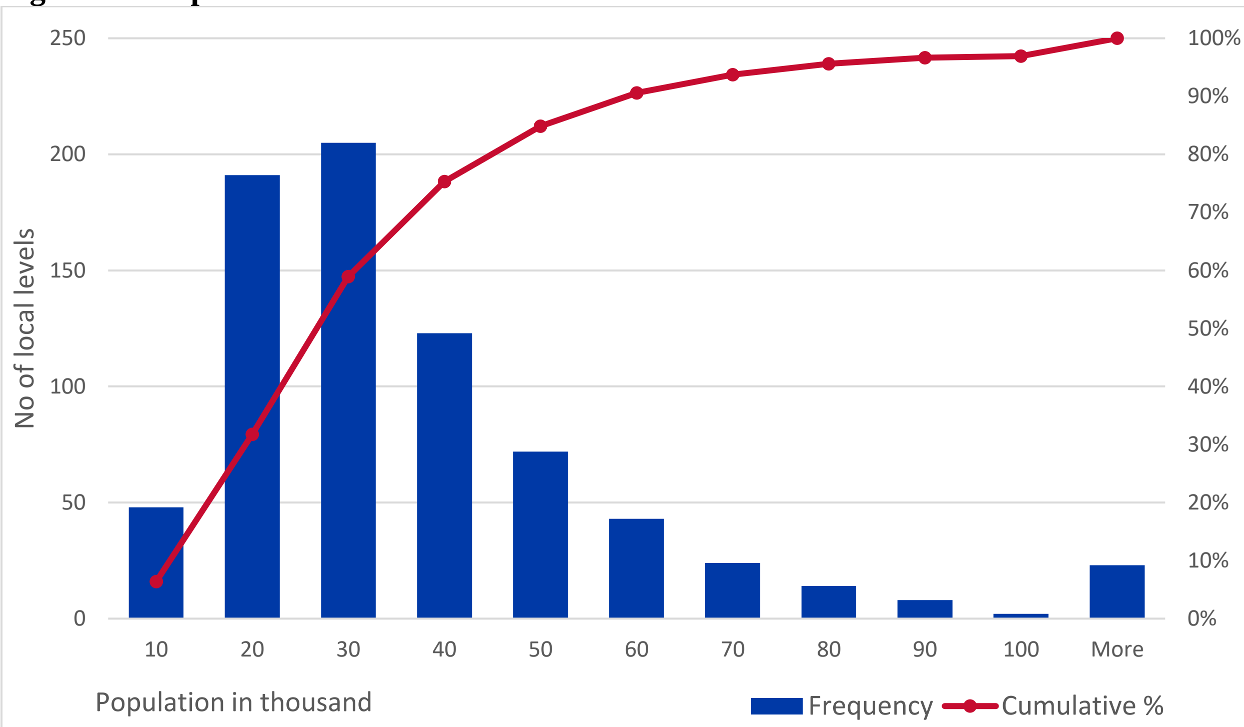
13. Alternate Allocation Scenario Grants to Top Five Local Governments by Population and Land Area (A15)

	Total amount (Rs, million)				Per Person (Rs,000)			
Name	**20/21**	**Scen. 1**	**Scen. 2**	**Scen. 3**	**20/21**	**Scen. 1**	**Scen. 2**	**Scen. 3**
Top 5 population								
Kathmandu	72.28	59.8	88.57	77.76	0.70	0.61	0.91	0.80
Pokhara	57.73	43.3	59.17	52.32	1.39	1.05	1.43	1.26
Lalitpur	46.33	29.0	38.10	34.67	1.63	1.02	1.34	1.22
Bharatpur	46.10	32.2	42.33	38.52	1.64	1.15	1.51	1.37
Birgunj	42.88	56.7	44.80	50.17	1.78	2.35	1.86	2.08
Top 5 land area								
Namkha	6.72	7.75	7.99	7.81	17.23	19.86	20.49	20.02
Mugumakarmarog	6.71	9.59	9.67	9.56	12.44	17.76	17.92	17.72
Phaktanglung	9.58	10.48	10.95	10.70	7.97	8.72	9.12	8.91
Chumanubri	6.87	8.51	8.87	8.72	9.92	12.30	12.81	12.59
Khumbu Pasanglham	8.52	8.64	8.98	8.80	9.48	9.61	9.99	9.79

Source: Author's analysis, 2020.

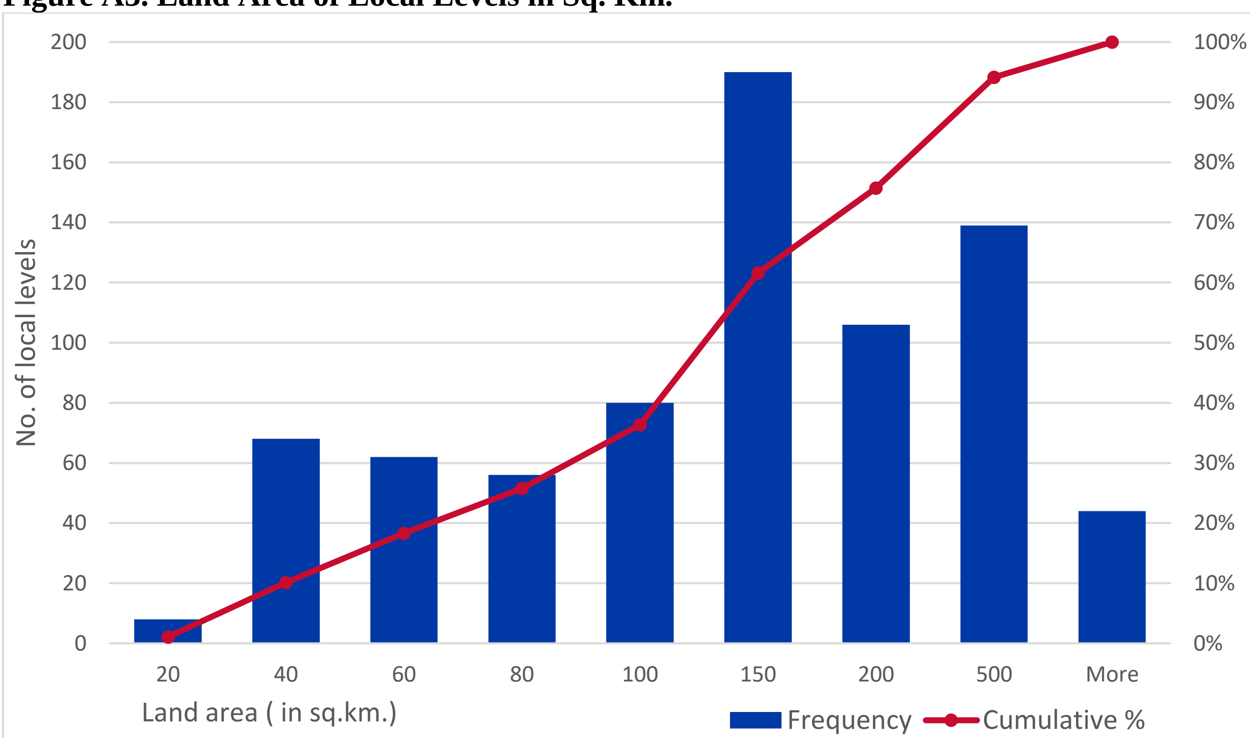
14. Trends in Number of Local Governments by Select Characteristics

Figure A2. Population of Local Levels



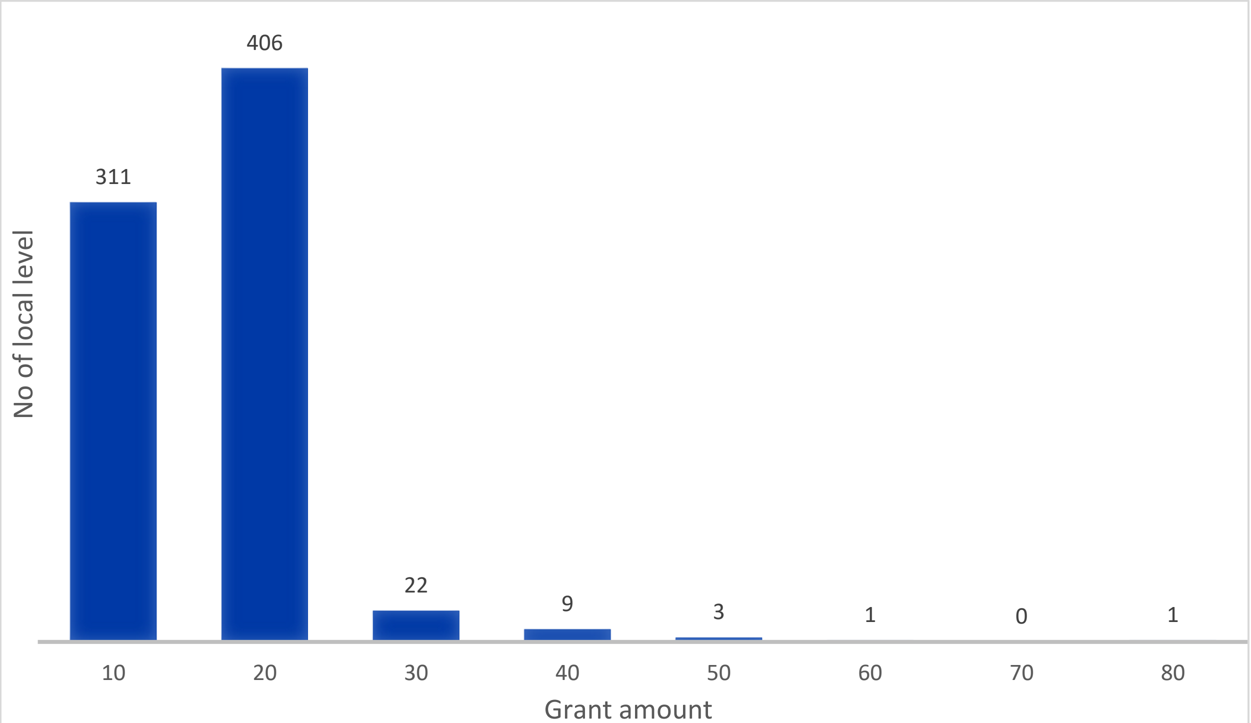
Source: Author's analysis, 2020.

Figure A3. Land Area of Local Levels in Sq. Km.



Source: Author's analysis, 2020.

Figure A4. Fiscal Equalization Grant Amount in FY 2020/21, Rs 10 million



Source: Author's analysis, 2020.

Table A16. Fiscal equalization Grant Amount in Each Scenario, Rs 10 million

Grant (Rs, 10 million)	Number of local levels		
	Scenario 1	**Scenario 2**	**Scenario 3**
Up to 10	290	271	273
11-20	429	457	449
21-30	23	17	20
31-40	8	4	8
41-50	1	2	0
51-60	2	1	2
61-70	0	0	0
71-80	0	0	1
Above 80	0	1	0

Source: Author's analysis, 2020.

Table A17. Per Person Fiscal Equalization Grant Amount, FY 20/21 and Each Scenario (Rs,000)

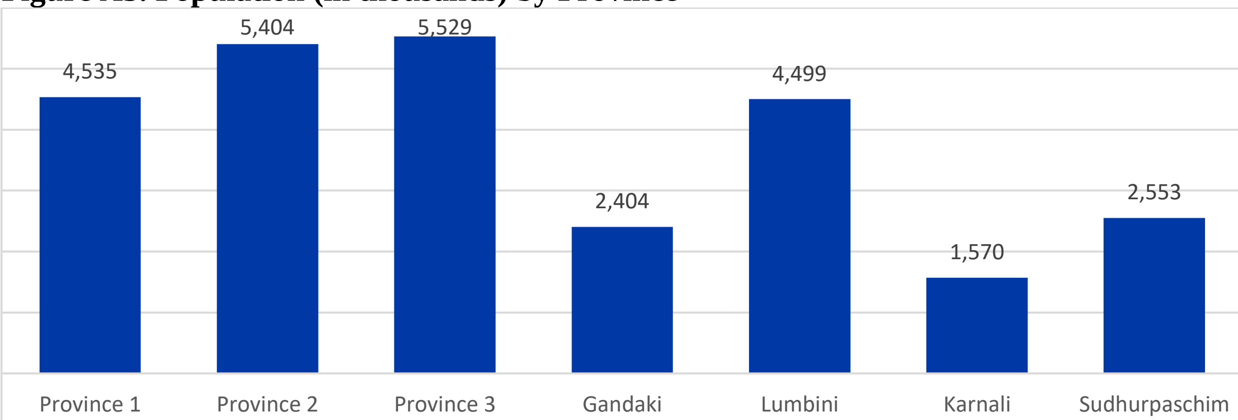
Grant (Rs,000)	Number of local levels			
	FY 020/21	**Scenario 1**	**Scenario 2**	**Scenario 3**
Up to 10	725	717	716	717
11-20	14	21	21	20
21-30	5	6	7	7
31-40	5	4	4	4
41-50	2	3	3	3
51-60	1	1	1	1

Grant (Rs,000)	Number of local levels			
	FY 020/21	**Scenario 1**	**Scenario 2**	**Scenario 3**
61-70	0	0	0	0
71-80	0	0	0	0
Above 80	1	1	1	1

Source: Author's analysis, 2020.

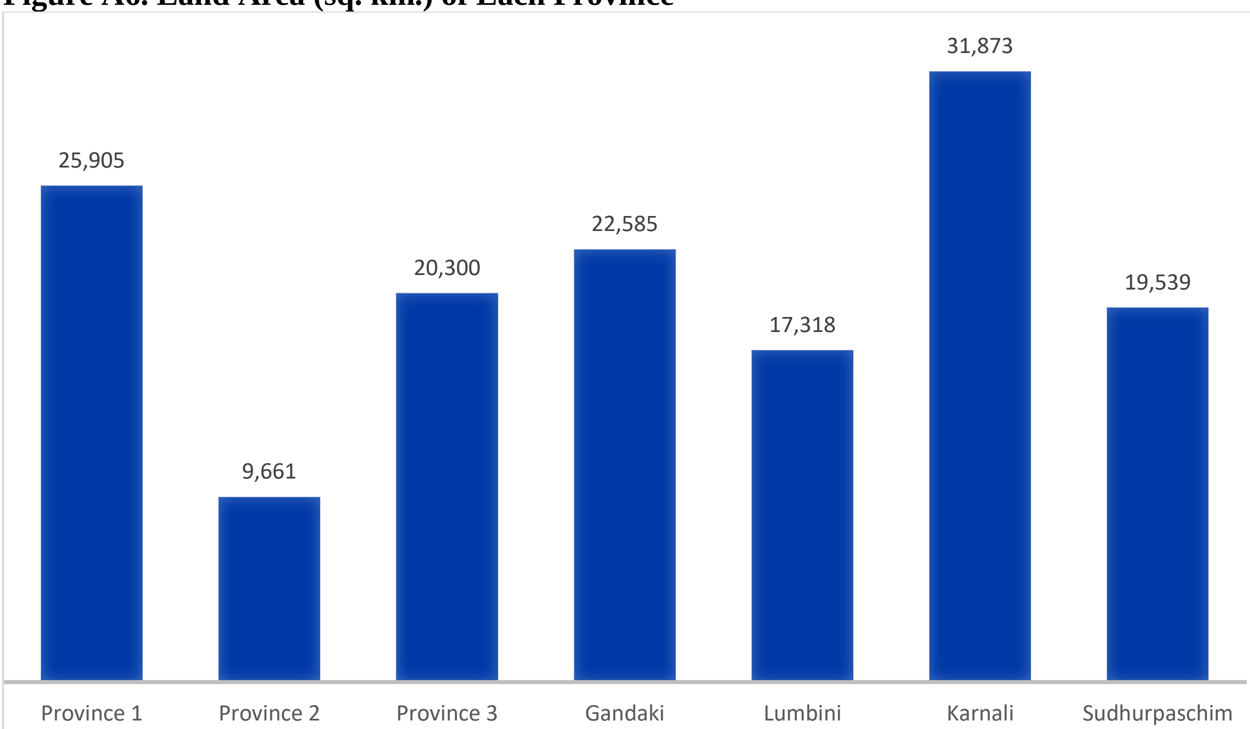
15. Population, Land Area, and Per Person Grant Amount by Province

Figure A5. Population (in thousands) by Province



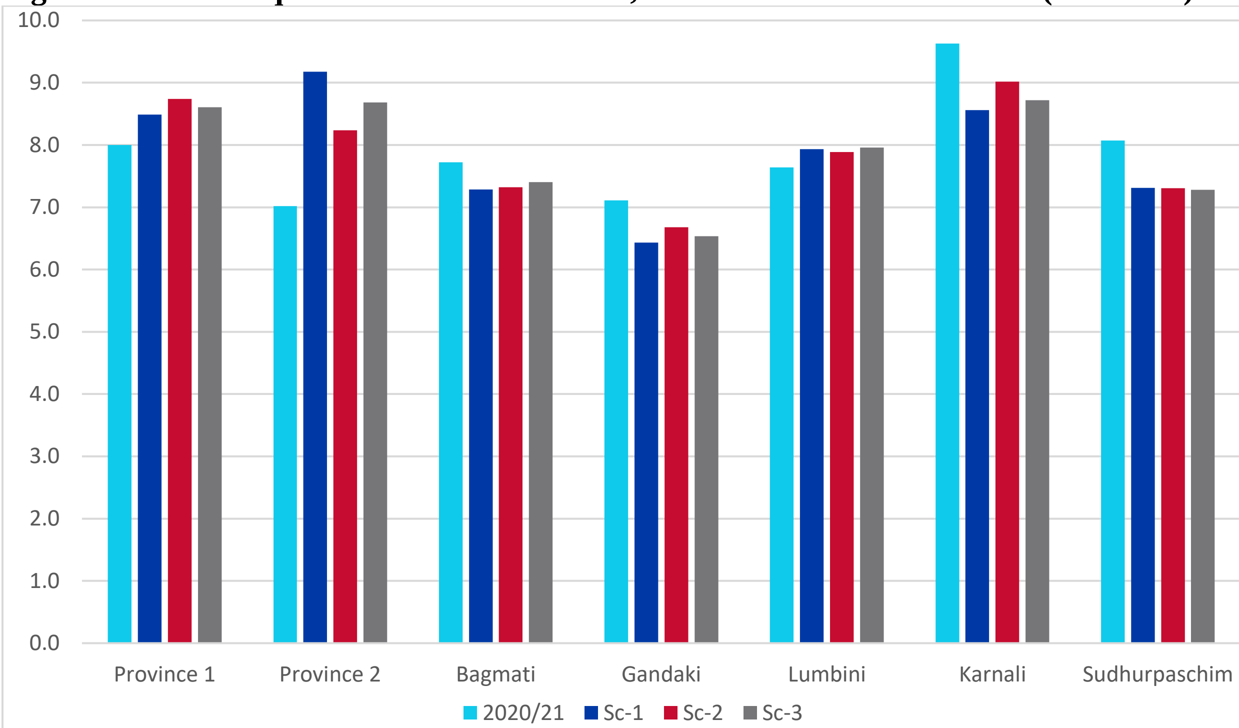
Source: Author's analysis, 2020.

Figure A6. Land Area (sq. km.) of Each Province



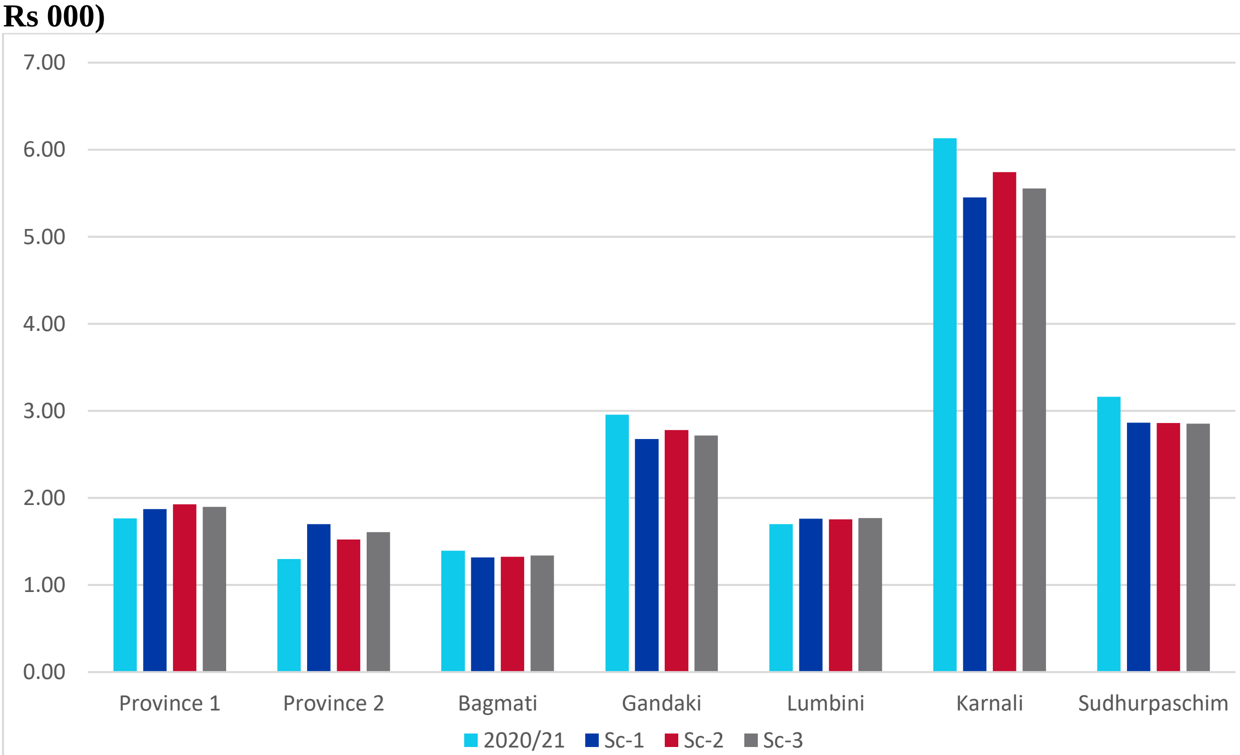
Source: Author's analysis, 2020.

Figure A7. Fiscal Equalization Grant Amount, FY 20/21 and Each Scenario (Rs billion)



Source: Author's analysis, 2020.

Figure A8. Fiscal Equalization Grant Amount, FY 20/21 and Each Scenario (per person, Rs 000)



Source: Author's analysis, 2020.