

**A Model for Political Restructuring and Electoral System of Federal Nepal:
Building on the Strength of Ethnic Diversities and Regional Complementarities**

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We develop a framework for a political restructuring of Federal Nepal and provide a model of electoral system. We identify the natural homelands of 11 ethnic, linguistic and caste (ELC) groups—called ELC focus regions—and argue that these regions must be an essential component of federation, but federation based on them is not feasible politically and not desirable economically. The main intended outcome of making Nepal a federation of such ELC groups—inclusiveness in political power sharing—could be achieved by making these regions electoral constituencies. We further argue that the political constituencies of the federation should be provinces that extend from north to south by combining few ELC focus regions. This north-south corridor will generate immense benefit from the complementarities in natural endowment and comparative advantage between northern and southern regions which is not possible if federation is made up of the ELC regions. Moreover, this arrangement will allow all provinces, the pillars of the federation, to be bordered with the rapidly emerging China and India. Hence, we propose that ELC regions be electoral constituencies and Nepal be a federation of four provinces (each province with three ELC regions), and one territory in the most North-Western part. We propose bicameral parliaments both at the national and the provincial levels, where all citizens are equal in the lower house of both levels of parliament; all provinces are equal in the upper house of national parliament, and all ELC regions are equal in the upper house of provincial parliament. Finally, we devise a proportional representation system and electoral formula where ethnic, linguistic, caste, gender and regional issues are addressed to foster an inclusive democracy.

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1. Introduction

Recently, there is wide coverage in Nepali media on how Nepal's sub-national entities should be formed for the Federation of Nepal so as to support and sustain inclusive democracy: inclusive of ethnicity, language, gender, region, culture and so on.¹ However, there are only a few studies which make an effort on tackling the issue on how different regions of federalism should be formed. Among them, Gurung (2000) has proposed 25 districts instead of the 75 districts that Nepal currently has; Neupane (2005) has proposed Nepal to be a federal state of 8 provinces; Sharma (2006) has proposed Nepal to be a federal state of six provinces based on 19 districts, and Sharma (2007) has proposed 15 provinces as constituencies of federal Nepal. Maoists, who have been the champion of raising awareness against the exclusion of marginalized groups from political, economic and decision-making process, has proposed Nepal to be a federal state of nine autonomous regions, seven based on ethnicity and 2 based on regions.

Despite the research conducted in this area, there are several facts—either neglected or not brought in light forcefully—which could help us better understand the population distribution of Nepal and hence develop a more realistic approach in the formation of sub-national jurisdictions. Most of the studies are based on few facts, anecdotal evidence and are too quick to recommend the regional formation without any logical underpinning. In Nepal's context, the immediate questions that need to be answered are as follows: how the nation should be restructured, how different groups especially the marginalized should be represented in those sub-national regions, and which electoral process will achieve inclusiveness. As far as we are

¹ For federalism, see Devkota and Gautam (2006), Sharma (2006), Gurung (2003), Pokharel (2005), Neupane (2000), Lawoti (2006), Tamang (2006), Newar (2007), and Sharma (2006); see World Bank (2006) for exclusiveness.

aware, there are no studies that have dealt with these issues in a comprehensive manner.² The purpose of this paper is to fill these gaps by making a proposal on Nepal's political restructuring and providing a model of electoral process. The paper provides a complete framework—from the beginning to the “finish line”—for dealing with Nepal's urgent and historical needs. More specifically, the objectives of the paper are as follows:

1. to identify natural homelands of main ethnic, language and caste (ELC groups) in Nepal;
2. to identify electoral constituencies that are best suited for inclusive democracy;
3. to identify political sub-national entities for the federation of Nepal that can sustain inclusiveness and promote economic development;
4. to provide a model of proportional electoral system for both national and sub-national parliaments, and
5. to provide a model for the representation of both ELC groups and women in the political decision making process.

The paper is based on the premise that the paramount objective of Nepal's restructuring is to make Nepal a just, prosperous, democratic and dynamic society. If this is accepted, then Nepal's challenge has two folds. First, we have to make a consolidated effort to create an environment (both political and economic) that all ELC groups and women, who have been systematically excluded so far, are empowered to be symmetric partners with the affluent. Second, the political structure should be compatible for economic development, which brings broader participation of all groups including the majority, and promotes mutual trust and harmony. The opportunity is that these two challenges are not mutually exclusive; if political

² As I have been living in Canada and this is not my field of research, it is likely that I have missed some research in the field that have been conducted in Nepal. The studies, which I have come across, are rather incomplete to handle the multifaceted issues we have at hand.

restructuring is balanced properly they could be carried out as complements to each other. And this paper aims to provide that balance.

In a nutshell, the population of Nepal can be divided into the Indo-Aryan caste groups and Tibeto-Burmese ethnic groups. Caste is defined as social group within the Hindu caste-system, and ethnic or nationality (Janajati) is defined as a social group within its mother tongue, native area and religious tradition. In Nepal, the mainstream groups are, the so-called high and medium caste, Brahamin, Chhetri, Thakuri and Sanyasi (BC, hereafter) who are from the hill area (they might be living in terai, but they are called hill-BC in the population Census)³. Nepali, which is the only official language in Nepal, is their mother tongue, and these groups, despite enormous intra group vertical disparity, have been dominant in Nepal. They account for about one-third of Nepal's population. The paper will identify the main settlement of the BC group along with homelands of all ELC groups that contribute to more than 1% of Nepal's population.

Besides BC group, there are eleven groups that are more than 1% of the population and are located in geographic proximity that could be defined as their natural homelands.⁴ Six of them (Limbu, Rai, Tamang, Gurung, Newar and Magar) are mountain and hill ethnic groups who have their own mother tongues. They are considered hill janajati, or hill ethnic groups, or hill nationalities. Three other groups based on language (Maithali speaking, Bhojpuri speaking and Awadhi speaking) who live in teai (the plain southern part of Nepal). A common name for people living in terai (these three language groups and other smaller groups whose mother tongues are different) is Madhesi, and they could be separated in three different groups along the

³ Nepal has three types of ecology. In the north, there are high mountains; in the middle, there are hills, and in the south, its plain. These three belts that extend from east to west throughout Nepal are called mountain, hill and terai respectively.

⁴ Besides the BC and these eleven groups that we mention below there are other ethnic, and language groups in Nepal, but they represent less than 1% of the population and are scattered quite thin across the country. The only group that represents 4% of the population and does not have a natural settlement is that of Muslims who are quite scattered. One of eleven ELC group is higher in number than Muslims in all districts.

line of caste and ethnicity (janajati): upper and medium caste, lower caste and janajati. In terai, there exists another group, Tharu, whose culture and language is not Nepali and is different from Madhesi people. The last group for which we identify a natural homeland is hill “lower caste” the so-called untouchables whom we refer by “Dalit”.⁵ These eleven groups that have been identified based on ethnicity, language and caste are called, for brevity, ELC groups in the paper. They account for about 61% of Nepal’s population, approximately double the size of BC.⁶

Once the natural homelands of these groups are identified, we propose the homelands to be focus regions for these groups by making these regions electoral constituencies for both national and provincial parliaments. An existing district is considered a natural homeland of one of these ELC groups if the ELC group is at least the second largest fraction after BC in the district. Hence, if that group is in majority (more than 50% of the population) among all groups, or in plurality (with highest fraction but less than 50% of population) in the district, then the district will be the natural homeland of that group. According to this criterion, there might be majority or plurality of BC population in a district, but still that district will be considered a natural homeland of an ELC group if that group is largest among other ELC groups. Indeed that is the case for 46 out of total of 75 districts.⁷ All districts that qualify to be a natural homeland for a given group are combined to make a focus region for that group.

Based on the aforementioned criterion, we were able to distribute 68 districts among eleven regions, as natural homelands for these eleven groups. These groups and their respective homeland regions are: Limbu (Kanchenjunga), Rai (Sagarmatha), Tamang (Gaurishanker),

⁵ It is not pleasant to identify the region as focus for “untouchable” or Dalit, the very concept that should be eliminated. However, since the Dalits are the poorest and excluded from all walks of life, it still makes a lot of economic sense to have this as a focus region. One might change the name from Dalit focus to something else, but a focus region considering the future of this group is essential.

⁶ Throughout the paper, when we use ELC group, we will be referring to only those 11 groups without the BC. To include BC, we will write “ELC groups including BC”.

Newar (Kathamandu), Maithali speaking (Mithila), Gurung (Annapurna), Magar (Ridi) Bhojपुरी speaking (central terai), Dalit (Khaptad), Awadhi speaking (Lumbini) and Tharu (western terai). Among those 68, three districts are put somewhat forcefully using geographic proximity, as we could not find other districts which are geographically close to them and have the same characteristic based on the above criterion of natural homeland.⁸ Of the seven districts which could not be identified as natural region for ELC group, in three districts, there is no group that could be defined as natural dweller of that area, and majority or plurality of people are of Nepali mother tongue, mostly BC (note that Nepali is mother tongue of Dalit as well). These three districts compose a region without any focus group, thereby giving 12 regions. The remaining four districts are located in the most remote area of Nepal. Most of the people are BC and there is no other distinct group that could be considered a focus of that region. We propose it to be a territory.⁹

The ELC regions identified are adjoined geographically except for the region of Awadhi speaking, where district of Banke is separated from its two other partner districts Rupandehi and Kapilbastu by district of Dang. The same is true of Dang, as it has been separated by Banke from its partner districts of Tharu natural homeland. The regional size differs; the regional share of population is as low as 2% in Kanchenjunga region to as high as 14% in Ridi region. In terms of area, Kathmandu region is the smallest with 0.6% and Khaptad region is the largest with 15.4% of Nepal's area.

The detail construct of natural homeland show that both lines of thinking which are prevalent in Nepal today—that Nepal should be a federal state of autonomous regions based on

⁷ Since BC group is either in majority or in second place in most of the districts, the exercise of identifying natural homeland applies to groups other than BC.

ethnicity and that it should be a federal state not based on ethnicity but on regions only—are incomplete at best.¹⁰ For federation to be effective, the ELC focussed regions must be taken as building blocks in the pyramid. However looking at the population distribution, the federation of ethnic regions is not feasible. The population distribution is so mixed that despite my effort to maximise the share of a group in its focus region, only two groups are in majority in their regions (Maithali speaking and Bhojpuri speaking). Other three groups represent plurality of population in their respective regions (Limbu, Awadhi speaking and Tharu). The shares of remaining six groups (Rai, Tamang, Newar, Gurung, Magar and Dalit) are less than those of BC group in their own focus regions.¹¹

The idea, hitherto heard in Nepali press, that an ECL group, where it has been inhabitant historically, should be guaranteed with majority political seats (pre-right) to govern in the region even if the group is not in majority is against the democratic principles. Considering the exclusion of ELC groups throughout Nepal's history, it is not hard to understand that this line of reasoning is a genuine outcome of frustration towards the polity. However, one mistake cannot be corrected by another; they rather magnify each other. Hence, a more prudent, farsighted and

⁸ They are districts of Okhaldhunga (homeland for Dalit but included into Rai focus region), Chitwan (homeland of Tharu but included into Bhojpuri speaking region) and Parbat (homeland of Dalit but included into Magar focus region).

⁹ The difference between region and territory is how they are treated in federation, which will be clarified later.

¹⁰ This paper does not deal with whether Nepal should or should not opt for federalism. Rather it takes it as granted that it is the better model for Nepal's economic development than unitary system of government. In any case, if designed properly and well intended, one wonders why the federal state cannot achieve what unitary system does, especially where there are several heterogeneous groups and regions like in Nepal.

¹¹ In providing logic against forming federation based on ethnic regions, some people have argued that this should not be done, as it will lead to potential separation of the country. However, this is a wrong argument. First of all, the federation should be equilibrium of all sub-national entities in a sense that the people should feel that they are better off by staying together. That will be the case only if all groups are provided with their shares of political and economic rights, and as a result all groups feel that it is their responsibility to keep the country intact. If the economic prosperity is not brought and the fruit of the prosperity is not shared by all, the federation will be weak no matter in which ground it is based on. More important, in Nepal's case the federation should not be based on ethnicity as political entities both because there is better alternative that foster economic development and because there is as good alternative for political inclusiveness.

reasonable approach should be developed on how to allocate the political representation among different groups in general and among the BC and other ELC groups in particular.

Looking at the economic challenges, opportunities and resource complementarities of different ELC focus regions, it is not even desirable to have a federation of these regions. It is quite assuring that there is an alternative way of forming a federation that will be more conducive for economic development. As the resources and economic activities are quite different in the northern and southern regions, the more practical way of making economic unit is by combining the ELC focus regions—the electoral constituencies—from north to south.

Hence, we propose Nepal to be a federal state of four provinces (Mechi, Koshi, Gandak, and Karnali) and one territory as sub-national political units. Each province will have three ELC regions from mountain, hill and terai. The most eastern province, Mechi, combines Kanchenjunga region, Sagarmatha region (focus of Limbu, Rai groups respectively) and the eastern Terai region, a region without any focus group. Next, Koshi province combines Gaurishanker region, Kathmandu region and Mithila regions (focus of Tamang, Newar and Maithali speaking groups respectively). The regions of Annapurna, Ridi and central terai (focus regions for Gurung, Magar and Bhojpuri speaking respectively) are integrated to form the Gandak province. The far west province, Karnali, includes the regions of Khaptad, Limbini and western terai regions. These are focus regions for Dalit, Awadhi speaking and Tharu groups respectively. Finally, Rara territory is formed of Dolpa, Jumla, Humla and Mugu districts (see the regional and provincial maps in Appendix B).

The prosperity of Nepal and inclusiveness of all groups require that we allow equal opportunity so that one group cannot dominate another. Prosperity is on crafting an inclusive society for majority and minority, for dwellers of all regions (mountain, hill and terai), and for

both females and males. Towards this end, we have proposed electoral constituencies based on ethnic, language and caste groups and political constituencies based on resource endowment and economic development potential. By doing so, we will be providing an optimal solution for both inclusiveness in political process and advancement in economic activities.

With this structure in mind, we propose a three-tier government: local, provincial/territorial and national. Both at the provincial and the national levels, we propose bicameral parliaments. The bicameral system at the national level will be a method of combining the principle of democratic equality with the principle of federalism—all citizens are equal in the lower house, while all provinces are equal in the upper house. Similarly, at the provincial level, the lower house will maintain the equality of individuals at the lower house and equality of regions at the upper house.

We propose the lower house of national parliament (National Assembly) to have 305 members, 300 from 12 regions and five from the territory. The constituencies for election are ELC focus regions. Half of the legislators are proposed to be elected based on regional list of candidates and the other half based on national list of candidates that parties have to submit during election time. The regional candidates should come from the region, whereas the national candidates can be drawn nation wide. Voters cast votes for the parties not for the candidates. Voters in each region cast two votes; on the left side of the ballot box for the regional representation and on the right-side for national representation. Votes can be split between two parties. The upper house of the national parliament (which we call the National Council of Provinces) will have total of 70 members, 15 from each province and five from the territory and five nominated from the government from each of four provinces and territory and from groups other than BC and the eleven ELC groups. One of them must be a Muslim, the group that

accounts for slightly more than 4% of Nepal' population but has no focus region. There will be no direct election for upper house; the representation of 15 from each province and of five from the territory will be decided in proportion to the parties involvement at the provincial parliament, for which we have provided a formula. Hence with 305 members at the lower house and 70 members in the upper house, there will be a total of 375 national level law makers.

At the lower level of the provincial parliament (Provincial Assembly), the number of representatives for each region will be the same as the number of representatives for the National Assembly. For the territory however, we propose to have 10 members, instead of five we have proposed for National Assembly. The election constituency, and the process for the Provincial Assembly will be the same as that for National Assembly. At the upper house of provincial parliament (Provincial Council of Regions), we propose 15 members for each province (five from each region). Voters in each region will elect five members for the upper house of provincial parliament. Besides, each provincial government will nominate one addition member, and if there is no representation from Muslims, that nomination should come from them. With a total of 310 members in the lower house and 64 in the upper house, there will be total of 374 members engaged in provincial and territorial parliaments.¹² That will make the total number of legislatures at the national and the provincial level equal to 749.

In both levels of government, we propose a proportional representation system, guaranting that every individual and every ELC focus region in Nepal has equal "say" in political representation. To achieve this goal, we propose a list system of proportional representation with Imperiali quota for the regional list and with Droop quota for national list (see Appendix C for definition) at both national and provincial lower houses. We propose proportional representation with Droop quota for both levels of upper house.

Since the electoral constituencies are the ELC focus region, this itself is a built-in mechanism for inclusiveness among different groups. Besides, to guarantee inclusiveness of all groups in the political process, we develop three criteria for all political parties to fulfill while choosing candidates at the lower houses of both parliaments. However, for the upper house and for the territory there are no criterion to follow.¹³ At the lower house of national parliament, the criteria are that (1) the share of candidates from the regional focus group in total regional list of candidates put forward by a party in that region should not be less 80% of this group's share in regional population, (2) the share of national candidates from a group in total national candidates put forward by a party should not be less than 70% of the share of that group in Nepal's population, and (3) half of the national (total) candidates should be women nationally.¹⁴ Criterion (1) means that if a group has 10% of its focus region's population then each party will provide at least 8% of the regional candidates in this region from this group, and if a group has 10% of national population, each party will provide at least 7% of its total candidates from that group.

Before proceeding further, we should make a few points regarding the data. First, data used in this paper are Nepal's 2001 population Census. We understand that the data may be far from perfect; however, lacking alternative sources, we have used them extensively. Second, since the data are only at the district level, while identifying regions, we have counted each district as a member of a single region. But the population distribution of a district could be such that it would be more appropriate to have some parts of that district into one region and other parts of it into another depending on how each ELC group is settled in the district. Once one

¹² Note that the territorial parliament is unicameral.

¹³ In case of provinces, criterion (2) should be that the provincial candidates from a group in total provincial candidate put forward by a party should not be less than 60% of the share of that group in province's population.

¹⁴ The respective shares for the lower house of provinces are 80% each for both regional and provincial lists.

looks at the more detail local (village) level data, it is quite possible that some part of a district may fall in region other than where it is assigned in the study. However, I do not think that practice will bring major change in population distribution by regions and provinces. In any case even if it changes some statistics, the basic structure and the layout of the paper will still be equally valid.¹⁵

The rest of the paper is organized as follows. In section II, we provide a synopsis of population distribution of Nepal based on Census 2001, with a focus on main ethnic, linguistic and caste groups. Section III identifies regions. Section IV identifies province by combining regions that are natural partners. Section V devises a mechanism for the election of representatives for the legislative bodies of Federal Nepal both at the national and the provincial levels. Section VI builds on section V and develops a model of group participation in the political process. Section VI concludes the paper.

II. Population Distribution: Ethnicities and Languages

In terms of ethnicity- and linguistic-composition of the total population, Nepal is like a garden with varieties of flowers. According to population Census 2001, there are 23 groups, which constitute at least one percent of Nepal's total population (see Appendix A, Table A1).¹⁶ Among them, the group of Chhettri Thakuri and Sanyasi constitutes the largest fraction (18.1%) of the population followed by hill Brahmin (12.7%). With so many groups in the list, it is hard to carry a meaningful analysis. Besides there are some common threads (language, ethnicity, socio-

¹⁵ What is a bit disappointing is that researchers in Nepal so far have not used 2001 population Census data at the local (geographically more disaggregate) level to study this type of issue.

¹⁶ Data in Table A1 are presented in the same way that the Census data are reported. The number of groups that represent more than 1% of the population would have been even more than 23 had the Census data were collected for every single ethnic/language caste group. Notice in some cases, data have been reported for a combined group. For example, "Koiri, Kurmi, Kanu, Haluwai, Hajam and Thaku" are reported under one group (see Table A1 in the appendix).

economic conditions etc.) that some of these groups could be combined without compromising the effectiveness of the study. The results are presented in Table 1.¹⁷ The largest two groups (Brahman and Chhetri, Thakuri and Sanyasi) are combined into one and called Brahman and Chhetri (BC). This group makes 30.9% (column 2) of Nepal's population. The other groups in descending order of their shares are Maithali speaking, Bhojpuri speaking, Hill Dalit, Magar, Tharu, Tamang, Newar, Muslim, Rai, Awadhi speaking, Gurung and Limbu. Other (mountain and hill)—referred as OMHJ henceforth—are 2.3% of the total population. The remaining 1% constitute "Others".

BC constitutes the majority (more than 50%) in 19 districts (first entry in column 3) and the plurality (largest fraction but less than 50%) in another 27 districts with a combined districts of 46 where they are either in majority or in plurality (entry inside the parentheses in column 3). The distribution of ELC groups is rather spread thin across nation. Out of 75 districts in Nepal, the eleven ELC groups are in majority only in 14 districts, and they are in plurality in additional 15 districts, with a total of 29 districts where they are either in majority or in plurality (instead of 46 districts for BC). Among them, Maithali speaking people are in majority in five districts; Bhojpuri speaking people are in majority in three districts, whereas five ethnic groups Magar, Tharu, Tamang, Newar and Gurung and Awadhi speaking people are in majority in only one district each. Therefore only in 33 districts there is either BC or ELC group in majority; in the remaining 44 districts there is no single group which is in majority.

Table 1. Nepal's population composition by broader caste/ethnicity in 2001

Ethnic, language and caste groups	Share in total population	Number of districts with	Share in its own population where the group is		
		Majority (& plurality)	2 nd place	at least in plurality	in 2 nd place

¹⁷ *Hill Dalit* includes three groups, (Kami, Damai, and Sarki reported in Table A1. *Other Janajait* (in mountain and hill) includes mountain Janajati Sherpa, Bhote, Walung, Byansi, Hyolmo and hill Janajatis Gharti, Bhujel, kumal, Sunuwar, Baramu, Pahari, Thakali, Yakkha, Chhantal, Jirel, Dura, Thami, Lepcha, Chepang, Hayu, Raute, and Kusunda. Other includes Panjabi/Shikh, Jaine and Undefined/Others.

Brahman, Chhetri, Thakuri, Sanyasi	30.9	19 (46)	19	75.2	18.0	93.2
Total Madhesi (excluding Tharu)	22.5	9 (11)	na	65.6	na	na
Maithali speaking	12.3	5 (5)	1	82.1	na	na
Bhojpuri speaking	7.5	3 (4)	-	83.6	na	na
Awadhi speaking	2.5	1 (2)	-	91.7	na	na
Hill Dalit	7.2	0 (0)	15	0	21.9	21.9
Magar (hill janajati)	7.1	1 (3)	9	17.0	29.5	46.5
Tharu (terai janajati)	6.7	1 (2)	5	13.1	25.3	38.4
Tamang (hill janajati)	5.6	1 (4)	5	30.9	28.8	59.7
Newar (hill janajati)	5.5	1 (2)	1	21.1	25.7	46.8
Muslim	4.3	0 (0)	6	0	42.5	42.5
Rai (hill janajati)	2.8	0 (3)	4	30.4	22.5	52.9
Gurung (hill janajati)	2.4	1 (2)	4	2.6	34.8	37.4
Limbu (hill janajati)	1.6	0 (2)	1	38.3	11.1	49.4
Other (mountain & hill janajati)	2.3	0 (0)	3	0	1.1	1.1
Others	1.0	0 (0)	0	0	0	0
Total	100	33 (75)	72	38.7	21.1	59.8

In column 3, we have total of 72 districts at the last row because due to lack of data on language, I am not able to identify which group is in second position in the district of Jhapa, Morang and Siraha. The three districts where other (mountain and hill janajatis) are in second place are districts of Mustang, Humla and Mugu. Although the Madhesi group is 22.5% Nepal's population, the three language groups add only to 22.3 indicating that other remaining Madhesi people speak other than these three languages.
na: not available

Among the 29 districts that the ELC group is in plurality, Maithali speaking are in five district; Bhojpuri speaking and Tamang are in four districts each; Magar, and Rai are three districts each; Awadhi speaking, Tharu, Newar, Gurung and Limbu are in two districts each. In column 4, we examine in how many districts each group constitutes the second largest fraction of the population. The data shows that the BC group constitutes the second largest fraction in 19 districts. Hence this group is either the largest fraction or the second largest fraction in 65 out of 75 districts.¹⁸ The other groups which constitute the second largest fraction in descending number of districts are Hill Dalit (in 15 districts) followed by Magar (in nine districts) and Muslim (in six districts). Tharu and Tamang are second largest groups in five districts each.

The fifth column shows the population count of each group inhabited only in those districts where it is at least in plurality or more makes only 38.7% of Nepal's population. The remaining 61% of Nepal's population is distributed across districts in such a way that no group is

¹⁸ The ten districts that BC is not even in second place are: Saptari, Siraha, Dhanusa, Mahottari, Rauthat, Bara, Parsa, Kapilbastu, Manang and Mustang.

even in plurality.¹⁹ BC and Maithali speaking are the only groups where majority of them are living in those districts where they are in plurality (75% and 85% respectively). For other ELC groups, a lot less than half of their population live in the districts where they are at least in plurality (the largest share of 38.3% is for Limbu); others live in districts where they are in minority as a single group.

The absence of many districts with a single ELC group as majority is due to the population distribution of each group being scattered across districts. To capture approximately 85-90% of each ethnic population in a cluster, depending on the group, 10 to 30 districts must be combined (Table 2). For example, 97% of Limbus are settled in 10 districts (71% of them in five districts). Among the groups, the most scattered are the BC and hill Dalit, for which 30 districts account for only 67% of their population. Among the ethnic groups, the most scattered is Magar, comprising 85% of its population in 30 districts.

Table 2. Shares of ethnic/caste population by districts of largest settlement (percent)

	5 Districts	10 Districts	15 Districts	20 Districts	25 Districts	30 Districts
Brahman, Chhetri, Thakuri	18.7	31.2	41.9	51.4	59.5	66.7
Terai	41.9	72.0	86.2	92.1	94.3	95.9
Terai caste	44.9	77.6	90.0	95.7	96.7	97.9
Terai janajati	43.2	69.0	81.5	89.0	91.7	94.3
Terai Dalit	25.8	49.5	75.0	79.2	86.8	88.9
Dalit (hill)	15.3	28.7	40.2	50.1	58.7	66.6
Magar (hill janajati)	29.9	48.9	62.9	72.4	79.3	84.7
Tharu (terai janajati)	52.1	75.7	92.2	98.0	99.4	99.6
Tamang (hill janajati)	47.9	68.3	78.4	85.2	90.5	94.2
Newar (hill janajati)	53.5	65.6	75.1	82.0	86.8	90.8
Muslim	44.4	76.4	93.7	97.3	98.6	99.2
Rai (hill janajati)	50.3	78.8	92.3	96.1	97.6	98.6
Gurung (hill janajati)	47.9	70.4	77.9	83.8	88.1	91.0
Limbu (hill janajati)	71.2	96.5	98.7	99.2	99.5	99.7
Other (mountain and hill janajati)	41.8	64.7	75.9	82.3	87.3	98.1

¹⁹ Even if we sum population of each group in districts where it is at least in plurality and in second place, the total coverage of the population will be only 60%.

In the previous table, we have presented Madhesi population in terms of three languages. However, since we do not have data on districts by mother tongue, we provide data on Madhesi in three other categories: terai upper and middle caste, Janajati and terai Dalit.²⁰

III. Identifying Regions

Nepal's population distribution pattern raises many questions: How should Nepal's constituencies of federalism be formed? How should the balance be maintained between the majority BC and the minority ELC groups? How should the ELC groups be recognized in the federation? Should the federation be a union of them? To answer these questions, we need to identify the focus region for each ELC groups. A focus region for a group includes all those districts in which it constitutes at least the second largest fraction after BC in terms of population share. Hence, for each group, one has to identify in which districts this group is either in majority or in plurality or is only second to BC. The districts where a particular group is either in majority, or in plurality or second to BC, are called the natural homelands for that group. Such districts are then combined to form a region with a focus for that group. These regions will be combined to form provinces, which, in turn, will make up the federation. The analysis in this section will use information provided in Tables A2 through A11 (Appendix A). The tables provide the 15 districts with the largest number of inhabitants for each of the main ELC groups except for Limbu, in which case we have given only ten districts, as they account for 97% of Limbu population).

1. Regions around Mechi river basin

²⁰ *Terai upper and middle caste* combines four groups of Table A1, the upper caste Rajput, Kayastha and Baniya and three groups of middle caste Yadav; a group of Koiri, Kurmi, Kanu, Haluwai, Hajam/Thaku and a group of Teli, Kalwar, Sudhi, Sonar, Lohar. *Terai Janajatis except Tharu* includes group of Majhi, Danuwar, Bote, Darai, Kumal, Raji, group of Rajbanshi, Tajpuriya, Gaigai, Dhimal, Meche, group of Santhal/Satar, Dhangad/Jhangad, Pattarkatta/Kusbadiya and janajati Dhanuk. *Terai untouchable* includes three groups from Table A1; they are group of Dhusadh/Paswan, Tatma, Khatway, Bantar, group of Dhobi, Halkhor, Dalit/Unidentified Dalit, and lower caste Chamar and another smaller group (not reported in Table A1) Musahar.

The most eastern and northern part of Nepal, is the homeland of Limbus. The largest number of Limbus reside in Panchthar, Taplejung, Ilam and Terhathum districts (column 2, districts are sorted by the district share of total Limbu population in descending order, Appendix A, Table A2). Panchthar and Taplejung districts are home to 22.7% and 15.6% of total Limbu population, respectively. Relative to other population groups, Limbus are in plurality in Panchthar and Taplejung districts where they make up 40 and 42% of districts population respectively (column 3). They are not in majority in any district (the share of Limbu in total district population in column 4 is less than 50% in each district). In both Panchthar and Taplejung, BC group accounts for the second largest population (column 5) comprising 23.7% and 23% of district population (entries in column 6, which are smaller than Limbu's share in column 4). Besides these two districts, the other district where Limbus are in plurality among ethnic groups but are less than BC is in Terhathum, where 11% of the total Limbu population reside.

Aside from the aforementioned districts, there are no districts where Limbus comprise the largest ethnic group (or the second largest group after BC). For example, in Ilam, Jhapa and Dhankuta Limbus account for the third largest population. In Ilam and Dhankutta, Rais are in larger fraction than Limbus, and in Jhapa, terai caste (T-CT) group is larger than Limbu (compare the shares in last column with column 4). Hence, based on the criterion defined above, the natural homelands of Limbus are only Panchthar, Taplejung and Terhathum. All other districts would be natural homelands of other groups. Thus we combine these three districts to form a region called "Kanchenjunga region", name after the mountain peak that is located in Taplejung, in which the focus group is Limbu. Note that in order to construct this region, we have also included the districts where Limbus are in second position in terms of the size of the

population after BC. This strategy is adopted throughout the paper, but that construct should not be used to take away the democratic rights of BC groups.

Table 3. Population composition in Kanchenjunga region (share in percent)

Districts	Limbu	BC	OHI	Hill Dalit	Madhesi	Tharu	Muslim	Total
Panchthar	40.3	23.7	27.7	6.6	1.0	0.1	0.0	99.4
Taplejung	41.7	23.0	26.2	8.2	0.5	0.1	0.0	99.7
Terhathum	35.4	36.0	16.8	9.6	0.7	0.0	0.1	98.7
Share in group's total	49.5	1.7		1.9	0.1	0.0	0	2.0
Share in region's total	39.5	26.6	24.5	7.9	0.8	0.1	0.0	99.3

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi, and OHJ refers to other hill janajati which means hill janajatis other than Limbu. It may also include OMHJ. The districts are ordered in descending order of their shares in Limbu population.

As evident from the second last row of the table 3, these three districts are home to half of the Limbus in Nepal (49.5% of total Limbu population live in this region). And as reported to the last row of Table 3, Limbus are 39.5% of this region's total population. The remaining groups in the region are BC (26.6%), other Hill Janajati-OHI (24.5%) and Hill Dalit (7.9%). Among OHI, the main groups are Rai and Tamang in Panchthar with 14% and 7% of district population respectively. In Taplejung, Sherpas constitute 10% of the district population while Rai, Gurung and Tamang constitute about 5% each. In Terhathum, after Limbu the third largest ethnicity is Tamang with 6% of the district population, and other groups such as Newar, Gurung, Magar and Rai constitutes about 2 to 3% each.

A group residing to the west of Limbu is Rai. Rais are not in majority in any district but are in plurality in three districts (Khotang, Bhojpur and Solukhumbu) (Table A3). They are in second position in four districts (Ilam, Udayapur, Dhankuta and Sankhuwasabha). By combining eight districts presented in Table 4 (those seven districts which are natural homeland of Rais and the district of Okhaldhunga, where Rais make up the third largest group after BC and Hill Dalit) we propose a region, named "Sagarmatha region"—Sagarmatha means Mount Everest in Nepali which lie in Solukhumbu district. We have to include Okhaldhunga district in this region even

though this appears to be the homeland of Hill Dalit as there are no other districts nearby with this characteristic. In the three districts that Rais are the largest group, BC is the second largest group, and in all five districts where Rais are either the second or the third largest group, BC group is the largest group in terms of district population.²¹ Even though 63.2% of total Rai population is living in this region, they account for only 25.2% of the region's population. Actually, the share of BC population is higher than that of Rai, making the latter a minority group in its own focus region.

Table 4. Population composition in Sagarmatha region (share in percent)

Districts	Rai	BC	OHI	Hill Dalit	Terai Total	Tharu	Muslim	Total
Khotang	38.7	32.5	15.8	11.2	0.7	0.1	0.0	99.1
Bhojpur	34.1	29.5	23.7	11.4	0.7	0.1	0.0	99.5
Ilam	24.4	29.6	36.9	7.1	1.2	0.1	0.0	99.3
Udayapur	16.4	29.2	24.8	11.2	6.8	7.8	0.6	96.9
Dhankuta	23.0	28.1	38.7	7.6	1.1	0.1	0.1	98.7
Sankhuwasabha	22.4	26.8	40.7	8.2	1.0	0.1	0.0	99.2
Solukhumbu	31.5	21.1	36.5	9.1	0.5	0.1	0.0	99.0
Okhaldhunga	11.9	37.3	34.0	14.8	0.9	0.1	0.0	99.0
Share in group's total	63.2	6.7		8.7	0.6	1.5	0.2	7.0
Share in region's total	25.2	29.7	30.2	10.1	2.0	1.5	0.1	98.7

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi and OHI refers to other hill janajati other than Rai and may also include OMHI. The districts are ordered in descending order of their shares in Rai population.

On the southern plain part of the natural homeland of Limbus and Rais, we combine the districts of Jhapa, Morang and Sunsari to form another region. Because there is no particular ELC group that is either in majority or in plurality in these districts and most of them have

²¹ In these eight districts, the other ELC groups that occupy largest share after Rai and BC are Hill Dalit in Khotang, Bhojpur and Okhaldhunga, Limbu in Ilam and Dhankutta, Magar in Udayapur, Sherpa in Shankhuwasabha and Yakkha in Solukhumbu. These eight districts cover 63% of the total Rai population, and Rais constitute one-quarter of this region's population. On the other hand, BC constitutes about 30% of the region's population, whereas another 30% are OHI. Among OHI, in Sankhuwasabha, they are Tamang (10%), Gurung, Sherpa, Newar and Yakkha (5% each). In Dhankuta, they are Limbu (14%), Magar (10%) and Tamang (6%). In Ilam, they are Limbu (14%), Tamang (7%) and Magar (5%). In Solokhumbu, Sherpas are 18% and Tamang are 9%. In Bhojpur, Tamang and Newar both have about 8% of the population, whereas in Khotang, Newar, Magar and Tamang each have about 4% of the district population. In Udayapur, the other largest ethnic groups are Magar (14%) and Tamang (7%). In Udayapur, three groups Rai, Magar and Tamang are almost of same size, as the share of district population of Magar is 10% and that of Tamang is 9%.

Nepali as their mother tongue, this region will not be a focus area for any ELC group. Even though Madhesi (people of terai region) are in plurality in Morang and Sunsari, there is no single language which is used by more people relative to the mother tongue Nepali in these districts. Ideally, we would have preferred to provide a table based on mother tongue, however, these data are not available.

Table 5. Population composition in eastern terai region (share in percent)

Districts	Nepali speaking	BC	Hill Janajati	Hill Dalit	Madhesi	Tharu	Muslim	Total
Jhapa	47.8	41.5	20.1	6.3	25.1	1.5	3.1	97.6
Morang	30.2	25.2	19.8	5.0	36.0	7.6	4.4	97.9
Sunsari	25	17.1	19.2	4.3	32.0	14.0	11.1	97.7
Share in group's total	7.8	8.3	5.9	12.9	6.9	10.5	12.9	
Share in region's total	32.9	27.7	19.7	5.2	31.5	7.6	6.0	97.8

Hill Janajatis and hill Dalit constitute approximately 20% and 5% of this region's population, respectively. Among the hill janajatis, Rai, Limbu and Newar are the largest group, each contributing at most 7% of the district population. The other remaining groups in the region are Tharu and Muslim. With 7.6% of the region's population, Tharu is the third largest group.

2. Regions around Koshi river basin

Congruent to the west of Rais' area, is the homeland of another hill ethnic group, Tamang. Based on Table A5, the only district that Tamangs are in majority is Rasuwa (63.7%), and they are the largest fraction in other three districts (Makawanpur, Newakot and Sindhuli). Additionally, they are the second largest group (the first largest ethnic group) after BC in five other districts (Kavrepalanchok, Sindhupalchok, Dhading, Ramechhap and Dolakha). These nine districts which are the natural homeland of Tamang (given in Table 6) form "Gaurishanker region", name given after the Gaurishanker himal in the district of Khotang.

Table 6. Population composition in Gaurishanker region (share in percent)

Districts	Tamang	BC	OHJ	Hill Dalit	Terai Total	Tharu	Muslim	Total
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Makwanpur	47.3	26.5	18.4	4.3	2.6	0.2	0.3	99.8
Kavrepalanchok	33.8	38.2	17.7	7.2	2.7	0.1	0.1	99.8
Nuwakot	38.5	35.2	16.8	6.0	2.5	0.2	0.1	99.4
Sindhupalchok	32.2	34.4	21.6	7.4	3.8	0.2	0.0	99.5
Dhading	21.5	34.5	30.0	10.8	2.9	0.1	0.2	99.8
Sindhuli	25.6	25.1	24.0	14.6	9.7	0.6	0.0	99.7
Ramechhap	20.6	32.9	28.6	13.6	3.7	0.1	0.0	99.5
Rasuwa	63.7	19.4	12.1	2.9	0.9	0.3	0.0	99.3
Dolakha	15.7	45.1	27.9	9.4	1.2	0.0	0.0	99.4
Share in group's total	59.7	11.4		11.2	1.7	0.3	0.3	10.6
Share in region's total	31.8	33.1	22.2	8.6	3.6	0.2	0.1	99.6

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi and OHJ refers to other hill janajati (other than Tamang) and may also include OMHJ. The districts are ordered in descending order of their shares in Tamang population.

In the four districts that Tamangs are the majority and the largest fraction and in the five districts that Tamangs are either the majority or the plurality and the five districts in which they are in the second largest group, BC group is the second largest and first largest group respectively.²² About 60% of all Tamang population live in these nine districts, and the remaining 40% are distributed quite thin across several other districts. Even if we take the 15 districts with the highest number of Tamang settlement as shown in Table A5, the total share of Tamang population is about 78%. In terms of the region's population, with its share of 31.8%, Tamangs are second only to BC which make up 33.1% of the region's population. The other main group in this region is OHJ, mainly Newar and Magar which make up 10% and 6% of region's population, respectively.

Moving from east to west and from north to south, we reach the Kathmandu valley. The data on the distribution of Newar population by district (Table A6) show that the top 15 districts encompass only 75% of the total Newar population. They are in majority in Bhaktapur (55.9%) and in plurality in Lalitpur (40.3%) and second only to BC in Kathmandu (29.6%). There are no

²² The third largest group is Newar in five districts (Makawanpur, Kavrepalanchok, Nuwakot, Sindhupalchok and Ramechhap). In Dhading and Sindhuli districts, it is Hill Dalit group who is the second largest with Magar as a very close contender. Gurung is the third largest group in Rasuwa, and so is Thami in Dolakha.

other districts where Newar is the largest fraction of ethnic population.²³ These three districts (Kathmandu, Lalitpur and Bhaktapur) make “Kathmandu region” where Newar constitutes only 35.4% of region’s population, and less than 50% of Newar reside in Kathmandu region (Table 7). In the two districts, where Newars are the largest population fraction, BC is the second largest group. In terms of population share in the region, BC is the largest group with 37.8%, about 2.5 percentage points higher than Newars’ share. The other large group, other hill janajatis, is mainly the Tamang.

Table 7. Population composition in Kathmandu region (share in percent)

Districts	Newar	BC	OHJ	Hill Dalit	Terai Total	Tharu	Muslim	Total
Kathmandu	29.6	41.0	20.4	2.2	4.0	0.8	1.1	99.3
Lalitpur	40.3	32.5	19.7	3.3	2.5	0.7	0.3	99.4
Bhaktapur	55.9	30.0	10.0	2.2	0.9	0.3	0.1	99.3
Share in group’s total	46.8	8.8		2.2	1.1	0.8	1.4	7.2
Share in region’s total	35.4	37.8	18.8	2.5	3.3	0.7	0.8	99.3

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi and OHJ refers to other hill janajati (other than Newar) and may also include OMHJ. The districts are ordered in descending order of their shares in Newar population.

The next homeland, region of Mithila, consists of five districts (Saptari, Siraha, Dhanusa, Mahottari, and Sarlahi), where majority of inhabitants speak Maithali as their mother tongue. Because we do not have data on distribution of Maithali speaking people in other districts, we have not been able to provide similar table on linguistic as we have done on ethnicity in our appendix. However, for comparison purpose, we have given the table for Madhesi people, Table A4, where Madhesi could be anyone whose mother tongue is Maithali, Bhojpuri, Awadhi, Rajbanshi or any other terai languages.²⁴ These five districts are inhabited by about 83% of the Maithali speaking population, and they constitute 77% of the total population in the region. More

²³ They are the third largest group in five districts (Kavrepalanchok, Sindhupalchok, Ramechap, Makawanpur, Nuwakot) where the main ethnic group is Tamang.

²⁴ Among these five districts, the second largest group is Muslim in three of them (Dhanusa, Siraha and Mahottari) with BC as the third largest group. In the remaining two districts, BC is the second largest group in Sarlahi and Tharu is the second largest group followed by Muslim in Saptari.

than 25% of Muslims in Nepal live in this region, and they constitute about 9% of the region's population. BC group constitutes 5.4% of the population.

Table 8. Population composition in Mithila region (share in percent)

Districts	Maithali speaking	Madhesi	BC	Hill Janajati	Hill Dalit	Tharu	Muslim	Total
Dhanusa	89.7	75.6	5.6	4.6	4.1	0.6	8.5	99.0
Siraha	85.0	76.1	3.0	4.4	1.7	4.8	7.3	97.3
Mahottari	82.5	71.9	3.8	5.3	2.9	1.6	13.5	99.0
Saptari	75.1	67.1	4.6	3.5	1.3	12.8	8.5	97.8
Sarlahi	54.4	66.7	9.7	9.5	2.3	3.2	7.7	99.0
Share in group's total	82.8	41.9	2.3	2.8	4.1	8.7	27.7	
Share in region's total	77.2	71.5	5.4	5.5	2.5	4.5	9.0	98.4

The districts are ordered in descending order of their shares in Maithali speaking population.

3. Regions around Gandak river basin

This discussion takes us to the Gandak river basin area, a northern region generally inhabited by Gurungs. The Gurung population is quite scattered. For instance, if we combine the top 15 districts inhabited by Gurungs, we will only account for 77% of their population (Table A7). They make up the majority only in two districts, Manang and Mustang (note that Mustang is not listed in Table A7 as the share of Gurung residing in Mustang is only 1.2%, less than 1.3% in Morang, the 15th district). Gurung constitutes 75% of the Manang population and slightly less than 50% of the Mustang population. In three districts (Kaski, Gorkha and Lamjung), Gurungs are in second largest group after BC. Although these are the three districts with the largest number of Gurungs, they constitute only 35% of the Gurung population.²⁵ So, five districts (Kaski, Gorkha, Lamjung, Manang and Mustang) make the “Annapurna region”, a focus of Gurung group. Interestingly, in all fifteen districts that Gurungs have resided heavily, the largest group is BC (second in two districts where Gurungs are in majority) except in Rupandehi where terai-caste is the largest group. Note that this region has only 37% of Gurung population;

²⁵ Gurungs are in third place only in Dolpa, which is the twenty-first district in terms of the share of Gurung population. And in Doplpa, population of Tamang is slightly higher than that of Gurung.

Gurungs are less than one-quarter (23.4%) of the region's population. The share of BC is more than 14 percentage point higher than that of Gurung. Other Hill janajati also constitutes substantial share (18.4%) followed by 15.6% of hill Dalit.²⁶ This region seems to be more diverse than other groups.

Table 9. Population composition in Annapurna region (share in percent)

Districts	Gurung	BC	OHI	Hill Dalit	Terai Total	Tharu	Muslim	Total
Kaski	18.1	47.1	14.9	14.7	3.8	0.2	0.7	99.6
Gorkha	22.3	31.5	23.9	16.8	4.0	0.0	0.9	99.4
Lamjung	31.7	32.4	15.8	17.0	2.3	0.1	0.4	99.8
Manang	75.9	5.2	16.1	2.1	0.5	0.1	0.0	99.9
Mustang	45.2	11.3	31.7	9.4	1.7	0.3	0.0	99.6
Share in group's total	37.4	4.7		7.3	0.6	0.1	0.6	3.8
Share in region's total	23.4	37.9	18.4	15.6	3.5	0.2	0.7	99.6

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi and OHI refers to other hill janajati (other than Gurung) and may also include OMHI. The districts are ordered in descending order of their shares in Gurung population.

Next we examine the region of Nepal where Magars are concentrated. They are in majority (50.9%) in Palpa, and occupy plurality shares of population in two districts (Rolpa and Myagdi, 44% and 42% respectively—Table A8). They have the second largest share of population in nine districts (seven as shown in the Table A8, and the eighth is the district of Arghakhanchi, where both Magar and Hill Dalit are 16.4% of district population and ninth is the district of Salyan).

Thus, there are twelve districts where Magar are either the largest or the second largest group (after BC) in district population, therefore being eligible to be called Magar's natural homeland. In Parbat, Magar is the third largest group (with 10.7% of the population) after BC and Hill Dalit (19.7% of the population). Geographically, Parbat is surrounded by Magar's natural homeland. As a result, we have include Parbat to Magar's focus region, increasing the number of districts to 13 in "Ridi region", name after the place which is famous in Magars'

²⁶ Among the other hill janajati, the main groups are Magar and Newar in Kaski, Magar in Gorkha, Tamang in Lamjung, and Bhote and Thakali in Manang and Mustang respectively.

history and is located in Gulmi district . Note that these 13 districts encompass 51% of Magar population (Table 10). In terms of region population, they are far less relative to BC (26% vs. 41%). Another group which is in large number in this region is Hill Dalit. In fact, this region is home of 14% of Hill Dalit. They are the third largest group in 10 of 15 districts of top Magars inhabitant.

Table 10. Population composition in Ridi region (share in percent)

Districts	Magar	BC	OHJ	Hill Dalit	Terai Total	Tharu	Muslim	Total
Palpa	50.9	28.9	4.0	11.4	4.2	0.1	0.6	99.8
Nawalparasi	17.2	24.5	5.9	6.7	24.8	5.8	16.5	99.5
Rolpa	43.8	37.6	0.7	14.8	2.6	0.0	0.1	99.9
Tanahu	26.8	28.0	22.0	15.2	6.6	0.0	0.2	99.7
Baglung	27.7	43.4	4.2	21.7	2.6	0.0	0.1	99.9
Syangja	21.2	47.3	13.5	15.5	1.7	0.1	1.0	99.9
Pyuthan	30.6	43.0	3.6	18.1	4.1	0.2	0.1	99.9
Gulmi	19.9	54.4	2.8	16.9	5.6	0.1	0.3	99.8
Myagdi	41.8	26.6	7.7	20.8	2.5	0.0	0.3	99.5
Rukum	23.1	68.6	0.8	5.8	1.5	0.0	0.1	99.9
Parbat	10.7	59.0	8.1	19.7	2.0	0.2	0.3	99.8
Arghakhanchi	16.4	56.4	3.4	16.4	6.3	0.0	0.1	99.7
Salyan	17.2	61.9	3.0	12.6	2.9	0.2	0.8	98.6
Share in group's total	51.1	18.7		8.8	12.9	6.2	3.4	14.0
Share in region's total	26.0	41.2	6.8	14.2	7.5	3.0	1.0	99.7

Note: BC refers to Brahman, Chhetri, Thakuri and Sanyasi and OHJ refers to other hill janajati (other than Magar) and may also include OMHJ. The districts are ordered in descending order of their shares in Magar population.

The majority of the people in three districts in central terai (Bara, Parsa and Rautahat) has Bhojpuri as mother tongue. These three districts combined with district of Chitwan make up the central terai region. Based on the criterion, Chitwan should have been the natural homeland of Tharu. However, we include it in this region because there are no Tharu homeland districts close to Chitwan. In all three districts where Bhojpuri speaking are in majority, the second largest group is Muslim and the third largest groups are BC in Rautahat and Tharu in Bara and Parsa. This region encompasses 63% of the people whose mother tongue is Bhojpuri and this group constitutes slightly more than 50% of the region's population. Additionally, Madhesi constitutes 48% of the region's population followed by BC (15.3%), Muslim (12.6%), and Tharu (9.3%).

Table 11. Population composition in center terai region (share in percent)

Districts	Bhojpuri speaking	Madhesi	BC	Hill Janajati	Hill Dalit	Tharu	Muslim	Total*
Bara	76.1	56.9	9.1	6.1	2.4	11.3	13.4	
Parsa	83.6	60.9	7.3	5.3	1.0	8.2	15.4	
Rautahat	42.8	63.4	6.2	3.0	2.1	5.0	19.5	
Chitwan	na	6.2	41.6	29.6	8.7	12.7	0.8	
Share in group's total	62.7	19.5	4.5	3.6	3.8	12.5	26.8	
Share in region's total	51.8	48.0	15.3	10.5	3.4	9.3	12.6	99.1

na: not available

*total is not given as there are no data available by mother-tongue. The districts are ordered in descending order of their shares in Bhojpuri speaking population.

4. Regions around Karnali river basin

Next we examine an area where Dalits are the focus. In contrast to janajatis, Dalits have no traditional homeland; they are similar to the BC group in the sense that both are distributed across the country. The fifteen districts which are home to the highest number of Dalits are homeland to 50% of Dalit population (Table A9). There are 11 districts (reported in Table 12) that classify as natural homelands of Dalits, as they have the second largest population after BC in these districts. They are far from majority in any of the 11 districts. For instance, their population composition is highest in Kalikkot (27.5%) followed by Jajarkot (25.6%), and Dailekh (22.4). In terms of their own total population, the largest number of Dalits are in Kailali followed by Baglung, Surkhet, Kaski and Achham (each with about 3% share).

These 11 districts make up the “Khaptad region”. This region encapsulates only (17.8%) of the Dalit population and the Dalits in this region represents only (18%) of the region's population. In contrast, the largest fraction of the region, BC constitutes 68% of the region's population. Among the hill janajatis, the main are Magars in Surkhet, Dailekh, Jajarkot, Salyan and Kalikot and Terai untouchable in Doti and Terai caste in Bajura.

Table 12. Population composition in Khaptad region (share in percent)

Districts	Hill Dalit	BC	Hill Janajatis	Terai Total	Tharu	Muslim	Total
Dailekh	22.8	62.4	11.8	2.7	0.0	0.2	99.9
Jajarkot	25.6	62.3	9.2	2.5	0.0	0.1	99.7

Surkhet	21.5	46.5	23.2	6.0	2.1	0.4	99.7
Achham	22.4	68.3	0.9	6.8	0.0	0.1	98.5
Doti	17.8	66.7	3.9	9.5	0.1	0.1	98.0
Bajura	17.0	71.8	1.4	8.2	0.0	0.1	98.5
Kalikot	27.5	65.3	3.9	2.8	0.5	0.1	100.0
Bajhang	13.0	81.6	0.3	3.8	0.0	0.1	98.8
Baitadi	11.1	78.1	0.4	8.3	0.0	0.0	98.1
Dadeldhura	15.9	74.5	3.7	4.5	0.0	0.1	98.7
Darchula	7.8	86.6	1.4	3.8	0.0	0.0	99.7
Share in group's total	17.8	17.7	2.0	2.1	0.4	0.3	8.0
Share in region's total	18.0	68.0	6.6	5.8	0.3	0.1	99.0

The districts are ordered in descending order of their shares in Dalit population.

The southern districts Kapilvastu, Banke and Rupandehi, (Table 13) form a region call, “Lumbini region” (name after Lumbini, the birthplace of Buddha) where the majority of people has Awadhi as mother tongue. Unfortunately, in the absence of language data for the district of Rupandehi, we are not sure whether this district is a homeland of Awadhi speaking people. It most likely is. If it is not the case then it will be a homeland of Tharu (10.6% of the district population). However, even in that case, it will not be feasible to allocate this district to the Tharu region since the Tharu region is not congruent to Rupandehi district.

Table 13. Population composition in Lumbini region (share in percent)

Districts	Awadhi speaking	Madhesi	BC	Hill Janajati	Hill Dalit	Tharu	Muslim	Total
Kapilvastu	71.3	47.7	13.4	3.8	2.5	12.6	19.4	
Banke	44.2	26.5	22.0	8.1	4.3	16.4	21.2	
Rupandehi	na	38.0	22.5	14.9	4.0	10.6	8.9	
Share in group's total	91.7	11.7	4.4	2.6	3.1	13.0	24.4	
Share in region's total	32.6	38.1	19.6	9.8	3.6	12.6	15.1	98.9

na: not available

The districts are ordered in descending order of their shares in Awadhi speaking population.

The remaining region on the Karnali river basin formed by the districts of Kailali, Bardiya, Dang, and Kanchanpur, is the Tharu region. As given in Table A10, Tharus are the majority in Bardiya district, are the plurality in Kailali, and are the largest ethnic group in Dang and Kanchanpur. The district of Kailali is home to the largest number of Tharus (about 18%) followed by Bardiya (13%) and Dang (10%). Although Tharu's settlement stretches to many

terai districts, these are the only four districts which are natural homelands for Tharu and make up the western terai region.²⁷

Table 14. Population composition in western terai region (share in percent)

Districts	Tharu	BC	Hill Janajati	Hill Dalit	Terai Total	Muslim	Total
Kailali	43.7	31.6	5.0	9.7	6.5	0.6	97.1
Bardiya	52.6	23.4	4.6	6.0	10.1	3.0	99.8
Dang Deokhuri	31.9	36.9	13.4	10.6	6.0	1.0	99.8
Kanchanpur	23.3	48.5	4.9	8.3	12.0	0.1	97.1
Share in group's total	46.0	9.1	2.2	8.8	3.0	2.1	
Share in region's total	38.4	34.7	7.0	8.9	8.3	1.1	98.3

The districts are ordered in descending order of their shares in Tharu population.

5. Rara territory

The most underdeveloped part of Nepal is the remote west-north corner of Dolpa, Humla, Jumla and Mugu districts. In 2001, approximately 164 thousand people were residing in this area, with approximately 32 thousand households in 20 thousand square feet of land. These four districts cover 7% of the land in which only 0.7% of the total population (40% of them are in Jumla district alone) reside. Not only is this area underdeveloped, but the terrain is difficult and the settlement is quite scattered. For these reasons, we propose to make this area a territory—called “Rara territory”, the name derives from the Rara lake that is situated in Humla. We believe that combining these four districts into a single territory will bring forth consolidated efforts to raise the living standards of the most neglected area of Nepal. By making it a territory, the federal government will have more responsibility of providing more revenue to this area.

Table 15. Population composition in Rara territory (share in percent)

Districts	BC	Hill Janajati	Hill Dalit	Terai Total	Tharu	Muslim	Total
Dolpa	50.4	39.9	7.8	1.6	0.2	0	99.8
Humla	69.7	16.6	8.9	4.7	0.1	0	99.9
Jumla	79.7	2.2	13.8	3.8	0.1	0	99.6
Mugu	66.2	30.1	3.2	0.2	0.2	0	99.9
Share in group's total	1.6	0.4	0.9	0.2	0	0	0.7

²⁷ In terms of district shares in total Tharu population, the districts in descending order are Kailali, Bardiya, Dang, Nawalparasi, Kanchanpur, Sunsari, Rupandehi, Saptari, Morang etc as shown in Table A10.

Share in region's total	70.7	13.1	9.7	6.2	0.1	0	99.8
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In the Rara territory, about 71% of the region's population is BC, 13% is other Hill Janajatis and 10% is Hill Dalits. In the Dolpa district, the Hill janajatis are Gurung (23%) and Magar (13%). In Humla, Sherpas are 14% of the population and Thakalis are 15%. In Jumla, however, the share of Hill Janajatis is small, and the second largest group is Hill Dalit. For Mugu, the second largest group is one of Dhusadh, Chamar, Dhobi and Mushar.

We have identified 11 regions based on ethnicity, language and caste. Additionally, we identified a region on the eastern terai which has no specific focus group. Lastly we identified a territory on the north-west where the overwhelming majority of people are BC and there is no ELC group that could be identified as natural inhabitant of that region. In terms of population, the largest region is Ridi region (Magar focus) with 14% of Nepal's population followed by Mithila region with 13% of Nepal's population. The smallest is the Kanchenjunga region with 2% of Nepal's population. In terms of district, the region with highest number of districts is again Ridi region (13), while four regions (Kanchenjunga, eastern terai, Kathamandu and Lumbini) have the three districts each. They are: regions. Rara territory covers 13.3% of the country's area but only 0.7% of the population inhabits there.

IV. Identifying Sub-National Units

Now the question is: Should Nepal be considered a federation of these 12 regions and one territory or should there be an alternative arrangement? From socio-economic development perspective, one would like to have federation as a union of those political sub-national units that can efficiently manage their economic, social and educational policies. Although the identified 12 regions and one territory could potentially be constituencies of the federation, that may not be

optimal. In this context, we propose necessary and sufficient conditions for making Nepal a federation of the ELC regions.

NECESSARY CONDICITON: In order to make a federation as a union of regions based on ethnicity, language and caste groups, two conditions must be fulfilled: (i) the group must constitute at least simple majority of its homeland region's population and (ii) the region must be home for at least simple majority of the homeland group's national population.

In forming these regions, we tried to put each ethnic, linguistic and caste group together if they are the largest group after BC. In other words, in forming the regions, our objective has been to maximize the share of each of these groups' in the region's population. Despite this attempt, the distribution of population is so mixed that most of the ELC groups are in minority even in their own regions (see Table 16 where all summary statistics are drawn). There are only two ELC groups—Maithali and Bhojpuri speaking groups—that are majority in regions' population (column 6). Maithali and Bhojpuri speaking people make up approximately 77% and 52% of the total population in their respective regions. Three groups are in plurality (Limbu, Awadhi speaking and Tharu), in their regions, but with less than 40% of own region's population. The remaining six groups are overshadowed by BC even in their own regions (compare columns 6 and 7). For these six groups, their share of population in their respective regions range from as low as 18% for Dalit to 35% for Newar. Hence, only Maithali speaking and Bhojpuri speaking regions fulfill Necessary Condition (i).

Even in terms of the shares in their own population, these ELC groups are not quite representative; the natural homelands are not clustered at all (column 6). Of the 11 focus groups only six focus group have majority of their groups' population residing in their regions, thereby fulfilling Necessary Condition (ii). For the three language focus groups the shares are very high

(92% for Awadhi speaking, 83% for Maithali speaking and 63% for Bhojpuri speaking). The other three groups with more than 50% of their total population in their regions are Rai (63%), Tamang (60%) and Magar (51%). The remaining five focus regions (for Rai, Newar, Gurung, Dalit and Tharu) house less than 50% of their own population. Thus the regions are weak in terms of having similar ethnic, linguistic and caste groups. Thus, only Maithali speaking and Bhojpuri speaking qualifies for both part of Necessary Condition.

The above condition can be considered a bare necessity. However, the sufficient condition can be as follows.

SUFFICIENT CONDICITON: In order to make a federation as union of ethnicity, language and caste groups, the focus group must constitute at least two-thirds of the region's population and the region should be home for at least two-thirds of focus group's population.

None of the 11 ELC regions except Maithali speaking area passes the sufficient condition. Hence, given the population distribution, it is fair to say that the a federation based on regions that are *solely* defined on ethnic, linguistic and caste groups is not feasible.

Is it desirable economically to have a federation based solely on ELC regions? To answer this, we have to consider the natural resources that each ELC region has and examine the prospect of each region becoming a viable economic unit. There are three regions why we conclude that the federation based on only ELC regions is not desirable economically. First, considering the small size of some of the regions, one could imagine that the administrative, economic and social costs of forming an union on these regional bases will be very high. In the lack of added benefit in making federation of these regions, this reason itself is sufficient to search for another basis for sub-national entities.

Table 16. Summary by regions and provinces

Regions	Focus group	Number of existing	Population (%)	Area (%)	Region's share in focus	Focus group's share in	BC's share in region's
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		districts*			group's population (%)	region's population (%)	population (%)
Mechi province		14	18.2	17.6	25.9	21.7	28.4
Kanchenjunga region	Limbu	3	2.0	3.8	49.5	39.5	26.6
Sagarmatha region	Rai	8	7.0	10.6	63.2	25.2	29.7
Eastern terai region	-	3	9.2	3.2	8.3	-	27.7
Koshi province		17	31.0	16.4	74.0	58.8	22.4
Gaurishanker region	Tamang	9	10.6	11.7	59.7	31.8	33.1
Kathmandu region	Newar	3	7.2	0.6	46.8	35.4	37.8
Mithila region	Maithali	5	13.2	4.1	82.8	77.2	5.4
Gandak province		22	26.9	27.0	60.3	38.2	32.0
Annapurna region	Gurung	5	3.8	8.9	37.4	23.4	37.9
Ridi region	Magar	13	14.0	14.1	51.1	26.0	41.2
Center terai region	Bhojपुर	4	9.1	4.0	62.7	51.8	15.3
Karnali province		18	23.1	25.7	50.1	37.7	41.8
Khaptad region	Dalit	11	8.0	15.4	17.8	18.0	68.0
Lumbini region	Awadhi	3	6.9	3.7	91.7	32.6	19.6
Western terai region	Tharu	4	8.1	6.7	46.0	38.4	34.7
Rara territory	-	4	0.7	13.3	1.6	-	70.7
NATIONAL TOTAL		75	100	100		61.4	30.9

Note: The sum of last two columns (92.3%) do not add to 100 because the share of Muslim population (4.3%), and other mountain and hill janajatis (2.3%) and others (1%) is not included in either of the two column.

* The district names for different regions are as follows. Kanchenjunga includes, districts of Taplejung, Terhathum and Panchthar. Sagarmatha region includes eight districts: Ilam, Sankhuwasabha, Solukhumbu, Bhojpur, Khotang, Okhaldhunga, Dharan, Udayapur. The region of eastern terai includes Jhapa, Morang and Sunsari. Gaurishanker region has nine districts: Dolakha, Sindhuliplachok, Rasuwa, Ramechap, Kaverpalanchok, Nuwakot, Dhading, Sindhuli and Makawanpur. Kathmandu region includes, Kathmandu, Patan and Bhaktapur districts. Mithila region includes Saptari, Siraha, Dhanusa, Mahottari and Sarlahi. Further to the west is Annapurna region with five districts, Gorkha, Lamjung, Manang, Mustang and Kaski. Ridi region has 13 districts: Tanahu, Syanja, Parbat, Myagdi, Palpa, Gulmi, Baglung, Arghakhanchi, Pyuthan, Rolpa, Rukum Salyan and Nawalparasi. Central terai has districts of Rautahat Bara, Parsa and Chitwan. Khaptad region has 11 districts: Surkhet, Jajarkot, Dailekh, Kalikot, Achham, Bajura, Bajhang, Doti, Darchula, Baitadi and Dadeldhyra. Lumbini region includes Rupandehi, Kapilbastu and Banke. The four districts Dang, Bardia, Kailali, and Kanchanpur are in western terai region. Finally, Rara territory includes Dolpa, Jumla, Mugu and Humla.

Second, the point of making Nepal an inclusive democracy is to allow all to share the fruits of development and raise the overall standard of living. For this to happen, political restructuring is essential but that in itself cannot bring all the desired results. What is equally important is a comprehensive economic policy by each pillar of federation for which resources that it owns will be important. Nepal, which has a very different ecology from north to south, also has different resources in these regions. One could make a convincing argument that differences in resource should be a part of the equation in forming a federation. In other words,

put the regions together that are dissimilar in their endowment and hence complement to economic activities.

The mountain, hill and terai regions are very different in their natural endowment due to their ecology and geography. Mountains can be used for herbs, husbandry and horticulture, and hills can be used for farming, and horticulture, while the terai can be used for agricultural and industrial purpose. The natural resources, water, minerals and forests are located in the mountain and hill areas, whereas the plain land “grain basket of Nepal” is located in the terai. Besides other things, mountains and hills can be developed into popular tourist spots, whereas the terai could be developed for other services such as safari. Hence, considering the topology, vegetation and natural endowments, the three regions spanning from north to south in every river basin that we have defined complement each other. Because all three groups are distinct in terms of ethnicity or language, the combination of three groups will make a political unit that encapsulates a wealth of diversity.

Third, Nepal is bordered with two giants, India on the south and China on the north. These are one of the fastest growing economies in the world and are the leading economic powers in the developing world. If Nepal could put its policies together and have a long term plan on human capital building (a radical reform in education and skill promotion), the opportunities it can tap from these highly growing economies are enormous. Nepal could turn from “a yam between two giants” to “a diamond between two economic powerhouses”. Hence it is imperative that we give due weight on making constituencies of federalism that bordered both with India and China.

Based on the above background, we propose the formation of a province by combining three regions. The eastern three regions, Kanchenjunga, Sagarmatha (focus regions for Limbu

and Rai) and eastern terai make “province of Mechi”. The next three regions, Gaurishnaker, Kathmandu and Mithila (the respective focus regions for Tamang, Newar and Maithali speaking) make “province of Koshi”. Annapurna, Ridi and center terai (focus regions for Gurung, Magar and Bhojpuri speaking) make “province of Gandak” consists of). And, the remaining three regions, Khaptad, Lumbini and western terai (focus regions for Dalit, Awadhi speaking and Tharu) form the “province of Karnali”. All these provinces border India to the South and China to the North. These four provinces and Rara territory are the five pillars of Nepal’s federation (map with regions and provinces is provided in Appendix B).

The provinces are balanced in terms of area and population. In the four provinces, the population shares range between 18-31%; the area share range between 18-27%, and the number of existing districts range from 14-22. In terms of population, Koshi province will be the largest with 31% of the population covering 17 existing districts followed by Gandak province with 26.9% of the population and 22 districts (Table 16). Other remaining provinces will have 23.1% (Mahakali province) and 18.2% (Mechi province) of the population.

The formation of provinces in the north-south manner may sound like the same old story of regional development practiced by the previous regimes for the last few decades that kept the country stagnated and backward. But there is fundamental difference. Even though we have defined province on the north-south manner, there are well-founded regional ingredients within each province. Furthermore, the additional problem in the past was due to political, economic, social and cultural policies. With massive inclusiveness in politics, radical reform in economic endowments, broad-based high quality universal education and independent provincial economic policies, the act of integrating three regions stretching north to south to form a province with these provinces forming an union is the best strategy for Nepal.

No doubt, we need to provide special attention to the minority ELC groups and women who have been excluded from Nepalese politics and economic fortunes. There is a huge disparity among different groups in terms of wealth, access to education and access to health (Table 17). Poverty rates are highest among hill and terai Dalits (57.8%) and hill janajatis (48.7%). While 45% of Newars completed at least grade eight, only 12% of Dalits, 15% of Hill Janajatis, and 16% of Terai middle casts did so. More than half of Nepal's population is illiterate and the illiteracy rate for Terai and Hill Janajatis is even greater. The average time required to reach school is highest for Hill Janajatis, indicating that households are far away from the educational institute. The case is even worse in terms of access to health centers.

Table 17. Different indicators by ethnicity and caste in Nepal, 2003-04

	Poverty headcount (%)	Illiterate (%)	Completed at least grade 8 (%)	Population living in urban area (%)	Time to reach school (hours)	Time to reach health centers (hours)
BC	34.1	36.9	33.9	15.5	0.35	0.78
Terai middle class	28.7	64	15.6	6.6	0.20	0.47
Dalits (hill-terai)	57.8	59	12.3	9.5	0.30	1.10
Newar	19.3	31.2	45.1	53.1	0.25	0.72
Hill janajatis	48.7	52.3	15.0	10.5	0.43	1.36
Terai janajati (tharu)	53.4	54.2	17.7	1.5	0.22	0.54
Others	63.1	63.1	14.5	15.6	0.25	0.50
Muslim	46.1	-	-	7.3	0.21	0.45
Nepal	41.8	50.1	22.7	15.0	-	-

Source: World Bank (2006), Table 1.14, page 16; Table 2.3, page 23; Table 2.8, page 27; Table 2.9, page 28. This table is based on "Nepal Living Standard Survey 2003/04," Volumes I and II, Central Bureau of Statistics, Nepal.

This is one side of the coin; the other side is that there are disparities among regions (Table 18). When comparing the skilled nonagriculture sector, the wage differences among regions are huge. Despite vast hydroelectric resources, access to electricity is low in rural areas, whereas all in Kathmandu valley reported have electricity. Poverty rates differ greatly by regions, ranging from 3.3% in Kathmandu to 43% in rural eastern hills and 38% in rural western terai.

Table 18. Different indicators of regional disparity in Nepal, 2003-04

	Poverty headcount rate	Distribution of the poor	Distribution of population	Average daily wage in skilled nonagriculture in 1995-96 rupee	Share of households with an electricity connection
Kathmandu	3.3	0.6	5.4	672	99
Other urban	13.0	4.1	9.7	170	81
Rural Western Hill	37.4	23.6	19.4	111	26
Rural Eastern Hill	42.9	29.4	21.1	137	25
Rural Western Terai	38.1	18.9	15.3	126	32
Rural Eastern Terai	24.9	23.5	29.1	159	27
Nepal	30.9	100	100	295	

Source: World Bank (2006), Table 1.3, page 6; Table 3.6, page 48, and Table 6.10, page 81. This table is based on "Nepal Living Standard Survey 2003/04," Volumes I and II, Central Bureau of Statistics, Nepal.

Thus there are disparities based on ethnic and caste groups, and there are alarming disparities based on regions. As Nobel Laureate Amartya Sen (2006) describes the divisive factors region, gender, caste, religion and class are complement and they add together. In his view, class, in particular can make the influence of the other sources of disparity much sharper. In his words, "class is not only important on its own, it can also magnify the impact of other contributions to inequality, enlarging the penalties imposed by them (Sen, 2006, p. 206). That is what has happened in Nepal. Although the proportion of people living under abject poverty are higher for other ELC groups than those for BC and Newar groups, there are alarming class differences even inside those groups, a vertical inequality. Not all "upper" castes are wealthy, not all "lower" castes are poor (on this issue see Pradhan and Shrestha, 2005).

Hence the thinking that the ethnic autonomy would necessarily entail economic prosperity could turn out to be a myth. What is needed is a broader policy perspective providing opportunities for all to participate in nation building, whether in education, in politics or in economic activities. For this to happen, the major condition is to empower people of all groups, irrespective of ethnicity, language and gender. We claim that the political framework we have

proposed in this paper will be a precondition for addressing both vertical and horizontal disparities across groups and regions.

We provide a summary population distribution of ethnic, language and caste groups for the provinces and territory in Table 19. In the Mechi province, the largest group is Hill BC with 28.4% of the population; the second largest group is Rai with 13.4% of the population, and the third largest group is Limbu (note that this province has two natural homelands: for Rai and Limbu). For all provinces, the entries with bold regular font and bold italics indicate the largest group and the second largest group respectively. In Koshi, the largest, Maithali speaking group, with 32.8% of population is ten percentage points greater than the second largest group BC. The third and the fourth largest groups are Tamang and Newar respectively (the other two focus groups for the province). In Gandak and Karnali provinces, BC is the largest group with others a distance second. In Gandak, after BC the three largest groups are Bhojpuri speaking, Magar and Gurung (the only three groups with homelands in the province). And for Karnali, the three largest groups after BC are Tharu, Hill Dalit and Awadhi speaking.

Table 19. Distribution of provincial population by ethnicity, language and caste

	Mechi Province	Koshi Province	Gandak Province	Karnali Province	Rara Territory	NEPAL TOTAL
Hill BC	28.4	<i>22.4</i>	32.0	41.8	70.7	30.9
Hill Dalit	7.4	4.6	10.7	10.5	9.7	8.1
Hill & mountain janajatis	38.3	33.4	26.5	7.7	13.1	26.4
Magar	4.1	3.3	15.0	5.6	1.9	7.1
Tamang	4.6	13.7	1.8	0.2	1.2	5.6
Newar	4.1	12.2	2.9	0.7	0.3	5.5
Rai	13.4	0.9	0.2	0.1	0.0	2.8
Gurung	1.5	1.2	5.6	0.8	3.2	2.4
Limbu	8.3	0.2	0	0.1	0.0	1.6
Other mountain & hill janajatis	2.3	1.9	0.9	0.2	6.4	1.4
Maithali speaking	0	32.8	0.0	0	0	12.3
Bhojpuri speaking	0	0	17.5	0	0	7.5
Awadhi speaking	0	0	0	9.8	0	2.5
Other terai groups	16.8	0	3.1	6.6	6.2	0.2

Tharu	4.5	2.1	4.7	17.4	0.1	6.7
Muslim	3.1	4.1	4.9	5.0	0	4.3
Others	1.7	0.5	0.5	1.3	0.2	1.0
Total	100	100	100	100	100	100

V. An Electoral Model for the Federal and Provincial Legislatures

With region and provinces defined, we examine how the national and provincial legislations should be formed. We propose a three-tier government: central, provincial and local. Both at the national and provincial levels, there will be a bicameral parliament; whereas the territorial government will be unicameral. At the national level, the lower house (the National Assembly) is elected to represent the people, and the upper house (National Council of Provinces) is made up of representatives from the provinces. The bicameral system at the national level will be a method of combining the principle of democratic equality with the principle of federalism — all citizens are equal in the lower houses, while all provinces are equal in the upper house. Similarly, at the provincial levels, all citizens are taken as equal at the lower house, and all regions are equal in the upper house. In what follows, we discuss how these two levels of parliaments should be formed.

1. National parliament

We start with the National Assembly, where we propose to have total of 305 legislatures. Of the 305, 300 will be elected from 12 regions based on the population proportion in each region. The remaining five will be elected from the territory.²⁸ For the election of the national assembly, each region will be a constituency. Each party will submit two lists of candidates: regional/territorial (for each of 12 regions and one territory) and national. The candidates in the

regional list should be from the region, however, the national list can be drawn from all over the country. For each party, the total number of candidates for each regional list should not exceed the number of legislatures designated for that region. The national list should not exceed more than 305 candidates, and the candidates who are in regional lists can also be included in the national list.

Based on these lists, the votes will be translated to seats based on “proportional list system”. In each region, voters will vote to the party and not for the candidates. The ballot box will have two columns of party names, one for regional and the other for national. The names of parties in the ballot for the regional list could vary if all parties are not putting their candidates in all regions, but the national list of parties will remain the same throughout the country. Voters will have the right to split the vote by choosing different parties for regional and national representations. About half of the seats, 150, will be elected based on regional list and the remaining seats will be filled using the national list.²⁹

As the vote will be for parties and not for individuals, and the rule of proportionality has to be invoked, we need to define what electoral formula to be used to translate votes into party seats. We propose for “largest remainder” system with Imperiali quota for the regional list and Droop quota for the national list. For an excellent discussion on major electoral systems that are practiced in the world, see Farrell (2001). A brief summary of relevant concepts, derived from Farrell, is given in Appendix C.

²⁸As the territory has 0.7% population, based on the population proportion it will have about 3 members in the lower house. But based on the vast territory and remoteness of the area, we propose that the territory gets 1.5% of the total number of legislatures (about double its size in population).

²⁹In case where the number of seats for a region is an odd number, the fraction will be discarded for the regional list and will be counted upward for the national list. In other words, in case the total number of legislatures for a region is odd, the regional seat will be equal to total regional seat *minus* 1 and then *divided* by 2, and the national seat will be total seats *minus* the seat assigned for the region.

Let us first discuss the mechanism for assigning seats based on the regional list by defining quota votes per seat in region r (Q_r), as³⁰

$$(1) \quad Q_r = \frac{V_r}{S_r + 2},$$

where V_r = total number of valid votes cast in region r , S_r = total number of seats in region r .

And

$$(2) \quad A_r^p = \frac{V_r^p}{Q_r},$$

where A_r^p = total number of seats to be awarded to a party p in region r ; and V_r^p = total number of votes cast to a party p in region r . Any fraction (remainder) will be discarded in the first round and will be used in the second round (if the seats are still available after assigning according to equation 2), awarding seats from the highest remainder party towards the lowest ones until the seats are exhausted. Hence this system is called, the “largest remainder” system. Identifying the number of seats party p wins in the territory by A_r^p , the total seats for party p based on regional list, A_R^p , is given by

$$(3) \quad A_R^p = \sum_{r=1}^{12} A_r^p + A_t^p$$

For the other half candidates which have to be fulfilled through national list, we propose a similar process. As in the previous case, a quota of votes per seat at the national level, Q_n , shall be determined by dividing the total number of valid votes cast throughout Nepal, V_n , by total number of legislative members, S_n , plus 1 and the result plus one (Hare quota),

³⁰ This is called Imperiali quota, named after inventor. There are other quota definitions in use such as Hare quota and Droop quota, again both named after the names of the inventors. The only difference among different quota formulas is in the degree of proportionality they bring. Hare is considered most proportional, Droop in the middle and Imperiali the least. However, Hare and Droop quotas sometimes become too advantages for smaller parties and create unstable situation. Hence as a balance, we propose Imperiali quota system for regional lists.

disregarding fractions. As a balance, we propose for Droop quota at the national level. In notation term,

$$(4) \quad Q_n = \frac{V_n}{S_n + 1} + 1, \text{ and}$$

$$(5) \quad A_n^p = \frac{V_n^p}{Q_n},$$

where V_n^p is the total number of valid votes cast nationally in favor of party p , and A_n^p is the total number of seats that the party p should receive based on national votes. However since the party has already won A_R^p number of seats as given in equation (3), the additional seats the party p wins based on national list, α_n^p , is given by³¹

$$(6) \quad \alpha_n^p = A_n^p - A_R^p$$

By construct, $\alpha_n^p \geq 0$. If there is a fraction in equation (5), and the seats are not exhausted then the remaining seats should be awarded to the party or parties concerned in sequence of the highest remainder (fraction), up to a maximum of three seats so awarded. Provided that subsequent awards of seats still remaining unawarded seats shall be made in sequence of those parties having the highest average number of votes per seat already awarded. Whichever party has the largest number of seats (A_n^p) will form the national government.

This discussion completes the process of the lower house. At the upper house, the National Council of Provinces (NCP), there will be 15 seats each from each province and 5 seats from Rara territory. The parties involved in the provincial parliaments will nominate legislatures

³¹ There are two ways to assign seats at the national level. One could deal with only remaining 155 seats, instead of all 305 seats while using equation (5) and translate vote for each party without considering what the party got in equation (3). However, that will produce more disproportionate seats because we are adding two types of seats. Our mechanism is called the “additional member” system, which means that the party will get additional seats based on national list only if it has not benefited already based on regional list. This mechanism is a bit disadvantageous for bigger party.

for NCP. The number of seats of a party from a province to the NCP will be determined as follows:

$$(7) \quad B_i^p = \frac{A_i^p * 15}{A_i + 1} + 1;$$

where B_i^p is the number of seats party p nominates in NCP from province I ; A_i^p is the number of seats the party holds in the provincial legislature (both lower and upper houses), and A_i is the total number of seats in the legislature (both lower and upper houses) in province i . In case of territory (given by sub-script t), the multiplication and the division will be by 5 as given by

$$(8) \quad B_t^p = \frac{A_t^p * 5}{A_t + 1} + 1,$$

where A_t^p and A_t are the number of seats a party holds in the territorial legislature and total number of seats in the legislature, respectively. With this provision, the total number of seats of a party p in the NCP, B^p will be given by:

$$(9) \quad B^p = \sum_{i=1}^4 B_i^p + B_t^p;$$

Besides those elected 65 representatives, there will be five nominated by the federal government, one from each province and one from the territory, thus making the total number of seats in the upper house 70. The nomination must be out of the eleven ELC groups that has been recognized as the basis for regional formation. And at least one of them must be Muslim. The spirit of this nomination is to bring small ethnic groups who may not be present in the upper house.

Based on this discussion and the most recent population Census data of 2001, the total number of National Assembly members that have to come through regional and national lists for

each region and territory are given in column 3 and column 4, respectively, in Table 20. The distribution of NCP is given in column 5.

Table 20. Distribution of legislatures at the national parliament

	Population share (%)	Number in lower houses		Number in upper houses		Total number of legislatures
		Total number of legislatures	Of which to be elected from regional list	National Council of Provinces	Provincial Council of Regions	
Mechi Province	18.2	55	27	15	15	140
Kanchenjunga region	2.0	6	3		5	17
Sagarmatha region	7.0	21	10		5	47
Eastern terai region	9.2	28	14		5	61
Koshi Province	31.0	94	47	15	15	218
Gaurishanker region	10.6	32	16		5	69
Kathmandu region	7.2	22	11		5	49
Mithila region	13.2	40	20		5	85
Gandak Province	26.9	81	40	15	15	192
Annapurna region	3.8	12	6		5	29
Ridi region	14.0	42	21		5	89
Center terai region	9.1	27	13		5	59
Karnali Province	23.1	70	34	15	15	170
Khaptad region	8.0	25	12		5	55
Lumbini region	6.9	21	10		5	47
Western terai region	8.1	24	12		5	53
Rara territory	0.7	5 (10)	2	5		20
Nominated	-	-	-	5	4	9
NATIONAL (PROV)	100	305 (310)	150 (155)	70	64	749

Note: The column “total legislatures” is about the 3 *times* the first column (the share of population), except for the row “Rara territory”.

2. Provincial/Territorial parliament

We propose bicameral parliaments for four provinces and unicameral for the territory.

The number of seats in the lower house of the provincial parliament will be equal to the number of seats in the lower house of the national parliament, the National Assembly. Each region will have the same number of representatives in the lower house of the provincial parliament as it does in the lower house of the national parliament. Each party will provide regional and provincial lists of candidates. The total number of seats in the lower house of the provincial

parliament divided by 2 (fraction discarded) will be elected based on regional list, and the remaining will be elected by provincial list. Thus the voters in the provincial election also will vote in a ballot where they choose the parties for the regional and for the provincial seats.

The mechanism of translating votes to seat will be exactly the same as in the National Assembly. For the regional list, the procedure for assigning winning seats will be as given by equations (1) through (6), with the difference that in equations (4) through (6) it is province not nation that is relevant for the formulas. So the total number of seats at the province and their composition by region and the representatives to be elected based on the regional list will be as given in columns 3 and 4, respectively, of Table 20.

We are now left with only the upper house of provinces “the Provincial Council of Regions (PCR)”. We propose that each province will have 15 seats, five seats from each region and 10 for the territory. The voters in a region will choose a party for the representation. The seats will be assigned based on the quota votes per seat in region r (q_r), which is defined as

$$(10) \quad q_r = \frac{v_r}{5+1} + 1,$$

where v_r = total number of valid votes cast in region r . And

$$(11) \quad a_r^p = \frac{v_r^p}{q_r},$$

where a_r^p = total number of seats to be awarded to a party p in region r ; and v_r^p = total number of votes cast to a party p in region r . Any fraction will be discarded. The distribution of PCR is given in column 6. The total number of legislatures (from both levels and houses) for each region and province is given in last column, where the total of 749 legislatures has been distributed.

VI. A Model for Inclusiveness of Ethnic, Language and Caste Groups

The above procedure takes care of how the seats will be allocated to parties. In this section, we discuss how different groups should be represented both at the national and provincial parliaments of lower houses. Note that the criteria proposed here do not apply to the upper houses (both national and provincial) and Rara territory. One of the reasons for forming the region with focus on particular ethnic, language and caste groups is to make an inclusive democracy so that all groups are represented in the parliament. The fact that the ELC regions are the electoral constituencies, by construct, the chances for ELC groups to be elected representatives are higher. In addition, we provide a framework that ensures candidacy from each ELC group. The framework is developed based on the following four considerations. It should (1) foster political competition among parties, (2) accommodate regional candidates from the focus group for each region, (3) accommodate representation of groups other than those which are focus groups using national list, and (4) provide half of the total candidates to women.

1. Participation at the National Assembly

First we start from national level and in the next sub-section we will discuss the criteria for provincial parliaments. For each of the eleven groups (Limbu, Rai, Tamang, Newar, Maithali speaking, Gurung, Magar, Bhojpuri speaking, Dalit, Awadhi speaking and Tharu) that are the basis of regional formation, a party must fulfill the following criterion so that the number of candidates for any of these groups from their own designated region is not less than the number given by:³²

$$(12) \quad C_r^{gp} \geq 0.8 \bullet s_r^g \bullet C_r^p, \quad r = 1, \dots, 11; \quad g = 1, \dots, 11$$

³² There is no such restriction at the territory. In this regional criterion, there is no restriction for the other ELC groups, other than the designated group for the region.

where C_r^{gp} is the number of candidates that a party p has to include from a group g in a region r (note that group g is the focus group of region r , such as if g is for Limbu, then r is for Kanchenjunga region); s_r^g is the share of a group g in its own focus region r 's population; and C_r^p is the total number of candidates that party p has filed from region r . Any fraction will be discarded. Note that if we make the regional list very restrictive in a sense that the focus group at the region should have at least the same share of candidates as its population share in the region (that is, weight of unity instead of 0.8 applied in equation 12), then it could happen that not many parties can fulfill this criterion thereby limiting political competition.

Similarly, at the national list (out of total 300 candidates), the number of candidates of a party p from each group should not be less than the number given by the following criterion:

$$(13) \quad C_n^{gp} \geq 0.7 \cdot s^g \cdot C_n^p, \quad g = 11 \text{ ELC groups, BC, Muslim and Others}$$

where C_n^{gp} is the number of candidates that a party p has to include from each group g in its national list; s^g is the share of that group in Nepal's total population; and C_n^p is the total number of candidates that the party has contested nation-wide excluding those from the territory (if the party gives all the candidacy, then it will take the value of 300, not 305). Note that the scale factor is 0.7 instead of 0.8 that was applied for regional list of candidates (equation 12). The results based on population Census 2001 calculated using equations (12) and (13) are given in Table 21.

Table 21. Minimum candidates at the National Assembly by groups

Focus Group	Share in total population (s^g)	Share in own focus region's population (s_r^g)	Total members at the National Assembly from the corresponding region		Members of National Assembly for focus group	
			Total (C_n^p)	Of which Regional list (C_r^p)	National list (C_n^{gp})	Of which Regional list (C_r^{gp})
BC	30.9				64	

Limbu	1.6	39.5	6	3	3	0
Rai	2.8	25.2	21	10	5	2
Tamang	5.6	31.8	32	16	11	4
Newar	5.5	35.4	22	11	11	3
Maithali	12.3	77.2	40	20	25	12
Gurung	2.4	23.4	12	6	5	1
Magar	7.1	26.2	42	21	14	4
Bhojpuri	7.5	51.8	27	13	15	5
Dalit	7.2	17.9	25	12	15	1
Awadhi	2.5	32.6	21	10	5	2
Tharu	6.7	38.4	24	12	14	3
Muslim	4.3	-	-	-	9	0
OMHJ	2.3	-	-	-	4	0
Others	1.0	-	-	-	2	0
NATIONAL TOTAL	69	38.6	272	134	202	37

Note: “OMHJ” means other other mountain and hill janajatis. For both OHMJ and “Others” see footnote 16.

The second column in this table provides the main groups’ shares in Nepal’s total population. From the last row “national total” it is clear that 11 groups that form the regions constitute 61.4% (= 100 – 30.9 - 4.3 – 2.3 -1) of Nepal’s population. Note that the first group (BC) and the last three groups “Muslim”, OMHJ and “Others” are not focus groups. The third column is the share of each group in its own focused region’s population. For example, the entry 39.5 is the share of Limbu in its corresponding (Kanchenjunga) region’s total population. In average, the 11 groups make up 38.6 percent of these 11 region’s population (the sum of 11 focus group population, one group from each region *divided* by sum of 11 regions’ total population). The fourth and fifth columns are the total number of seats that have to be represented in the National Assembly from the 11 regions that corresponds to these groups (repeated from columns 3 and 4 in Table 20). For example, the total number of seats from Rai focus region (Sagarmatha) is 21 (the second entry, column 45). The total number of candidates for National Assembly that has to be represented from 11 regions is 272, remaining 28 come from eastern terai, and five from territory. Out of this 272, 134 will be represented from regional list (column 5).

A party which provides full candidates in all regions and in the nation, should have the minimum number of candidates for each ELC groups as given in columns 6 and 7. Column 6 is the outcome of column 2 *multiplied* by 300 (the total number of non-territorial legislatures) *multiplied* by 0.7, the outcome of equation (13). So the number of candidates from all groups combined will not be less than 202. Out to them from the 11 groups, in total, there will at least 123 (202 *minus* 64 from BC *minus* 9 from Muslim groups *minus* 4 from OMHJ and 2 from “others” groups) which is 45% of the total candidates of 272 that are proposed from these 11 regions. And the outcome of equation (12) is given in column (7). Out of those minimum 123 candidates from these 11 groups, at least 37 must be from the regional list. Note that since the Muslim and the “other group” have no defined region, they do not have regional representation but they would get the national share as all other groups.

In developing these criteria, we have tried to balance between the minimum representation and the degree of political competition among parties that could appear as trade off in some instances. If we put higher weight at the national level (more than 0.7 given here), we are putting stringent condition that each party should have the same type of political influence in each of 11 groups. This is neither possible nor necessary. Note that with the criteria we have developed, if a party has no national candidates of one group, it has to lower the total number of candidates respectively. Hence we do not want the political competition to be compromised by putting higher weight.

So far we have discussed about the number of candidacies but what matters is how the party assigns its candidates to the winning seats. Mere representation of different groups in candidacies does not guarantee inclusion. So we propose that in seat distribution, all parties must fulfill two criteria. The first one is given by equation (14) as follows:

$$(14) \quad A_n^{gP} \geq s^g \bullet \alpha_n^P,$$

Each group should obtain at least the number of seats that would have been if we multiply the share of this group in national population by additional number of seats that a party wins at national level (given by α_n^P in equation 6). In other words if a party wins 50 additional seats from national list, it should provide 3 candidates out of these 50 from Bhojpuri speaking people, which are 7.5% of the population ($3 = 0.075 * 50$). The second criterion is that half of the total seats should be awarded to women.

1. Participation at the Provincial Assembly

We provide similar criteria for representation of different groups in provincial candidates in this sub-section. The symbols used are the same as used for the national level, but they are subscripted by i to denote that they are for provinces. For any party that contest for election in a province i should fulfill the following criterion on its regional list of candidates:

$$(15) \quad C_{ri}^{gP} \geq 0.8 \bullet s_{ri}^g \bullet C_{ri}^P,$$

where s_{ri}^g is the share of focus group g in the region r 's population in province i ; and C_{ri}^P is the total number of regional list of candidates put forward by party p in region r . Any fraction will be discarded. This regional formula applies only to the focus group of the region; there is no such rule in the candidacies of other groups which are not focus for that particular region. Similarly, in total provincial candidates, the number of candidates for each group that a party proposes must not be less than the number given by following criteria:

$$(16) \quad C_i^{gP} \geq 0.8 \bullet s_i^g \bullet C_i^P, \quad g = 11 \text{ ELC groups, BC, Muslim and Others}$$

where C_i^{sp} is the lower bound of the number of candidates a party should put in its provincial list from group g ; s_i^g is the share of that group in province i 's population; and C_i^p is the total number of candidates put forward by part p in the provincial list.

Using the shares of different groups in total population in a province given in Table 19, and multiplying them by the total number of seats in each province reported at the bottom of the Table 22 (entries outside the parentheses) and scaling it by 0.8, we have provincial candidates lower bound for the groups which are given by column (open entries) in Table 22. Thus this calculation is based on equation (16) assuming that a party contests for all seats. The entry in the parentheses is the lower bound of regional candidates for the focus groups in its own region, obtained using equation 15. For that we multiply the number of regional seats for each province given in column 5 by entries in column 3 in Table 21 and scale it by 0.8. Note that the entries will be only for those which are focus groups for the province. For example, in Mechi, the minimum criterion applies only to Limbu and Rai (the two focus groups of the province).

Table 22. Minimum candidates at the Provincial Assembly by groups

Group	Mechi Province	Koshi Province	Gandak Province	Karnali Province	Rara Territory	TOTAL
BC	12	16	20	23		71
Limbu	3 (0)	0	0	0	0	3
Rai	5 (2)	0	0	0	0	5
Tamang	2	10 (4)	1	0	0	13
Newar	1	9 (3)	1	0	0	12
Maithali	0	24 (12)	0	0	0	24
Gurung	0	0	3 (1)	0	0	4
Magar	1	2	9 (4)	3	0	17
Bhojpuri	0	0	11 (5)	0	0	12
Hill Dalit	3	3	7	5 (1)	0	18
Awadhi	0	0	0	5 (2)	0	5
Tharu	2	1	3	9 (3)	0	15
Other Mountain & Hill Janajati	1	1	0	0	0	1
Muslim	1	3	3	2	0	9
Others	0	0	0	0	0	0
Other Madhesi	6	0	0	0	0	6

Total seats without BC	25 (2)	53 (19)	38 (10)	24 (6)	0	140 (37)
Total seats with BC	37 (2)	69 (19)	58 (10)	47 (6)	0	211 (37)
Total seats in the lower house	55 (27)	94 (47)	81 (40)	70 (34)	10 (5)	310 (153)

Note: the numbers inside the parentheses are the members to be elected based on regional list.

The third last row “total seats without BC” shows the total number of minimum candidates that have to be filed from different groups without counting candidates from BC. It shows that the number of candidates combined from all these 11 groups and Muslim and Other hill and mountain janajatis should not be less than 25 in the Mechi region, 53 in the Koshi region and so forth. The second last row also includes BC, which means that the total minimum candidates for Mechi region are 37 (25 + 12 from BC). The last row shows the total members in the provincial lower house. So any difference between the last row and the second last row will be the room for party to have candidates from any groups. For example, in Mechi a party can have 18 (55 – 37) candidates from any groups, which is 32% of the total 55 seats in the province.

The last column shows the total number of minimum candidates from all four provinces combined. For example, without BC, all other groups (11 ELC *plus* Muslim *plus* OMHJ) will have total of 140 candidates, with BC that number will be 211. So, out of total of 300 (not counting those for Rara Territory) candidates for all provinces, remaining 89 (30%) may come from any groups.

The summary of minimum candidates from each group, for lower houses of both national and provincial parliament, is given in Table 23. The second column shows the share of population (taken from column 2 of Table 2). The third column is the sixth column of Table 21 and the fourth column is the last column of Table 22. The sum of columns 3 and 4 is provided in column 5, which shows the total minimum number of candidates that a party should put if it is contesting in all seats in the provinces and the national lower house (out of total 600). For example, a party should have at least 64 candidates for National Assembly and 71 candidates for

Provincial Assembly with total of 135 from BC group and so on. In total, 413 out of 600 (68.8%) candidates are pre-assigned for these groups, whereas the remaining 31% may come from any of these groups. The last column shows the share of candidates from each group (given in column 5) in total of 413. This share closely matches population share of the group (column 2). Some discrepancy between these shares for a group in two columns is due to rounding.

Table 23. Minimum candidates at National and Provincial Assemblies by groups

	Share in total population (%)	National Assembly (number)	Provincial Assembly (number)	Total (number)	Share of candidates (%)
BC	30.9	64	71	135	32.7
Limbu	1.6	3	3	6	1.5
Rai	2.8	5	5	10	2.4
Tamang	5.6	11	13	24	5.8
Newar	5.5	11	11	22	5.3
Maithali	12.3	25	24	49	11.9
Gurung	2.4	5	3	8	1.9
Magar	7.1	14	15	29	7.0
Bhojpuri	7.5	15	11	26	6.3
Dalit	7.2	15	18	33	8.0
Awadhi	2.5	5	5	10	2.4
Tharu	6.7	14	15	29	7.0
Muslim	4.3	9	9	18	4.4
OMHJ	2.3	4	2	6	1.5
Others	1	2	0	2	0.5
Other Madhesi	-	-	6	6	1.5
Sum of minimum candidates	100%	202	211	413	68.8%
TOTAL Candidates	100%	300	300	600	

Note that since the three language groups in Terai (Maithali speaking, Bhojpuri speaking and Awadhi speaking) do not cover all Madhesi population, we have also provided the number of candidates from other Madhesi groups these in the last row.

VII. Conclusions

We cannot build a strong nation by marginalizing people; a nation becomes stronger when its citizens are empowered with opportunities to advance. If the marginalized people, who were excluded from all political, economic and social aspects, stay together and focused with

their vision of a prosperous Nepal, this changed political situation can be the beginning of the empowerment process. The end of monarchy is a necessary condition for Nepal's prosperity, but it may not be sufficient. The conditions for a republic Nepal to thrive and its people to advance are: an appropriate political structure, access to physical resources and access to education.

This paper has outlined a political restructuring—one of the pre-condition for raising Nepal's prosperity—which has searched for a best compromise among different ethnic, linguistic and caste (ELC) groups including the dominant Brahmin, and Chhetri groups. This political structure will be able to develop political institutions that are inclusive of all diversities.

However, the political structure itself cannot address the issue of horizontal class differences (resource disparity between groups) and vertical class differences (disparity of resource ownership within groups) that is so alarming in Nepal. That needs to be addressed by a complete package of economic policies—the second pre-condition for prosperity—that are designed to provide opportunity for everyone to contribute in the process of wealth generation. This is an important issue and needs research and rethinking.

The only way for Nepal to be a prosperous and dynamic nation is by educating all Nepalese, and improving its human capital. That is also the only way to take advantage of our rapidly growing neighboring giants India and China. If we want to compete in the international market or learn from the technology that has been already generated, we need an educated mass. If there is a single most important issue that needs our attention in Nepal, we do not hesitate to say that this is the issue of “access to education”—a third pre-condition for prosperity. A thorough discussion on how educational policy should be designed is an urgent task if Nepal is to reap any benefit from the changed political situation.

Besides these two issues of resource ownership and access to education, there are several issues that this paper has raised which need serious work. For example, what should be the language policies in restructured Nepal? What should be language media in delivering education in different ELC focus regions and in provinces? What should be the area of jurisdictions between federal (national) and provincial (sub-national) governments? What should be the formula for federal cash transfers to provincial and territorial government?³³

Nepal is endowed with vast water resources. For Nepal to thrive, that is the area where focus is needed. Hence, a well-formulated plan on the use of water resources is one of the most important issues that need serious attention from both researchers and politicians.

If accompanied by a grand vision of nation building, a debate and research on these issues could provide useful instruments to achieve what all Nepalese are dreaming and aspiring for—a just, prosperous, democratic and dynamic society.

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³³ There will be rich and poor provinces as a result of resources and other factors. The Federal government should provide provinces and territory financial means to offer their residents reasonably comparable public services (especially education and health) at reasonable comparable taxation. We could learn quite a bit on this issue looking at how Canada’s federal government manages this issue. A more recent Expert panel (Finance Canada, 2005) report is available which could be a good starting point for developing a formula for Nepal.

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APPENDIX A. Distribution of Ethnic and Caste Groups

Table A1. Nepal's population composition in 2001

	Share in total population	Number of districts with population of		Own population share in districts where the group	
		Majority (plurality)	2 nd place	is in plurality	is in 2 nd place
Chhetri, Thakuri, Sanyasi	18.1	14 (23)	26	32.5	40.1
Brahman (Hill)	12.7	0 (10)	20	34.5	25.5
Magar	7.1	1 (7)	4	32.8	8.8
Tharu	6.7	1 (4)	8	32.9	37.6
Tamang	5.6	1 (7)	2	54.1	5.6
Newar	5.5	1 (3)	0	46.8	0.0
Muslim, Churoute	4.3	0(3)	2	28.8	15.5
Kami	3.9	0 (0)	3	0	7.3
Yadav	3.9	0 (5)	2	58.9	0
Koiri, Kurmi, Kanu, Haluwai, Hajam/Thaku	3.6	0 (2)	4	22.2	38.1
Teli, Kalwar, Sudhi, Sonar, Lohar	3.2	0 (0)	1	0	10.9
Rai	2.8	0 (5)	2	42.0	10.4
Gurung	2.4	1 (3)	1	24.7	13.6
Kewat, Mallah, Nuniya, Kumhar, Kahar, Lodha	2.2	0 (0)	0	0	0
Brahman (Tarai), Rajput, Kayastha, Baniya	1.9	0 (0)	0	0	0
Damai	1.7	0 (0)	0	0	0
Dhusadh/Paswan, Tatma, Khatway, Bantar,	1.6	0 (0)	0	0	0
Limbu	1.6	0 (3)	1	49.5	11.3
Sarki	1.4	0 (0)	0	0	0
Chamar	1.2	0 (0)	0	0	0
Majhi, Danuwar, Bote, Darai, Kumal, Raji	1.1	0 (0)	0	0	0
Dhobi, Halkhor, Dalit/Unidentified Dalit	1.1	0 (0)	1	0	8.4
Gharti/Bhujel, Kumal, Sunuwar, Baramu, Pahari	1.0	0 (0)	0	0	0
Total	94.9%	19 (75)	77	27.3%	17.6%

The total in the above table is only 94.9%; the remaining 5.1% of Nepal population consists of Dhanuk (0.8%), Musahar (0.8%), group of Rajbanshi, Tajpuriya, Gangai, Dhimal, Meche (0.7%), Sherpa (0.7%), group of Snathal/Satar, Dhangad/Jahangad, Pattarkatta/Kusbadiya (0.4%), group of Yakkha, Chantal, Jirel, Dura, Thami, Lepcha (0.3%), group of Chepang, Hayu, Raute, Kusunda (0.2%), group of Bhote, Walung, Byanis, Hyolmo (0.1%), Thakali (0.1%), group of Gaine, Badi (0.05%), Panjabi/sikh, Jaine (0.02%) and undefiend/others (1%).

The reason there are 77 districts instead of total of 75 in the fourth row and last column because in two districts the population shares is the same for two groups.

Table A2. Ten districts with the largest number of Limbu population

	Limbu			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Panchthar	22.7	1	40.3	BC	23.7	Rai	13.9
Taplejung	15.6	1	41.7	BC	23.0	H-Dalit	8.2
Ilam	11.3	3	14.3	BC	29.6	Rai	24.4
Terhathum	11.1	2	35.4	BC	36.0	H-Dalit	9.6
Jhapa	10.5	3	5.9	BC	41.5	T-JN	6.3
Morang	10.3	8	4.4	BC	25.2	T-JN	12.6
Dhankuta	6.4	3	13.7	BC	28.1	Rai	23.0
Sunsari	5.0	10	2.9	T-CT	18.3	BC	17.1
Sankhuwasabha	2.1	8	4.8	BC	26.8	Rai	22.4
Kathmandu	1.5	12	0.5	BC	41.0	Newar	29.6
Total	96.5						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A3. Fifteen districts with largest number of Rai population

	Rai			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Khotang	14.1	1	38.7	BC	32.5	H-Dalit	11.2
Bhojpur	10.9	1	34.1	BC	29.5	H-Dalit	11.4
Ilam	10.8	2	24.4	BC	29.6	Limbu	14.3
Udayapur	7.4	2	16.4	BC	29.2	Magar	13.8
Morang	7.0	6	5.2	BC	25.2	T-JN	16.4
Sunsari	6.8	6	6.9	T-CT	18.3	BC	17.1
Dhankuta	6.0	2	23.0	BC	28.1	Limbu	13.7
Sankhuwasabha	5.6	2	22.4	BC	26.8	Tamang	9.5
Solukhumbu	5.3	1	31.5	BC	21.1	Sherpa	18.3
Jhapa	4.8	5	4.8	BC	41.5	T-JN	18.6
Panchthar	4.4	3	13.9	Limbu	40.3	BC	23.7
Kathmandu	3.3	7	1.9	BC	41.0	Newar	29.6
Okhaldhunga	2.9	3	11.9	BC	37.3	H-Dalit	14.8
Nuwakot	1.5	5	3.3	Tamang	38.5	BC	35.2
Makwanpur	1.3	6	2.1	Tamang	47.3	BC	26.5
Total	92.3						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A4. Fifteen districts with the largest number of Madhesi population

	Total Madhesi			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Dhanusa	9.9	1	75.6	Muslim	8.5	BC	5.6
Siraha	8.5	1	76.1	Muslim	7.3	BC	3.0
Sarlahi	8.3	1	66.7	BC	9.7	Muslim	7.7
Mahottari	7.8	1	71.9	Muslim	13.5	BC	3.8
Saptari	7.5	1	67.1	Tharu	12.8	Muslim	8.5
Rautahat	6.8	1	63.4	Muslim	19.5	BC	6.2
Bara	6.2	1	56.9	Muslim	13.4	Tharu	11.3
Morang	5.9	1	36.0	BC	25.2	Tharu	7.6
Parsa	5.9	1	60.9	Muslim	15.4	Tharu	8.2
Rupandehi	5.3	1	38.0	BC	22.5	Tharu	10.6
Kapilvastu	4.5	1	47.7	Muslim	19.4	BC	13.4
Sunsari	3.9	1	32.0	BC	17.1	Tharu	14.0
Jhapa	3.1	2	25.1	BC	41.5	H-Dalit	6.3
Nawalparasi	2.7	1	24.8	BC	24.5	Magar	17.2
Banke	2.0	1	26.5	BC	22.0	Muslim	21.2
Total	88.2						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A5. Fifteen districts with the largest number of Tamang population

	Tamang			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Makwanpur	14.5	1	47.3	BC	26.5	Newar	6.8
Kavrepalanchok	10.2	2	33.8	BC	38.2	Newar	13.0
Nuwakot	8.7	1	38.5	BC	35.2	Newar	7.6
Sindhupalchok	7.4	2	32.2	BC	34.4	Newar	11.5
Kathmandu	7.2	3	8.5	BC	41.0	Newar	29.6
Dhading	5.7	2	21.5	BC	34.5	H-Dalit	10.8
Sindhuli	5.5	1	25.6	BC	25.1	H-Dalit	14.6
Ramechhap	3.4	2	20.6	BC	32.9	Newar	14.1
Lalitpur	3.1	3	11.9	Newar	40.3	BC	32.5
Chitwan	2.7	4	7.4	BC	41.6	Tharu	12.7
Sarlahi	2.6	5	5.3	T- Dalit	51.8	T-Dalit	11.2
Rasuwa	2.2	1	63.7	BC	19.4	Gurung	6.7
Dolakha	2.2	2	15.7	BC	45.1	Thami	10.5
Udayapur	1.5	6	6.8	BC	29.2	Rai	16.4
Bara	1.5	7	3.5	T-CT	43.2	Muslim	13.4
Total	78.4						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A6. Fifteen districts with largest number of Newar population

	Newar			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Kathmandu	25.7	2	29.6	BC	41.0	Tamang	8.5
Lalitpur	10.9	1	40.3	BC	32.5	Tamang	11.9
Bhaktapur	10.1	1	55.9	BC	30.0	Tamang	6.5
Kavrepalanchok	4.0	3	13.0	BC	38.2	Tamang	33.8
Morang	2.7	8	4.0	BC	25.2	T-CT	16.4
Sindhupalchok	2.7	3	11.5	BC	34.4	Tamang	32.2
Dhading	2.6	4	9.6	BC	34.5	Tamang	21.5
Ramechhap	2.4	3	14.1	BC	32.9	Tamang	20.6
Sunsari	2.2	8	4.4	H-CT	18.3	BC	17.1
Makwanpur	2.1	3	6.8	Tamang	47.3	BC	26.5
Chitwan	2.1	6	5.4	BC	41.6	Tharu	12.7
Tanahu	2.0	5	8.0	BC	28.0	Magar	26.8
Gorkha	1.9	5	8.1	BC	31.5	Gurung	22.3
Nuwakot	1.8	3	7.6	Tamang	38.5	BC	35.2
Jhapa	1.7	8	3.3	BC	41.5	T-JN	18.6
Total	75.1						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A7. Fifteen districts with the largest number of Gurung population

	Gurung			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Kaski	12.7	2	18.1	BC	47.1	H-Dalit	14.7
Gorkha	11.8	2	22.3	BC	31.5	H-Dalit	16.8
Lamjung	10.3	2	31.7	BC	32.4	H-Dalit	17.0
Tanahu	7.3	4	12.5	BC	28.0	Magar	26.8
Chitwan	5.8	5	6.7	BC	41.6	Tharu	12.7
Syangja	5.8	4	10.0	BC	47.3	Magar	21.2
Kathmandu	5.6	4	2.8	BC	41.0	Newar	29.6
Dhading	4.8	6	7.7	BC	34.5	Tamang	21.5
Rupandehi	3.6	9	2.8	T-CT	30.0	BC	22.5
Nawalparasi	2.6	8	2.5	BC	24.5	Tharu	16.5
Sankhuwasabha	1.7	6	5.8	BC	26.8	Rai	22.4
Ilam	1.6	9	3.2	BC	29.6	Rai	24.4
Parbat	1.5	4	5.1	BC	59.0	H-Dalit	19.7
Manang	1.3	1	75.9	BC	5.2	Tamang	3.6
Morang	1.3	14	0.9	BC	25.2	T-CT	16.4
Total	77.7						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A8. Fifteen districts with the largest number of Magar population

	Magar			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Position in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Palpa	8.4	1	50.9	BC	28.9	H-Dalit	11.4
Nawalparasi	6.0	2	17.2	BC	24.5	Tharu	16.5
Rolpa	5.7	1	43.8	BC	37.6	H-Dalit	14.8
Tanahu	5.2	2	26.8	BC	28.0	H-Dalit	15.2
Baglung	4.6	2	27.7	BC	43.4	H-Dalit	21.7
Syangja	4.1	2	21.2	BC	47.3	H-Dalit	15.5
Pyuthan	4.0	2	30.6	BC	43.0	H-Dalit	18.1
Rupandehi	3.8	3	8.8	T-CT	30.0	BC	22.5
Gulmi	3.6	2	19.9	BC	54.4	H-Dalit	16.9
Dang Deokhuri	3.4	3	12.0	BC	36.9	Tharu	31.9
Surkhet	3.4	3	20.6	BC	46.5	H-Dalit	21.5
Myagdi	2.9	1	41.8	BC	26.6	H-Dalit	20.8
Rukum	2.7	2	23.1	BC	68.6	H-Dalit	5.8
Udayapur	2.4	3	13.8	BC	29.2	Rai	16.4
Sindhuli	2.4	4	14.3	T-CT	25.1	Tamang	25.6
Total	72.4						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A9. Fifteen districts with the largest number of hill Dalit population

	Hill Dalit			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Position in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Kailali	3.2	3	9.7	Tharu	43.7	BC	31.6
Baglung	3.1	3	21.7	BC	43.4	Magar	27.7
Surkhet	3.1	2	21.5	BC	46.5	Magar	20.6
Kaski	3.0	3	14.7	BC	47.1	Gurung	18.1
Achham	2.8	2	22.4	BC	68.3	T-Dalit	4.0
Dailekh	2.8	2	22.8	BC	62.4	Magar	9.9
Gulmi	2.7	3	16.9	BC	54.4	Magar	19.9
Syangja	2.7	3	15.5	BC	47.3	Magar	21.2
Dang Deokhuri	2.6	4	10.6	BC	36.9	Tharu	31.9
Gorkha	2.6	3	16.8	BC	31.5	Gurung	22.3
Tanahu	2.6	3	15.2	BC	28.0	Magar	26.8
Morang	2.3	7	5.0	BC	25.2	T-CT	16.4
Chitwan	2.2	3	8.7	BC	41.6	Tharu	12.7
Sindhuli	2.2	3	14.6	Tamang	25.6	BC	25.1
Jhapa	2.2	3	6.3	BC	41.5	T-JN	18.6
Total	50.1						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A10. Fifteen districts with the largest number of Tharu population

	Tharu			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Kailali	17.6	1	43.7	BC	31.6	H-Dalit	9.7
Bardiya	13.1	1	52.6	BC	23.4	T-CT	6.7
Dang Deokhuri	9.6	2	31.9	BC	36.9	Magar	12.0
Nawalparasi	6.0	3	16.5	BC	24.5	Magar	17.2
Kanchanpur	5.7	2	23.3	BC	48.5	H-Dalit	8.3
Sunsari	5.7	4	14.0	T-CT	18.27	BC	17.1
Rupandehi	4.9	4	10.6	T-CT	30.01	BC	22.5
Saptari	4.8	3	12.8	T-CT	39.8	T-Dalit	20.0
Morang	4.2	4	7.6	BC	25.2	T-CT	16.4
Banke	4.1	4	16.4	BC	22.0	Muslim	21.2
Bara	4.1	3	11.3	T-CT	43.2	Muslim	13.4
Kapilvastu	3.9	4	12.6	T-CT	36.7	Muslim	19.4
Chitwan	3.9	2	12.7	BC	41.6	H-Dalit	8.7
Parsa	2.7	3	8.2	T-CT	47.6	Muslim	15.4
Rautahat	1.8	4	5.0	T-CT	50.1	Muslim	19.5
Total	92.2						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A11. Fifteen districts with the largest number of Muslim population

	Muslim			Other first or second largest group in the district		Other second or third largest group in the district	
	Share in its own population	Positon in district population	Share in district population	Group's name	Share in district population	Group's name	Share in district population
Rautahat	10.9	2	19.5	T-CT	50.1	BC	6.2
Kapilvastu	9.6	2	19.4	T-CT	36.7	BC	13.4
Banke	8.4	2	21.2	T-CT	19.7	BC	22.0
Parsa	7.9	2	15.4	T-CT	47.6	T-Dalit	10.6
Bara	7.7	2	13.4	T-CT	43.2	Tharu	11.3
Mahottari	7.7	2	13.5	T-CT	51.4	T-Dalit	13.4
Sunsari	7.1	3	11.1	T-CT	18.3	BC	17.1
Rupandehi	6.4	3	8.9	T-CT	30.0	BC	22.5
Dhanusa	5.8	3	8.5	T-CT	54.8	T-Dalit	14.5
Sarlahi	5.0	4	7.7	T-CT	51.8	T-Dalit	11.2
Saptari	5.0	4	8.5	T-CT	39.8	T-Dalit	20.0
Siraha	4.3	3	7.3	T-CT	52.9	T-Dalit	17.6
Morang	3.8	8	4.4	BC	25.2	T-CT	16.4
Nawalparasi	2.3	7	3.9	BC	24.5	T-CT	16.1
Jhapa	2.0	8	3.1	BC	41.5	T-Dalit	18.6
Total	93.7						

Note: H refers to Hill; T refers to Terai; CT refers to caste, and JN refers to Janajati.

Table A12. Fifteen districts with the largest number of Madhesi population

Districts	Share in Madhesi population	Total Madhesi population in district population	Among them upper and middle caste	Among them Janajati	Among them Dalit
Dhanusa	9.9	75.6	54.8	6.3	14.5
Siraha	8.5	76.1	52.9	5.5	17.6
Sarlahi	8.3	66.7	51.8	3.8	11.2
Mahottari	7.8	71.9	51.4	7.1	13.4
Saptari	7.5	67.1	39.8	7.4	20.0
Rautahat	6.8	63.4	50.1	1.1	12.3
Bara	6.2	56.9	43.2	3.4	10.4
Morang	5.9	36.0	16.4	14.2	5.3
Parsa	5.9	60.9	47.6	2.7	10.6
Rupandehi	5.3	38.0	30.0	0.8	7.1
Kapilvastu	4.5	47.7	36.7	0.4	10.6
Sunsari	3.9	32.0	18.3	6.4	7.3
Jhapa	3.1	25.1	5.8	18.6	0.7
Nawalparasi	2.7	24.8	16.1	3.0	5.8
Banke	2	26.5	19.7	0.5	6.3
Share in own group's population		88.2	92.3	75.3	83.8

APPENDIX B. Nepal's Map with Proposed Regions and Provinces/ Territories

APPENDIX C. A Note on Electoral System

The world of electoral system is crowded and complex. With some loss of generality, there are three main components of an electoral system: district magnitude (DM), ballot structure (BS) and electoral formula (EF). DM refers to the size of the constituency measured in terms of number of seats to be filled. For example, in Nepal there was a provision of electing one legislator (DM = 1), the system is called single member plurality system—SMP. The ballot structure determines how voters cast their votes. The common distinction is between categorical ballots, such as used in Nepal before, where voters are given a simple either/or choice between various candidates on the ballot papers, and ordinal ballots, such as in Ireland where voters can vote for all candidates, ranking them in order of preference. Finally, the electoral formula manages the translation of votes into seats. There are a large range of electoral formula used currently (can be limitless), but in essence they breakdown into three main families: plurality, majority and proportional and mixed.

The *plurality system*, or SMP, often referred to as “first past the post” predominates in Anglo-Saxon countries (US, UK, Canada). According to this framework, a candidate needs plurality of vote (that is, more votes than any of the other candidates but not necessarily an overall majority). About 11 countries in the world, including Bangladesh, India and Nepal (previously) use it. *Majority system* is the one where a candidate has to get an overall majority (that is, at least 50% plus one) to win. This system is in place in France and Australia. The *proportional system* comes in two forms: the single transferable vote (STV) and list system (LS). The STV is used for DM greater than one and use the ordinal ballot, which refers to the right of electors to vote for as many, or as few, candidates on the ballot paper as they wish. They can vote across party line. It is used in a regional level in several states in Australia and Northern Ireland. This method is appropriate when constituency is a region rather than candidates but it become quite cumbersome for voters when there are several candidates.

All the systems we have defined so far are constituency based, that is, the country is divided into a series of geographically defined constituencies, and voting is candidate based not party based. These systems, therefore, elect the legislators “directly” not “indirectly” via party lists. A system that differs with all the above systems is the list system (LS) of proportional representation. Sometime the LS system is mixed with SMP, and hence called *mixed system*.

Since, for Nepal we propose for LS of proportional representation, we will provide a bit more detail on it. There is no single LS; there are considerable variations in the it. One of the factors making them difference is how the formula is operated. Some systems determine seat allocation by *subtraction*; some others do so by *division*. The former is referred to as the “largest remainder (LR)” systems, which operate with the use of electoral quota. Different types of quotas are possible. The second system which operate with divisor are called “highest average (HA)” system. There are two types of highest averages systems in use: the d’Hondt method, which is by far the most common and the modified Sainte-Lague method which is used in Scandinavian countries.

The central feature of LR is the electoral quota. In its most basic form, the counting process occurs in two rounds. In the first round, party with votes exceeding the quota are awarded seats, and the quota is subtracted from their final vote. In the second round, those parties left with the greatest number of votes (or the largest remainder) are awarded the remaining seats in order of vote size. The quota can be computed in different ways. Among them, the most preferable for smaller party is Hare quota. It produces more proportionate results than other quota. However, it gives prominence to several parties in the parliaments and also to regional parties. The relative importance of the remainder in the allocation of seats can be reduced by using a lower quota, which makes it more difficult for smaller parties to win seats. There are other two alternative quotas, Droop and Imperiali. The formula for each of them is given below:

$$\text{Hare quota} = \frac{\text{Total valid vote}}{\text{Number of seats}},$$

$$\text{Droop quota} = \frac{\text{Total valid vote}}{\text{Number of seats}+1} + 1, \text{ and}$$

$$\text{Imperiali quota} = \frac{\text{Total valid vote}}{\text{Number of seats}+2}$$

Hare quota is used in Colombia, Costa Rica, Madagascar, in Austria and Belgium at the constituency level, and in Denmark for higher-tier seat allocation. Droop quota is used in Greece, South Africa and Czech Republic. Note that quota will be lowest in Imperiali, middle in Droop and highest in Hare. Lower quota result in more seats being allocated to parties receiving a full quota and fewer being allocated by remainders, and therefore somewhat less proportional results.

The HA system is far more common than the LR system. Instead of using a quota, it operates according to divisor method. Each party votes is divided by a series of divisors to produce an average vote. The party with the “highest average” vote after each stage of the process wins a seat, and its vote is then divided by the next divisor. The process is continued until all the seats have been filled. Two main types of divisors are in operation: the d’Hondt system (with the divisors 1, 2, 3, 4 and so on) and the modified Sainte-Laguë system (with divisors 1.4, 3, 5, 7 and so on. The first method is used, among others, in Israel, Netherlands, Switzerland and Spain. And the second method is used in Denmark, Norway and Sweden. It is generally the case that the d’Hondt is one of the least proportional of the list electoral formulas.

Generally it is true that the electoral system which produces the most proportional result is the LR system with the Hare quota; Sainte-Laguë HA forms an intermediate category; and the least proportional systems are d’Hondt HA and LR with the Imperiali quota. But all systems incorporate some element of disproportionality. This can be minimized by having a large district magnitude or by “two-tier” seat allocations.³⁴

Below we provide a summary of how all these list systems of proportional representation work. Let us take the case of Hare quota of LR. The example is taken from Farrell (2001). There are five parties, total valid votes are 1000 and number of votes for each party is as given in the first row (numbers for rows in indicated by the entry in the parentheses in each row). At the first round since the votes received by both Blue and Red parties exceed the quota, and therefore each is awarded with the one vote in the first round (row 2). Next, the quota is subtracted from the Blue and Red totals, resulting in the distribution given in row 3. Since three more seats remained to be filled in the first round, these are awarded to the party with the largest remaining votes: Blue, Orange and Green (row 4). The final seats are given in row 5. In this quota, smaller parties have easier way in winning proportional results. In this case, the Green won the same number of seats as the Red despite having barely a third of the vote, thus favoring smaller parties.

In the Droop quota the quota vote falls to 167 from 200 in Hare. The way seats are allocated in this quota is the same as in Hare quota. Even though in this particular case, the total seats for each party is the same (row 9) as with Hare quota (row 5), the results based on Droop quota would be more supportive to bigger party than is the case in Hare quota.

If used Imperaili quota, the vote quota is 143 (smallest among the three quota systems). In this case, since Blue and Red qualify for two seats each and Orange for one quota seat, all five seats are filled in the first round, without any need to account of remainders. The Green party does not win a seat, thereby favoring more to the larger parties.

Next let us how the seats are allocated under HA d’Hondt method. The total votes of each party are divided by divisors, 1, 2, 3 and so on until all the seats have been allocated. The seats are awarded to the party with the highest averages. Since there are five seats in the example, we will be looking for five highest numbers in the table. There is a sequence in which the seats will be filled. Blue gets the first seat as it has the highest average, Red gets the second, Blue gets the third, Red gets the fourth and Orange gets the last (rows 15 and 17). The Green does not win a seat.

³⁴ In terms of DM, the best way to maximize proportionality is to use the whole country as one vast constituency (this is the case for Israel and Netherlands). A problem with national-level representation is that it reduces the contact between representatives and voters. One solution for this is to draw up candidates at national level. Once we start carving it up into smaller constituencies an element of disproportionality is introduced. The larger the constituency size, the more proportional the result is.

The similar process if followed for Sanite-Lague except that the divisors are different. In this case, larger party will have a bit difficult to win seats than in d'Hondt quota. Note that the smallest party that won seat under d'Hondt was Green, and it won the last seat. However, under Sanite-Lague it wins the fourth seat, indicating it easier for the smaller party to win seat, compared to d'Hondt.

		Blue	Red	Orange	Green	Psychedelic
	Total votes received (1)	360	310	150	120	60
Hare quota (=200)	First round seats (2)	1	1	0	0	0
	Second round remainder (3)	160	110	150	120	60
	Second round seats (4)	1	0	1	1	0
	Total seats (5)	2	1	1	1	0
Droop quota (=167)	First round seats (6)	2	2	2	2	2
	Second round remainder (7)	26	143	150	120	60
	Second round seats (8)	0	1	1	1	0
	Total seats (9)	2	1	1	1	0
Imperiali quota (=143)	First round seats (10)	2	2	1	0	0
	Second round remainder (11)	74	24	7	120	60
	Second round seats (12)	0	0	0	0	0
	Total seats (13)	2	2	1	0	0
d'Hondt quota	Votes divided by 1 (14)	360	310	150	120	60
	Seats (15)	1st seat	2nd seat	5 th seat		
	Votes divided by 2 (16)	180	155	75	60	30
	Seats (17)	3rd seat	4th seat			
	Total seats (18)	2	2	1	0	0
Sanite-Lague quota	Votes divided by 1.4 (19)	257	221	107	86	43
	Seats (20)	1st seat	2nd seat	4th seat		
	Votes divided by 3 (21)	120	103	50	40	20
	Seats (22)	3rd seat	5th seat			
	Total seats (23)	2	2	1	0	0