Spatial-demographic Dimensions of Economic Composition in Nepal: Evidence from NPHC 2021

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Abstract

The intensive analysis of the economically active population of Nepal, conducted based on the 2021 National Population and Housing Census, reveals that the country has a primary sector-oriented national economy, the rules of which are associated with a rather high occupational segregation of the population according to sex and a high spatial inequality. Using a descriptive approach in analysing the secondary data of the National Statistics Office (NSO) of about 15 million people aged ten years or older, this paper will highlight the fact that Nepal highly depends on agriculture since it employs 57.3 % of the labour force. In this industry, women have an unrealistically high employment percentage (64.8 per cent women against 50.6 per cent men in employment), with the men working mostly in the construction and transportation sectors. The rural-urban divide also persists to define the labour force, 72.9 percent in the rural labour force is occupied with agriculture whereas it offers a more diversified image in the urban regions, with more high rates of participation in trade and services. This is despite the fact that even at the provincial level, there exists a colossal disparity between Kathmandu-based Bagmati having a capital and service economy on the one hand and Karnali / Sudur Paschim, which are largely agrarian based, on the other. Collectively, all these facts suggest that there is an urgency for strategic policies and measures to address the modernisation of agriculture, to create more off-farm job opportunities, to empower women so as to enable them to participate in higher-return activities and pave a path of sustainable and equitable growth trajectory in Nepal.

Keywords: Demographic, economic, gender disparity, labour force, Nepal

Introduction

Nepal's macro-economic context is in a highly dynamic phase and an intersection of several intersecting trends: federalisation of the country, the resurgence it has been witnessing after a long cycle of multiple natural disasters, and to be outcoming from the LDC category on its way to middle-income status by 2030 (National Planning Commission [NPC], 2020). At the heart of such transformation is labor market and Nepali people's position in the economy.

The spatial and demographic pattern of the work and productive activity simultaneously displays the renewed condition of the development and determines further growth, poverty minimisation, and social equity tendencies. Consequently, evidence-based policymaking is a precondition of a clear understanding of the location of people who work, their geographical location, and/or demographic state. This is an excellent and uncommon opportunity to make such an examination with the recent release of the National Population and Housing Census (NPHC) 2021. The NPHC 2021 does all this at the micro-level of data, and hence the analysis leverage is greater than the magnitude of previous NPHCs, and the analysis has the chance to study the overlapping determinants of workforce participation, occupational composition, sectoral distribution, and geography of economic activities. We believe that this pool of knowledge can be able to offer crucial empirical grounds to a knowledge-based intervention policy in education, health, infrastructure, agricultural modernisation and rural development. Again, agriculture, traditionally being one of the foundations of the economy, has had a support pillar in the system of Nepal, and it serves as the main means of livelihood to the majority of its population, especially in the countryside (Gautam & Andersen, 2016). Being a key provider of the social safety net, the agricultural sector is also non-productive, the majority being subsistence production, which is vulnerable to climate shocks and is also linked to intense underemployment (CBS, 2019). This is one of the policy agendas that should be developed in Nepal, which has developed its traditional agrarian economy into a modern one, the service-oriented and industrial economy (World Bank, 2022). The paper under analysis considers the current state of agricultural preeminence and sketches out the future directions of other sectors of development, which have emerged in the form of manufacturing, construction, trade, and services. Meanwhile, there are gender disparities which go deep into the workforce. Even though the rate of participation in the labour force is quite high in South Asia in comparison with Nepal, the quality of this participation, along with the nature, requires serious questioning (Acharya, 2017). The feminisation of agriculture, a situation in which women become the main producers of

planting and harvesting, is among the most remarkable trends, as the most common case is when men are substituted by women and leave the country to get jobs in other countries (Gartaula et al., 2012; ADB, 2019). This form of interaction is usually associated with little to no economic empowerment or social security, especially the work carried out in the family without payment (UN Women, 2018). On the other hand, formal sectors that have high wage salaries, like manufacturing, building and transport sectors, are highly male-dominated. Gender breakdown is therefore needed in gauging the determination of the achievement of the Sustainable Development Goals 5 (Gender Equality) and 8 (Decent Work and Economic Growth). This data is quantified in order to define the gendering of various industries, throwing light on these processes. Geography has also brought a great disparity in the region in terms of investment opportunities in Nepal. These are usually categorised into three ecological belts, including the mountainous north, the hilly mid-region, and the flat Terai plains, which possess different economic features (World Bank, 2018).

These belts depend on access to infrastructure, market access and opportunities beyond farm production, which generates big differences preventing the ability of these belts to develop equally. Another key inequality axis is the Urban-Rural divide, according to which urban centres particularly Kathmandu Valley ones are the concentrators of business, education, and diversified services, which are taken over by internal migrants and increase the scope of economic diversity (Thapa and Murayama, 2012). Relative to the rural locations, which tend to be deficient in other prospects other than conventional farming. The paper explores these geographical variations providing a profile of both urban and rural municipalities and Mountain, Hill, and Terai belt. Another complication comes as a result of the new federal political system with seven provinces whereby administrative and fiscal powers are not dependent on each other. The provincial governments should come up with local development plans and this will need the province specific and accurate knowledge of the economic activity so as to be able to govern in a sub-national manner. This paper offers the policymakers a starting point of knowing the strengths and weaknesses of the economy of every province and where they can intervene by disaggregating the national data in provincial terms. The primary objective of the present research is to conduct an internal and multifaceted examination of the economically active population of Nepal, taking into account gender, geography, and provincial setting. Based on the most credible statistics obtained through the NPHC 2021, the data provide an overview of the labour market in the country after federalism, offering a comprehensive account of this area to trace the complex interaction of gender, geographical location, and inter-provincial relations that condition the epidemiological behaviour in a country. The anticipated study deliverable is to inform policymakers,

development partners and researchers who have an interest in building a more inclusive, balanced, and sustainable economic future in Nepal.

Data and Methods

The present study had a descriptive cross-sectional research design, using publicly available and aggregated statistics of the 2021 National Population and Housing Census (NPHC) of Nepal. The thematic report on economic characteristics provided by the National Statistics Office (NSO, 2023) contains all this data. The study cohort was established after extracting data from a table named Table 39: Population 10 years of age and above who performed any economic activity in the 12 months preceding the census, resulting in a final number of 14,983,310 individuals. The main sector of economic activity was the key variable under study, and the NPHC classifies 19 divisions as per the Nepal Standard Industrial Classification (NSIC). This scheme is consistent with the International Standard Industrial Classification of All Economic Activities, Rev. 4, so it is possible to achieve international comparability. To challenge the trends of economic participation, the research sample was stratified in four critical demographic and geographical variables, namely sex (Male, Female), area of residence (Urban Municipalities, Rural Municipalities), ecological belt (Mountain, Hill, Terai) and administrative province (Koshi, Madhesh, Bagmati, Gandaki, Lumbini, Karnali and Sudur Paschim). The statistics of description were implicit. The data was logically downloaded and restructured to help compare the information based on these strata. The absolute frequencies (n) and relative proportions (percentages) in the population of each industrial sector were computed in each subgroup. This was normalised as a per cent permitting like-for-like comparisons across groups of varying sizes. These distributions were examined in an attempt to characterise and describe them with the objective of identifying critical concentrations, imbalances, and structural patterns in terms of economic activity in Nepal. The entire research was carried out on publicly available data, fully anonymised aggregates; thus, it did not require any institutional review.

Results

These statistics show specific gender trends in Saskatchewan, which creates a complex picture relying on the location of people, both in urban and rural regions, as well as in specific ecological areas and the entire province as a whole. These patterns are summarised in the following tables, and also, brief but detailed explanations are apparent. Economic Activity, Gender wise.

Table 1

Population 10 Years and Over Distribution in the Economically Active Population by Major Industry and Sex.

Major Industry	Total(N)	Male(N)	Female(N)	Male (%)	Female (%)
Agriculture, forestry, and fishing	8586563	3983417	4603146	50.6	64.8
Wholesale and retail trade	1877469	956509	920960	12.2	13.0
Construction	1215063	830688	384375	10.5	5.4
Manufacturing	570853	399565	171288	5.1	2.4
Other service activities	587900	244825	334075	3.1	4.7
Education	429144	232438	196706	3.0	2.8
Transportation	334811	320611	14200	4.1	0.2
Public Administration	291241	249428	41813	3.2	0.6
Accommodation and food service	251255	150379	100876	1.9	1.4
Activities of households	125829	43529	82300	0.6	1.2
Others Sectors	722182	465003	257179	5.9	3.6
Total	14938310	7876322	7106988	100.0	100.0

(Source: NPHC 2021, NSO, 2023)

An analysis of modern indicators in the labour market through a methodological approach has shown that there is high gender segregation. The most striking is the feminisation degree in Agriculture: 64.8 per cent of females who have to work in the economy are employed in this industry as opposed to 50.6 per cent of males. This trend is reversed in the subsector of manufacturing, which is physically intensive. Construction has 10.5% of women, compared to 5.4%, and Transportation and Storage has 4.1% of women, compared to 0.2%. Wholesale and retail trade, on the other hand, is the primary source of non-agricultural jobs for women, with near gender parity, as 13.0% of women are employed compared to 12.2% of men.

Economic Activity by Rural-Urban Residence

Table 2

Distribution of Population 10 Years and Over in the Economically Active Population by Major Industry and Area

Major Industry	Total(N)	Urban(N)	Rural(N)	Urban (%)	Rural (%)
Agriculture, forestry, and fishing	8586563	4625081	3961482	48.4	72.9
Wholesale and retail trade	1877469	1877469	1439014	15.1	8.1
Construction	1215063	869983	345080	9.1	6.3
Manufacturing	570853	445811	125042	4.7	2.3
Other Sectors	3232772	2167513	1065259	22.7	19.6
Total	14983310	9548202	5435108	100.0	100.0

(Source: NPHC 2021, NSO, 2023)

There is an apparent divide between urban and rural economies. The rural regions are predominantly agricultural, with 72.9 per cent of the labour force engaged in cultivation (Gautam & Andersen, 2016). Urban economies, on the contrary, are more diversified; although agriculture remains the largest sector (48.4%), other sectors, such as wholesale and retail trade (15.1%), and other industries, stand very strong, with cities having the leading economic activity today (Thapa & Murayama, 2012).

Economic Activities by Ecological Zone

Table 3

Distribution of Population 10 Years and Over in the Economically Active Population by Major Industry and Ecological Belt.

Major Industry	Total(N)	Mountain (%)	Hill (%)	Tarai (%)
Agriculture, forestry, and fishing	8586563			
Wholesale and retail trade	1877469	6.9	11.5	14.2
Construction	1215063	4.0	6.2	10.4
Manufacturing	570853	1.3	3.3	4.6
Other Sectors	2733362	11.5	21.0	16.7
Total	14983310	100.0	100.0	100.0

(Source: NPHC 2021, NSO, 2023)

There is a unique economic gradient within the ecological belts of Nepal. The most agrarian region is the Mountain (76.3%), and the more diversified Hill belt displays

a smaller agricultural share (58.0%). Its non-agricultural base is the most developed compared to the rest of the country. Its favourable geography and infrastructure place Terai at the forefront in trade (14.2 per cent), construction (10.4 per cent), and manufacturing (4.6 per cent).

Province-wise Economic Activity

Table 4

Distribution of Population 10 Years and Over in the Economically Active Population by Province

Province	% in agriculture	% in Wholesale, retail	% in Construction	% in Other
Koshi	62.7	11.11	6.9	19.3
Madhesh	54.1	15.5	11.0	19.4
Bagmati	42.2	15.0	7.6	35.2
Gandaki	57.6	12.8	7.0	22.6
Lumbini	60.3	11.7	9.4	18.6
Karnali	73.7	7.9	5.2	13.2
Sudur pachim	70.0	8.9	6.9	14.2

(Source: NPHC 2021, NSO, 2023)

These empirical data point to the fact that the provincial economy of Nepal is highly fragmented. Karnali and Sudur Paschim provinces are featured with the preemption of the agrarian sphere and the low degree of diversification: more than 70 per cent of the population is dependent on agriculture. In sharp contrast, Bagmati Province, including the national capital, has a more progressive, service-oriented economy: the share of agriculture is much less (42.2 per cent), and rates of involvement in other spheres are much higher (35.2 per cent). Madhesh province, moreover, functions as a commercial hub and leads in wholesale/retail trade (15.5 per cent) and construction (11.0 per cent), characteristics that may be attributed to its strategic geographical position along the Nepal–India border. Such a strong regional character highlights the fact that there is an evident developmental difference, as well as explaining why province-specific economic policies are appropriate.

Discussion

In the present work, the emphasis placed on the Nepalese economy is on the fact that it finds itself in a long-standing structural change that is extremely agrarian. Our major result, which is that agriculture uses 57.3% of the labour force, has attributed to a

decline in the previous census but has been consistent with other analyses conducted by World Bank (2022) and with the initial reports of the 2011 census (CBS, 2014). It, therefore, points out the paradigm imperative of accelerating agricultural output and the establishment of sufficient off-farm jobs. One of the features of the resulting information of the agrarian reality is that it is extremely feminised. About 2/3 (64.8 percent) of women in the economically active world population are in this sector and existing literature supports this observation by suggesting that this trend is a result of male out-migration, which often leaves women as the sole farm caretaker in the non-paid (or underpaid) job (Gartaula et al., 2012; ADB, 2019). This evidence thus justifies the policy proposal of UN Women (2018) to enhance the quality of work performed by women in agriculture and help them to switch to other sectors of the economy. Our results also highlight the strong geographical inequalities which hinder national development, and this has been greatly recorded in the development literature (World Bank, 2018). The turnover points of the urban-rural dichotomy and the gradients of the socioeconomic performance of ecological belts and provinces provide a clear illustration of institutionalised inequalities. The imbalances of the federal structure in Nepal may be exemplified by the strong economic inequalities between the service-based economy of the Province of Bagmati and the agrarian-based economy of the Province of Karnali. As a result, the data form a vital evidence foundation to the decentralised, province-specific planning systems promoted by the National Planning Commission (2020), which should be tuned to the specific economic realities of the particular region.

Conclusion

As observed in this discussion of the 2021 statistics of the National Population and Housing Census, the Nepalese economy is defined by the unceasing dependence on agriculture, gender division of labour, and a large geographical gap. The two-way nature of the issues necessitates a dual policy agenda that would bring about modernisation of agriculture on one hand and increase the non-farm sector on the other hand. Notably, the evidence-based interventions, which can minimise the structural barriers to gender inequality and regional imbalances, should be intended to convert the national growth into sustainable and inclusive development.

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