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Socio-Demographic Determinants of Prosperity: Evidence from Nepal Living Standard Survey 2022/23

Ram Bahadur Karki

Assistant Professor, Ratna Rajyalaxmi Campus, Tribhuvan University, Kathmandu, Nepal

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Corresponding Author
Ram Bahadur Karki
ram.karki@rrlc.tu.edu.np

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Abstract

Prosperity is a multi-dimensional notion shaped by a wide range of social, economic, and cultural factors. However, this paper has focused solely on whether and to what extent demographic factors determine prosperity in Nepal. The raw data set from the Nepal Living Standards Survey (NLSS) 2022/23, produced by the Nepal Statistics Office (NSO), was analyzed in this research, covering the entire country's population. Using the bivariate analysis for association, chi-square test of independence, and logistic regression, the study identifies the most significant demographic variables that determine prosperity. The analysis shows that the household with a nuclear family, a very small and ideal household size, and a household with a working population, male-dominated in terms of numbers, enjoys more prosperity than other households do. The role of gender has also been found to significantly impact prosperity, as women-headed households are structurally disadvantaged. The analysis shows that prosperity in Nepal is not only a result of economic factors but also a stable foundation for the demographic structure of society. The evidence indicates that household size and the working-age population, i.e., the dependency ratio, are the most powerful predictors of prosperity compared to other demographic variables. The inference is that Nepal's demographic structure has a dominant impact on prosperity.

Keywords

household prosperity; socio-demographic determinants; NLSS

Introduction

For the last three decades, development in Nepal has occurred within an exclusively created environment of political transition, socio-economic reorganization, and cultural transition. Indeed, this transition period from the monarchy to a federal democratic republic has led to a fundamental transformation of governance systems and political authorities in Nepal (Lawoti and Hangen, 2013). In addition, this period has seen the gradual implementation of economic policies for market liberalization, increased participation of the private sector, and greater formal international migration in Nepal in terms of labor migration abroad, thus making sure that there is a radical transformation of livelihood means for millions of households in Nepal (Sijapati and Limbu, 2012). Urbanization processes, increased connectivity via road transport services, greater access to education and healthcare services, and others have been instrumental in creating a uniquely conducive environment for improved mobility and social mobility in Nepal (NPC, 2023). All these transformations have brought about significant shifts in the established norms, values, and social behaviors regarding the state, politics, the market, and society.

Despite all these transitions, Nepal remains a country characterized by social inequalities. While certain segments of society have benefited from new market openings, remittances, and education, others remain underprivileged for various reasons (Kabeer, 2015; Bennett et al., 2008). The pace and rhythm of development cannot be said to be the same for all segments of the population. On the contrary, some segments have been able to keep up with and fall behind development to varying degrees. I personally think that the prosperity of the Nepali people is rooted in social factors such as demographics, culture, geographical location, education, occupational location, health inequality, gender roles, migration, resource availability, and different kinds of capital. Thus, exploration into the nature of such landscapes determines which factor is most important. This paper examines Nepal's prosperity solely in terms of demographic factors. For this purpose, this paper has tried to explore "weather and to what extent the socio-demographic factors are responsible for determining both household and individual prosperity in the case of Nepal".

"Prosperity," as a complex, multilayered concept, has contextual meaning and multiple indicators (Lister, 2004). There are many confusing sets of sympathy for poverty. The answer to the question of "What is prosperity?" depends upon the question "Who asks the question and who gives the answer, and in what context and for what purpose is this question asked?" (Chamber, 2006). There is ambiguity as to how the term 'prosperity' is used. However, the concept includes a holistic sense of well-being, happiness, and flourishing. Prosperity is often associated not only with growth but also with progress and the ability to live a meaningful, satisfying life

(Sen, 1999). Therefore, in order to sketch "prosperity" as a dependent variable, the minimum standard intended by the WB (2019) and NSO (2024) has been accepted in this paper. Households or individuals who meet the basic standard are considered "prosperous," and those who do not are "poor" under the Cost of Basic Needs (CBN) approach.

Theoretical Explanation of Demographic Determinism of Prosperity

Prosperity is not merely an economic outcome but a socially embedded and demographically structured phenomenon. The reviewed literature indicates that socio-demographic attributes Household size, structure, composition, age distribution, dependency ratio, sex ratio, and gender dynamics exert significant and measurable influences on household-level prosperity in Nepal. This theoretical framework integrates key sociological, demographic, and economic theories to explain why and how demographic characteristics shape prosperity in the Nepalese context.

Socio-demographic factors household size, age structure/composition of the household, gender of the household head, sex ratio within a household, dependency ratios, marital status, etc. are the backbone of a nation's economic prosperity. Labor supply, productivity, savings, consumption behaviors, etc., as demographic attributes, directly affect the overall development of a nation's economy (Mason, Lee, & Lee, 2011). Bloom & Williamson explained that "the demographic shifts worldwide population size, age composition, and dependency ratio have long-term effects on the global economy as well as the economy of individual nations." As Bloom, Canning, & Fink (2011) and Lee & Mason (2010) stated that

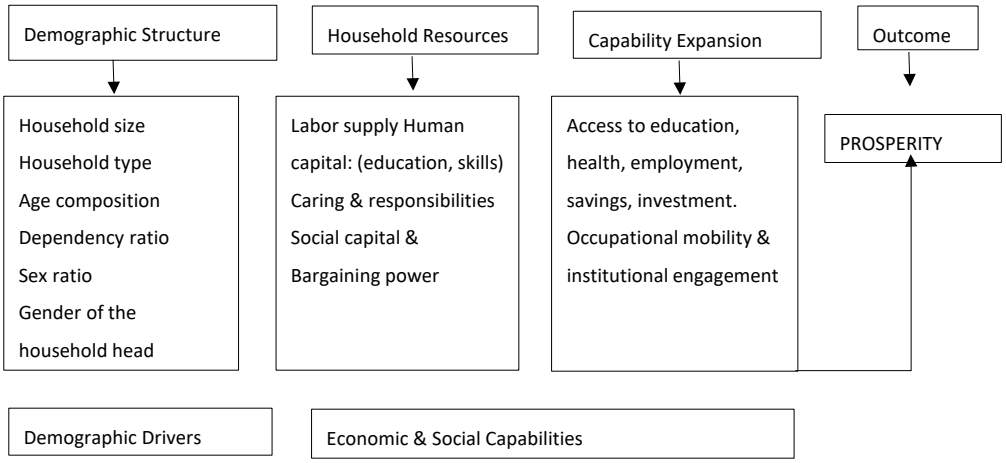
Continuous demographic changes would ultimately result in varying population sizes and age compositions, significantly affecting the global economy. Demographic change would not be a matter of discussion in relation to macroeconomic policies, despite it having drastically negative effects. The empirical impact of demographic elements on microeconomic indicators, such as consumption, savings, and investment, as well as the changes that those indicators undergo, is examined in this research.

Bloom, Canning, and Sevilla (2003) argue that East Asia's rapid economic growth (the "economic miracle") from 1965 to 1990 was significantly influenced by its demographic transition, a shift from high to low mortality and fertility rates. They claimed that the main cause of economic growth in East Asia is demographic changes. In Nepal, scholars, academicians, and policymakers are actively discussing how demographic dynamics are driving the current shift from poverty to prosperity. Nevertheless, there is insufficient research on this issue; therefore, this paper explores, both theoretically and empirically, whether and to what extent demographic characteristics, such as household size, structure, and composition, shape prosperity within a country.

There are different theories regarding the impact of demographic attributes on prosperity outcomes. Some theories focus on household size, others on structure, and others on composition. However, all of these factors are correlated with each other. The resource dilution hypothesis of Blake (1989), the demographic dividend theory of Bloom, Canning, and Sevilla (2003), and the life-cycle hypothesis of Modigliani and Blumberg (1954) focus on demographic factors as determinants of prosperity, especially in developing countries. They argue that small households have lower dependency but higher savings, which enhances their capacity for prosperity. While large households face resource limitations, they also face higher consumption burdens, reducing per capita consumption. Similarly, middle-sized households (3–5) generally benefit from the demographic dividend. Regarding the nature and structure of households, the theorist argues that nuclear families exhibit greater mobility, more efficient decision-making, and dual-income advantages, thereby increasing the likelihood of prosperity. While discussing joint families, there is a chance of greater social capital and care support, but higher dependency ratios can have mixed effects on prosperity. According to Modigliani & Brumberg (1954), age composition is another highly influential determinant of prosperity. The theoretical logic is that a high working-age population (18–60) has the highest productivity and higher prosperity; elderly-dominant or child-dominant households generally have a high dependency burden with lower prosperity.

Prosperity, in this regard, is defined as a complex outcome determined by multiple factors that surpass economic measures. However, the reviewed literature indicates that socio-demographic variables such as household size, composition, age distribution, dependency ratios, sex ratios, and gender dynamics significantly affect prosperity. This theoretical framework brings together relevant sociological, demographic, and economic theories to explain the reasons and mechanisms underlying demographic influences on prosperity. This framework is structured as Figure 1.

Figure 1
Theoretical Framework



These are foundational demographic attributes that determine a household's resource utilization, labor supply potential, decision-making pattern, and economic opportunities. All of these conditions ultimately influence capability expansion: access to education, health care, employment, saving and investment, occupational mobility, institutional engagement, etc. Whenever people expand their economic and social capability, they uplift their level of prosperity. In short, demographic drivers help expand their economic and social capabilities, and by using those capabilities, people become prosperous. Prosperity as an outcome variable is conceptualized as achieving a threshold of economic and social well-being, which is measured because of a poverty and non-poverty cutoff developed by the NLSS 2022/23.

Sampling, Methods and Model

The survey used a two-stage stratified sampling method to ensure a nationally representative sample across 15 analytical domains (urban and rural areas in 7 provinces, and the Kathmandu Valley urban area separately). In the first stage of sampling, using the comprehensive sampling frame for the Population and Housing Census 2021, enumeration areas (EAs) were selected as primary sampling units (PSUs). 800 EAs were selected from the 15 domains using probability proportional to size (PPS) methods. The detailed household listing, with its update completed during fieldwork, was conducted using an electronic device.

After listing all households in a selected enumeration area (EA), the list has been sorted by household size (implicit stratification). Twelve households were randomly selected from each EA using all households from the post-listing (sorted list) sampling

frame as the secondary sampling units (SSUs), with an equal probability of selection. From the 800 EAs, 9600 households (out of 6,666,937 households according to NSO (2024c) and 46870 individuals were selected as a sample in this survey. This survey has covered 574 local-level governments out of 753. Therefore, it is a highly representative national survey in comparison with other surveys in Nepal. Because the qualitative data were measured on a categorical scale, bivariate analysis using the chi-square test of independence and binary logistic regression was applied.

The Model

A binary logistic regression model to assess "whether and to what extent the demographic factors (household size, composition, structure, migration, sex ratio, dependency ratio, types of the family) are more predictive to determine prosperity in the case of Nepal has been applied. For this purpose, I have used the model developed by Cox (1958 and revised form 1970). This model is written as

Logistic regression estimates the probability that a household is prosperous

$$P\left(Y=\frac{1}{X}\right)=\frac{1}{1+e^{-(\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5)}}$$

Taking the log-odds:

Log $\left(\frac{P(Y=1)}{1-P(Y=1)}\right)$ $=\beta_0+\beta_1$(hh size)+ β_2(family type)+ β_3(gender h. head)+ β_4(age dependency)

Full Model Equation

Prosperity y_i = $\beta_0+\beta_1$(hh size)+ β_2(hh structure)+ β_3(gender h. head)+ β_4(dependency ratio)

y_i = a + β1 X1 + β2 X2 + β3 X3 + …… …….. Ɛi.

Where,

y_i = prosperous household and individual (Dependent Variable), X = an independent variable (predicted value, y_i depends on the value of X), β_0 = the constant (intercept) of the equation, and β = the coefficient (or regression slope) of the predictor variables.

Analysis

Household Size and Prosperity

A household is defined as a single economic unit of population residing under the same roof and using a common kitchen. Household size is considered one of the most

important demographic factors, greatly affecting the nation's prosperity level. Thus, this study considers the household size as a determinant of income, consumption, savings, education, and ultimately prosperity.

As Modigliani (1986) explained, smaller families tend to have higher savings rates because they have fewer dependents to support. The optimal family composition balances consumption and savings. In East Asia, specifically Japan, Singapore, South Korea, and Malaysia, having a small population of families with low fertility rates contributed to a high savings rate, paving the way for economic development through the "demographic dividend" (Mason & Lee, 2006). The larger families in sub-Saharan Africa and South Asia result in a low savings rate due to a high child dependency ratio (Bloom, Canning, & Felmlee, 2003). In Nepal, the average household size has decreased from 4.88 in 2011 to 4.37 in 2021. However, it varies across ecological regions. The average household size in the Tarai region is 4.73, while in the mountain region it is 4.33. The hill regions, having an average of 3.99, have the lowest average (NSO, 2024a)

A larger household consumes more, which affects its level of prosperity. Large families, in fact, find it more expensive, thereby affecting per capita income and savings compared with smaller families. Single-parent families, in particular, are more vulnerable to economic conditions due to single-income dependency (McLanahan & Sandefur, 1994).

The Resource Dilution Hypothesis, as proposed by Blake in 1989, posits that larger households are concerned about resource availability, leading to reduced per capita consumption, lower levels of education, and poor health status (Blake, 1989). They always feel uncertain about spending any amount of money on their own education and health. This is particularly true at lower income levels, as resources are already insufficient. On the contrary, economic theories suggest that larger household sizes can achieve cost savings from joint consumption of goods and services, ultimately leading to higher overall happiness (Becker, 1981). Similarly, within both the agricultural and the informal categories, the "labor pooling hypothesis" emphasizes that larger family sizes can derive joint-family labor advantages, thereby ultimately leading to higher levels of productivity and returns (Todaro & Smith, 2015). It is presumed to have a significant impact on the non-economic factors surrounding prosperity levels. In this context, Narayan, Nugent, & Srinivasan (1999) argue that in rural areas, larger family sizes are associated with higher levels of social capital, ultimately leading to higher levels of resilience as well as happiness within the "social" segment, but they do not have a direct relation to prosperity from an economic point of view.

A 1995 study by Lanjouw and Ravallion in Pakistan found that, due to high dependency ratios, larger household sizes in developing countries are usually associated with higher poverty levels. The researchers explained that as household sizes increase, they encounter different challenges related to their socioeconomic situations, including access to health facilities. In a similar study, Lipton and Ravallion (1995) explained that larger household sizes often face different challenges in providing a per capita consumption measure of food and other products as their total incomes increase. Bloom, Canning and Malaney (2001) explained that larger household sizes, in relation to demographic factors such as fertility rates & dependency ratios, influence macro-level economic growth & prosperity. Nevertheless, some researchers, such as Narayan and Pritchett (1999), have explained that the relationship between household size and economic prosperity is conditional.

Empirical findings from Nepal indicate that prosperity has numerous dimensions depending on household size. Lokshin, Bontch-Osmolovski, and Glinskaya (2010) argue that, despite receiving benefits from remittances due to labor migration, larger households have had fewer opportunities to increase per capita consumption. In this context, Acharya and Leon-Gonzalez (2012) suggested that larger household sizes, particularly in rural and agro-based families, have contributed positively to agricultural productivity through joint labor supply, but have also led to reductions in income sources due to the migration of working-class members. The findings from the NLSS 2011 have revealed that families with four to six members have experienced better income and consumption outcomes than families with more than seven members (CBS, 2011). The Nepal Statistics Office (NSO, 2024c) shows that small households in urban areas are more prosperous due to easy access to quality education, health care, and jobs, as well as to infrastructure. However, families in rural areas with larger sizes have faced difficulties in reaching a similar level of prosperity because, lacking the facilities available in urban areas, they have been unable to achieve it. From the available literature, it can be ascertained that the relationship between household size and prosperity has numerous dimensions & complexities, depending on the context. Despite labor supply & social capital, larger families can lead to resource insufficiencies & higher dependency ratios, which, in turn, often affect per capita prosperity. The table (1) highlights the issues.

Table 1

Household Size and Prosperity Cross tabulation

	(1 - 2) Very Small	(3 - 4) Ideal size	(5 - 7) Large	(8 & above) very large	Total
of Prosperous household	11.3%	40.4%	38.0%	10.3%	100%
Prosperous individuals	92.2%	85.3%	73.4%	73.5%	79.7%
Prosperous Population altogether	9.0%	32.2%	30.3%	8.2%	79.7%

Pearson Chi-Square (χ^2) = 499.536, df. = 3, P Value = 0.000, Crammer's V = 0.23

Note. Calculated by this researcher himself from the Nepal Living Standard Survey raw data set 2022/23, NSO.

The data (Table 1) indicate that "the higher the rate of household size, the lower the rate of prosperity." In Total, 79.7% of people in Nepal are prosperous. Among them, 11.3% are from a very small household size, 40.4% from an ideal size, and 10.3% are from a very large size. Overall, people living in very small families are 92.2% prosperous and 7.8% poor. Among the people living in an ideal family size, 85.3 are prosperous, and the rest are poor. In the same way, among the large household sizes, 73.4% are prosperous, and the rest are poor. All of this data proves the statement "the higher the rate of household size, the lower the rate of prosperity". The Pearson's Chi-Square (499.536) is significant (p = 0.000) at the 99.99% confidence level, indicating that small household size is a major determinant of prosperity in Nepal. Cramér's V (0.23) also indicates a moderate level of association between the variables. Therefore, it can be concluded that the smaller the size of the household, the higher the chance of being prosperous.

Household Structure & Prosperity

Household structure is understood as the organizational form/type of the household, determined by the relations among its members. The arrangement of members in relation to each other is embedded in the qualitative form of the household. This encompasses single-parent, female-headed, joint, and nuclear families (Laslett & Wall, 1972; NSO, 2024a).

While discussing the correlation between household structure and prosperity, Bongaarts (2001) and Desai (2010) argue that household structure helps determine economic well-being and social stability, as well as the overall prosperity of individual household members. In the same way, the structure of a household is to some extent a determinant of income, consumption, savings, and resource utilization (Gibson-Davis, 2008; Mishra & Sam, 2016). Therefore, the theoretical models applied in this paper offer competing explanations of how different household structures influence prosperity. Structural functionalism is one of the sociological perspectives

that explores how the structure of society as a whole is conceived in terms of the functionality of societal institutions. Structural functionalism posits that different types of organizations within households play different roles in society. Parsons and Bales (1955) argue that the nuclear family is characteristic of industrial society because it enables high geographic mobility. Joint and extended families serve as a means of social support and supply the labor market, but they may also hinder prosperity in urban areas. In joint and extended families, there is a common income and expenditure. It enables us to assume that small & nuclear families would be relatively prosperous compared to families having large joint & extended families. Joint households, according to evidence from South Asia, are observed to have strong childcare and resistance to income variability (Das Gupta et al. 2003). Table 2 presents the empirical evidence for Nepal.

Table 2
Family/Household Types and Prosperity

	Types of family/ Households		
Prosperous Household/Family	Nuclear	Joint	Total
Of the Prosperous Household	76.8%	23.2%	100.0%
Of the types of family	79.7%	80.0%	79.7%
Prosperous population all together	61.2%	18.5%	79.7%
Pearson Chi-Square (χ^2) = 287.619, Phi (Φ) = 0.21, df = 1, P value = 0.003			

Note. Calculated by this researcher himself from the Nepal Living Standard Survey raw data set 2022/23, NSO.

The table (2) satisfies the theoretical assumption that the household structure, to some extent, determines the level of prosperity. Here, small & nuclear families are found to be relatively prosperous compared to families having large or joint/ extended families. The value of Pearson's chi-square ($\chi2 = 287.619$) is significant, with a p-value of 0.003. value. Though the strength and the direction of the relationship between household structure and prosperity (phi (Φ) = 0.21) are found to be weak, the research hypothesis "There is a role of household structure in determining both the individual's and the household's prosperity" is accepted with a 97% confidence interval. It signposts to some extent that "the smaller the household structure, the higher the level of prosperity."

Age Category (Dependency) as Household Composition and Prosperity

The New Household Economics model, first developed by Becker (1981), views the household as an economic unit that allocates resources to maximize the economic benefits and welfare of its members. However, it depends upon the household structure and composition. In this research age category, gender dynamics, sex ratio,

and marital status of the members were analyzed to explore whether and to what extent these variables shape prosperity.

The Life-Cycle Hypothesis (LCH) of Modigliani and Brumberg (1954) argues that young households with individuals under 30 save less and consume more due to education costs or the start of working life, while middle-aged households with individuals aged 30-60 are generally at their highest earning and wealth-accumulating stage. In the same way, Becker (1993) argues that a household head of middle age can achieve economic prosperity compared to a young household head, thanks to accumulated knowledge and economic security. Households with individuals aged 60 and above are generally reliant on savings and retirement benefits, which often leave them with an income shortfall (Deaton, 2005). This theory emphasizes economic prosperity by age. Members aged 18 to 60 are referred to as breadwinners; this age group is the primary driver of prosperity. Households with elderly individuals lacking economic security may experience economic dependency, which can push the household into poverty (Knodel & Chayovan, 2008). Similarly, in households with young individuals, economic benefits might take the form of financial aid or housing benefits (Caldwell, 1982). This is especially applicable in collectivist societies like Nepal. Policy and societal/cultural backgrounds affect the effect of age groups on household prosperity status. Table 3. Empirically supports the mentioned hypothesis.

Table 3

Age Categories (Dependency scenario) and Prosperity Cross Tabulation

	Age Category			
	Child Dependent (0 – 17)	Working Pop (18 – 60)	Old Dependent (61 & above)	Total
Of the Prosperous	23.3%	70.4%	6.2%	100.0%
Of the Population	73.2%	82.5%	76.5%	79.7%
Total Prosperous Age Category	18.6%	56.2%	5.0%	79.7%
Grand Total (Poor + Prosperous)	25.4%	68.1%	6.5%	100.0%
Pearson Chi-Square (χ^2) = 148.95, df = 2, P Value = 0.001, Cramer's V = 215				

Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

The data in the table show that 70.4% are working-age, 23.3% are child-dependent, and only 6.2% are old-dependent. Here, prosperous households are heavily concentrated in the working-age population. This suggests that economic productivity always drives prosperity within a state. In the data, working-age individuals are more likely to be in prosperous households, whereas children and elderly dependents are slightly less represented. The working-age category has the highest prosperity

proportion (82.5% > 73.2% > 67.5%), which is understood as a strong indicator of the demographic dividend effect within a society.

When the association between the variables is statistically significant ($p < 0.05$). Age dependency structure and household prosperity are significantly associated ($\chi^2 = 148.95$, $p < 0.001$), with a meaningful but moderate effect size (Cramer's $V = 0.215$). Households with domination of the economically productive age group (18-60) are identified as more prosperous than households with higher dependency rates in terms of children and the aged. It shows that economic productivity and a lower dependency burden are crucial for household prosperity. In conclusion, age structure influences prosperity, but other factors also matter (education, income, location, etc.) in this case.

Gender and Prosperity

Women in Nepal are often culturally allocated unpaid care and domestic labor, especially within those households with more dependents or missing male members (UN Women, 2021). The theory of GAD challenges the notion of homes as complete, integrated units and instead inquiries into how gender hierarchies in the family affect individual access to resources and opportunities (Sen, 1990). An imbalance in the sex ratio in favor of females could increase women's work burden without enhancing their bargaining power or welfare.

Thompson (1929) argues in his demographic transaction theory that shifts in fertility and mortality rates over time influence both population structure and composition, including the sex ratio (Kirk, 1996), which ultimately affects household living standards. In developing countries like Nepal, changes in sex ratios are often associated with improvements in health care, education, and economic opportunities, which ultimately support prosperity. A balanced sex ratio could be an indicator of gender equality, which, in turn, supports sustainable household prosperity (UNDP, 2020). In contrast, an unbalanced sex ratio leads a household towards poverty.

According to human capital theories, investments in the education and health of both males and females would give higher economic returns (Becker, 1993). An uneven ratio between the sexes, which is commonly caused by gender discrimination in the form of son preference, could affect females' engagement in education, employment, and decision-making processes in a country like Nepal, where patriarchal values shape family and communal choices, thus perpetuating gender disparities that might hamper prosperity (Acharya & Bennett, 1981). When the number of males is predominantly high in comparison to females, it can cause instability in the social structure, leading to violence, unemployment, and the problem of arranged

marriages (Hudson & den Boer, 2002). When the numbers of males and females are relatively equal, this supports inclusive economic development by ensuring equal access to resources and labor (NSO, 2024b). In Nepal, areas with an equal number of males and females have performed better in terms of female literacy, health status, and economic contributions. But in reality, there is a slight dominance of females (94.2:100) (NSO 2024c) due to the male labor migration.

Even though remittances contribute to increases in household assets and the use of material things like TVs, mobile phones, and private vehicles. The absence of male household members has redistributed responsibility among females, potentially empowering them within communities (Adhikari, 2020). Nevertheless, Persistent Gender disparities in school and the job market delay the full realization of prosperity. Table 4 presents the answer to "Whether there is a difference in association between male- vs. female-headed households and prosperity status" in Nepal.

Table 4

Gender and Prosperity Status Cross Tabulation

	Gendered Headed		
	Male	Female	Total
Household Head (out of 9600 Hh.)	62.0%	38.0%	100%
Of the Prosperity Status	50.5%	49.5%	100.0%
Of the Gender	81.4%	78.1%	79.7%
of the Total	40.3%	39.4%	79.7%
Pearson Chi-Square = 4.86, df = 1, P = 0.03, Phi = 0.03			

Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

From the data above (Table 4), household leadership tends to be patriarchal, with males holding dominance over females at 62:38, a pattern common in several South Asian countries, such as Nepal. The percentage of prosperous households by the gender of the household head is almost equal, 50.5:49.5. The study's results suggest a significant relationship between the gender of the household head and prosperity ($\chi^2 = 4.86$, $p = 0.03$). However, the magnitude of the relationship is very small ($\Phi = 0.03$), implying low practical significance. Nevertheless, a slight trend indicates that male-headed households are more prosperous than female-headed households (81.4% vs. 78.1%). In general, prosperity is evenly distributed among males and females, meaning that the gender of the household head does not determine the prosperity of households in this population.

Logistic Regression Analysis

Table 5 provides information on testing the model, as I fit earlier in this paper.

Table 5

The Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	8547.468[a]	0.256	0.311
Hosmer and Lemeshow Test			
Step	Chi-square	Df	Sig.
1	10.472	7	0.163

Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

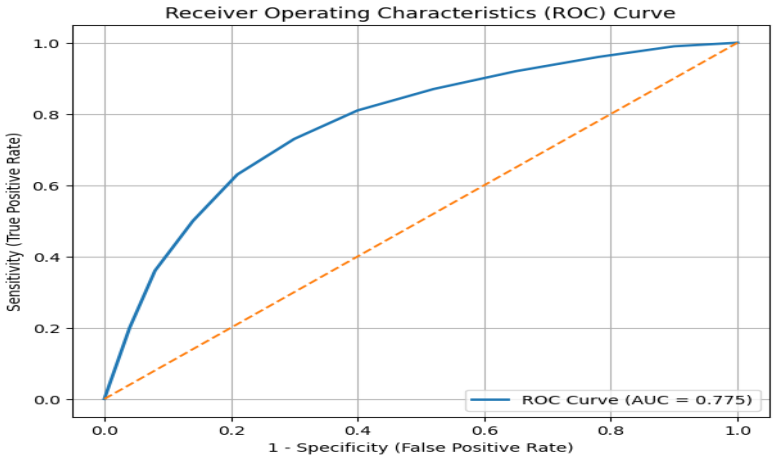
The -2 Log Likelihood for the logistic regression model is 8547.468. This is an indicator of the variability in the outcome variable not explained by the model, but accounted for by including the predictor variables. The Cox & Snell R-Square is 0.256, which means approximately 25.6% of the variation in the dependent variable is explained by this model. The Nagelkerke R-square (0.311) indicates that this model explains approximately 31.1% of the variation in the outcome variable. This is a good level of model fit in social. Since a multitude of variables influence an outcome variable. Therefore, the model converges well and represents a substantive level of explanatory power.

If we look at the Hosmer-Lemeshow goodness-of-fit test to assess whether the observed results differ significantly from those obtained from the logistic regression model. The results of the Hosmer & Lemeshow Test (Chi-square of 10.472 with 7 degrees of freedom) are found insignificant ($p = 0.163 > 0.05$), which is expected. The null hypothesis states that the observed and predicted values are equal; the null is not rejected. Therefore, no statistically significant difference exists between the observed and predicted results, confirming that the logistic regression model is a good fit. The Hosmer & Lemeshow Test, Cox & Snell R Square, and Nagelkerke R confirm that the model is a good fit for the observed data. To further test the model, the Receiver Operating Characteristic (ROC) Curve and Sensitivity–Specificity (S–S) Plot are shown in the figure below.

ROC Curve and Sensitivity–Specificity Analysis

Figure 1

Receiver Operator Characteristic (ROC) Curve

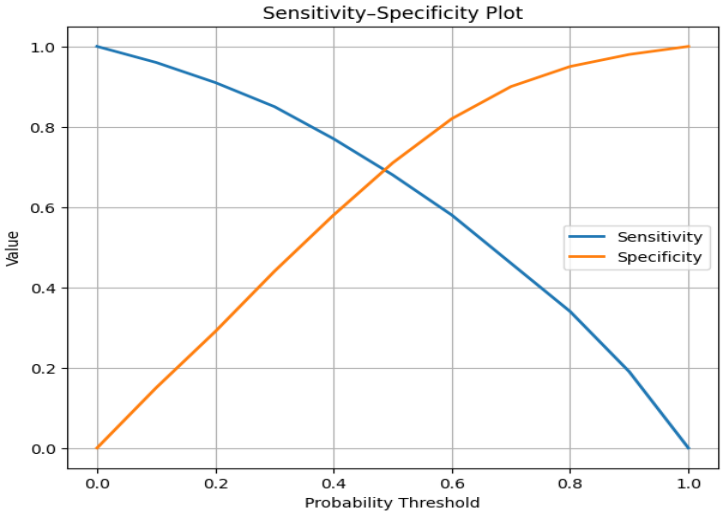


Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

Receiver operating characteristic (ROC) curves were used to assess the model's predictive ability through classification analysis, plotting sensitivity and 1-specificity (false-positive rate). Figure 1 shows that the area under the ROC curve (0.775) indicates that the logistic regression model was well calibrated and performed satisfactorily.

Figure 2

Sensitivity–Specificity (S–S) Plot



Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

Furthermore, on a graph of sensitivity and specificity, both are plotted as a function of cut-off points between 0 and 1, with the point of intersection indicating the cut-off at which the two are closest (Hilbe, 2015). As stated by Worku & Muchie (2012), the graph shown in Figure 2 below illustrates sensitivity and specificity graphs for cut-off points based on probability, with the two lines intersecting along the vertical axis, indicating that the fitted model is sensitive and specific.

Further details: the model's predicted outcomes correspond with the observed outcomes, making it suitable for subsequent analysis. Logistic regression analyzed

Table 6

Logistic Regression Table

							95% C.I.for EXP(B)	
Variables in the Equation:	B	S.E.	Wald	df	Sig.	Exp (B)	Lower	Upper
Family Type: Nuclear	.334	.073	21.438	1	.000	1.396	1.212	1.608
Household Size:			**370.647**	**3**	**.000**			
Very Small Household Size	1.678	.134	157.217	1	.000	5.353	4.118	6.958
Ideal Household Size	.931	.115	66.016	1	.000	2.537	2.026	3.175
Large Household Size	.137	.113	1.482	1	.223	1.147	.920	1.430
Gender: Male	.122	.055	4.954	1	.026	1.130	1.015	1.259
Age Category			**110.639**	**2**	**.000**			
Child Dependency (1-16)	.132	.107	1.520	1	.218	1.142	.925	1.409
Working Population (17-60)	.691	.101	47.095	1	.000	1.996	1.639	2.432
Constant	.526	.142	13.657	1	.000	1.692		

Variable(s) entered: Type of the family, Household Size, categorized, Gender, Age Category.

Note. Calculated by the researcher himself from the NLSS raw data set 2022/23, NSO.

In the table (Table No. 6), the first variable, household structure, shows that households with nuclear families have 1.40 times higher chances of being prosperous (Exp B = 1.396) as an outcome compared to joint families. Though the confidence interval is 95% (lower = 1.212 – Upper (1.608) does not include 1, indicating a statistically significant positive effect on determining prosperity. In short, households with a nuclear family structure are significantly more likely to be prosperous in Nepal ($P < 0.001$). If we look at the relationship between household size and prosperity, household size was found to be one of the strongest demographic determinants of prosperity with a significant effect ($P < 0.001$ for the first two categories). The odds of prosperity of a very small household size with 1 to 2 members are likely to be 5.3 times higher (Exp B = 5.353) than the reference category, i.e., a very large household with

eight or more than eight members. The ideal-sized household with 3 to 4 members has 2.5 times the chance of being prosperous (Expected B = 2.537) as the reference category. However, the large household size of 6 to 7 members has no statistically significant effect on prosperity (expected B = 1.47). Based on the analysis of the level of significance, beta, expected beta, and odds ratio, it can be concluded that very large households do not show an additional advantage in determining prosperity in Nepal. It suggests diminishing or neutral effects beyond a threshold. In short, smaller households have a substantially higher likelihood of being prosperous. Therefore, it can be concluded that the smaller the household, the higher the prosperity.

Looking at the gender effect on prosperity, the table (5) indicates that the male members of the household have 13% higher odds of the outcome as compared to female members (B = 0.122 and Exp B = 1.130). The effect is statistically significant (P = 0.026 < 0.05) and of modest magnitude. It means gender plays a significant but relatively small role in determining prosperity, favoring males.

Age structure is another independent variable measured in this analysis. The overall age structure a statistically significant determinant of prosperity (Wald = 110.639, p < 0.001). The effect of a household with a child as a dependent population (age from 1 to 16 years) was not found to be statistically significant (exp(B) = 1.142, p = 0.218 > 0.05) in determining prosperity. The household with a working-age population (17–60 years of age) has almost twice the odds of the outcome (Exp(B) 1.996, P = 0.001 < 0.05) compared to the reference category, i.e., old age (61 and above). In this regard, a higher proportion of the working-age population significantly influences prosperity, whereas child and old-age dependents do not have a positive effect on prosperity in Nepal. At the end of the day, there is a very high chance that households with a nuclear family composition, an ideal or small family size, male sex, and many working adults are more prosperous than others.

Findings with Theoretical Reflection

From the figures above, it is clear that socio-demographic determinants affect both household and individual prosperity through various mechanisms known as the prosperity chain. As per the framework, the demographic attributes in themselves do not create household prosperity but serve as means to do so, since household prosperity depends on how these attributes enable resource generation, capacity, and opportunities. The listed socio-demographic determinants of prosperity are household size, household composition (age and family structure), and the gender of the household head.

Household composition affects resource generation through labor, education, child rearing and care, social capital, and household bargaining. For example, households

with a higher proportion of working-age people are more likely to benefit from labor, whereas households with dependents will struggle financially, since dependents, such as children and older individuals, are needy. Furthermore, households with educated individuals and robust social capital perform better economically than households without such endowments.

Also, the theory and data indicate that household resources contribute to the development of individual capabilities, including education, healthcare services, employment options, savings and investment opportunities, occupational mobility, and institutional participation, among others. This component is linked to the concept of the capability approach, where prosperity is not only about accumulating money but also about creating opportunities for improved quality of life for individuals and households. In its turn, socio-demographic factors influence people's capability to utilize different opportunities. Thus, discrimination based on gender, differences between regions, and lack of educational and healthcare resources in Nepal prevent people, especially women, the marginalized population, and rural inhabitants, from having the capabilities to improve their lives.

At the same time, data show that households' economic and social capabilities serve as an intermediate link between demographic factors and prosperity outcomes. Consequently, people with strong economic and social capabilities will have greater opportunities for a stable livelihood, social mobility, resilience, and well-being. However, socio-demographically disadvantaged households, because of an insufficient level of education, female heads of households without support, or high dependency ratios, do not develop enough economic and social capabilities.

Conclusion

Ultimately, the model suggests that prosperity has several dimensions, shaped by the interaction among demographics, household resources, and capability development. Socio-demographic characteristics play a vital role in determining the level of prosperity for households and individuals in Nepal. The logistic regression model used in this research supports the assumption that household socio-demographic features are among the major determinants of prosperity in Nepal.

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