ABROAD MIGRATION AND RURAL LIVELIHOODS: EVIDENCE FROM SMALLHOLDER FARMERS IN KAVREPALANCHOWK DISTRICT, NEPAL

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ABSTRACT

Labor migration and remittances play a pivotal role in shaping the livelihoods of smallholder farmers in Nepal. The study examines how structural, economic and social factors influence migration decision and how remittance contribute to household welfare. A mixed-methods design was employed, drawing on survey data from 100 households-50 with at least one family member migrating and 50 without- supplemented by focus group discussion and key informant interviews. Binary logistic regression model was used to identify determinants of migration, while independent-sample t-tests and Chi- square test compared the outcomes between households. Findings indicated that migration decision is driven by both push factors, such as indebtedness and financial obligations and pull factors, such as perceived higher income abroad. Larger landholdings decrease the likelihood of migration ($\beta = -0.208$, $p = 0.030$), whereas outstanding loans ($\beta = 2.837$, $p = 0.002$) and solo financial responsibility ($\beta = 2.354$, $p = 0.002$) significantly increased migration likelihood. A positive perception for abroad opportunities is also raised the odds of migration (($\beta = 1.522$, $p = 0.049$). Moreover, migrant households demonstrating significantly higher annual incomes and spent more on quality food, education, healthcare, sanitation and productive assets- demonstrating the transformative potential of remittance in strengthening physical, human and financial capital. These findings underscore migration for abroad employment as both a coping strategy in response to economic stress and as an aspirational pathway for resource accumulation and human capital development. Nevertheless, migration often appears as a necessity driven by economic pressure rather than long-term planned livelihood strategy.

Key words: *Labor migration, remittance, smallholder farmers, rural livelihoods*

INTRODUCTION

Labor migration has become a central livelihood strategy for rural households in Nepal with remittances becoming a vital source of income and external finance. In recent decades, hundreds of thousands of Nepalis have sought abroad employment, particularly in Gulf countries and Malaysia (CBS, 2024; IOM, 2024) making Nepal one of the world's leading remittance- receiving countries. Remittances have been sown to reduce poverty and enable investments in human and physical capital, especially among small holders and resource poor households (Adams and Cuecuecha, 2008; de Haas, 2007; Willams, 2013). These remittances significantly contribute not only to household income but also to national economic stability.

In 2023, over 460,000 Nepali workers received first time approval for foreign employment, with an additional 281, 000 renewing their employment permits, to government records. Same year alone, Nepal received approximately USD 11 billion in remittances, accounting for 26.6% of its GDP- a notable rise from 22.56.56% in 2022 (CBS, 2024; IOM, 2024; NRB, 2023). This inflow surpasses the combined contributions from official development assistance and foreign direct investment, high lightening its critical role in Nepal's economic landscape.

Agriculture remains the primary livelihood for majority of the Nepal's population. Despite its central role, the sector faces persistent challenges. Mountainous regions struggle with poor soils and harsh climates, while hilly areas are constrained by weak infrastructure, limited market access and inadequate agricultural services. These structural barriers, combined with lure of higher wages abroad, have urged widespread migration. Rural Nepal-home to 85% of the population (CBS, 2022), is still dominated by traditional agriculture and characterized by limited access to education and social capital. Additionally, rising food price further compel households to seek overseas employment as a means of survival (Wagle, 2011).

Land ownership remains the most critical asset for rural households. Those, lacking land often face livelihood insecurity and socio-economic deprivation. In such contexts, many families depend on sharecropping, subsistence farming, construction labor and seasonal or temporary migration to meet basic needs (Steimann, 2005 and Subedi, 2009). For smallholder farmers with limited financial capital, abroad employment provides a rare opportunity to accumulate resources, secure a stable income and overcome entrenched structural constraints- ultimately improving living standards and supporting to broader socio-economic development.

Various studies confirm that remittance serve as a key driver of economic development, particularly for resource poor and smallholder Households (Willams, 2013; Adams and Cuecuecha, 2008 and Kapur, 2004; Haas 2007). Nepal's complex geography, demographic and socio-economic factors have made agriculture development particularly challenging, pushing rural households towards abroad employment opportunities. Migration patterns vary depending

The social, economic and political condition of origin areas significantly influence migration (Pandey & Kunwar, 2000). Rural to urban migration, in particular, has been shown to contribute to sustainable development and poverty alleviation (Mohanty, 2006). In Kavrepalanchowk district, initiatives such as the Safer Migration Programme (SaMi), IOM-supported Migrant Resource Centres (MRCs) and the Prime Minister's Employment Programme (PMEP) serve as counselling bodies and support mechanism for short-term employment opportunities (Helvetas, 2022). These results will help these programs understand the key drivers of migration and assist in formulating targeted action plans to mitigate unplanned migration.

MATERIALS AND METHODS

Study area

The study was conducted in Anikot village of Panchkhal municipality of Kavrepalanchowk district in central Nepal. Geographically, the district lies between 27°20′-27°45′ N latitude and 85°24′-85°49′ E longitude covering an area of approximately 1,396 sq. km, with elevation ranging from 300 to 1,680 meters above sea level. The village comprises 1, 494 households with a population sex ratio of 91.7 and an average household size of 4.8 individuals (CBS, 2011). Panchkhal municipality was purposively selected due to its high rate of labour out-migration, widespread rural poverty, reliance on subsistence agriculture and limited employment opportunities. The study by Bhattarai et al. (2022) revealed that the rate of migration in the study district is 40%. To figure out the factors causing migrations and provide evident based suggestions, this research was carried out in Panchkhal municipality of Kavrepalanchowk, Nepal.

Research design and sampling

A mixed method research design integrating both quantitative and qualitative approaches was employed to examine the key drivers of labor migration and the role of remittance in shaping rural livelihoods. A household survey constituted the primary quantitative method, complemented   by qualitative insights gathered through FGDs and KIIs. The study population included all 1473 households in the village (Municipality, 2023). With support from local leaders, FCHVs, Kis and ward chairperson, a sampling frame was developed. Based on the migration status, households were classified into 510 migrant and 963 non-migrant households.

From these groups, a simple random sampling technique was applied to select the study sample 50 migrant households were randomly selected representing 9.8 % of the group using random number table. Similarly, 50 non- migrating households representing 5.9% were randomly selected to serve as comparison group. In case where selected households were unavailable or declined participation, the nearest eligible household with the same migration status was selected as replacement.

To enrich the quantitative findings, key informants including, ward officials, school teachers, FCHVs and local political leaders were consulted. Their inputs provided in depth perspectives ensuring a comprehensive understanding of the factors including migration decision and socioeconomic impacts of remittance.

Data collection

Primary data were collected through face-to-face household interviews, FGDs and KIIs, while secondary data were gathered from published and unpublished literature including books, institutional reports and relevant online sources. A semi- structured questionnaire tailored separately for migrating and non-migrating Households were employed to capture detailed information on the determinants of migration and the impact of remittance on multiple dimensions of household livelihoods. The multi-source data collection approach enables a comprehensive understanding of the drivers of migration and the subsequent socio impacts on households in Anikot village.

Variables and their hypothesized relation

Table 1 presents the description of variables chosen for logistic regression analysis. It includes symbol used to represent variables, their description, type (weather numeric or categorical variable) and the hypothesized sign.

Table 1: Variables and their hypothesized relation

Symbol	Variable	Description	Type	Expected Sign
MIG	Migration of family members	(1=yes, 0=no): dependent variable	Categorical	
AGE	Age of respondents	Age in years	Numeric	-
SCH	Years of Schooling of household head	Education level (years)	Numeric	-
FAM	Family size	No. of family members	Numeric	-
AREA	Total area (Ropani)	Total landholding in Ropani	Numeric	-
OWN	Ownership of House	1=Own house, 0=No	Categorical	+
LOAN	Taken any loan	1=Yes, 0=No	Categorical	+
NET	Migration network	1=Available, 0=Not available	Categorical	_
MEM	Group membership	1=Yes, 0=No	Categorical	−
INC	Main income source	1=Agriculture, 0=Otherwise	Categorical	+
SUFF	Food sufficiency	Months of food sufficiency	Numeric	+
ENY	Energy	1=LPG gas, 0=Other	Categorical	+
LAT	Latrine	1=Advanced, 0=Basic/None	Categorical	_
KNW	Disaster risk	1=Aware about possible disaster risk, 0=Not aware	Categorical	+
RES	Financial responsibility of respondents	1=Yes, 0=No	Categorical	+
PER	Perception about migration	1=Many opportunities, 0=Otherwise	Categorical	+
EMP	Awareness about women empowerment	1=Aware, 0=Not	Categorical	+

The variables presented in the Table 1 above were selected to capture both socio-economic characteristics and structural factors influence migration decisions, remittance utilization and household livelihood outcomes. Numeric variables enable quantitative analysis of household attributes such as income, size of landholding size and remittance amounts, while categorical variables reflect binary or qualitative aspects including as perceptions, asset ownership and level of social engagement.

Data analysis

Both quantitative and qualitative data were analysed to provide a comprehensive assessment of the determinants of migration, remittance utilization and their impacts on household's livelihoods. Quantitative data were processed and analysed using SPSS version 22, employing descriptive statistics including frequency distributions, mean and cross tabulation to summarize household characteristics and key livelihood indicators.

Inferential statistical tests were applied to explore relationship between variables. Specifically, intendent sample t- test were used to compare mean differences in household income, expenditures and other livelihood components between migrating and non- migrating households. Additionally, chi-square tests were conducted to assess associations between categorical variables such as asset, access to services and migration status. Qualitative data were analysed using thematic analysis to supplement and contextualize the quantitative findings. This mixed methods approach offered a more holistic understanding to the factors influencing migration decisions, pattern of remittance utilization and their broader socio-economic impacts on rural Households.

Statistical model

A binary logistic regression model was employed to estimate the likelihood of a household having at least one member engaged in migration based on a range of socio-economic and demographic characteristics. This model enabled the assessment of how various independent variables, including landholding size, education level, household size, financial responsibilities and perceptions of migration- influencing the probability of migration.

The equation model used for this analysis is given as:

$$\text{Ln} \frac{(P(MIG=1)}{1-(P(MIG=1)} = \beta_0 + \beta_1 \text{AGE} + \beta_2 \text{SCH} + \beta_3 \text{FAM} + \beta_4 \text{AREA} + \beta_5 \text{OWN} + \beta_6 \text{LOAN} + \beta_7 \text{NET} + \beta_8 \text{MEM} + \beta_9 \text{INC} + \beta_{10}\text{SUFF} + \beta_{11}\text{ENY} + \beta_{12}\text{LAT} + \beta_{13}\text{KNW} + \beta_{14}\text{RES} + \beta_{15}\text{PER} + \beta_{16}\text{EMP}$$

RESULTS AND DISCUSSION

Determinants of migration

Table 2 presents the results of the binary logistic regression results examining socio-economic and household determinants of migration among smallholder farmers. The Omnibus Test of Model Coefficients was significant ($\chi^2 < 0.01$) and the Nagelkerke R^2 of 0.512 suggests that the model accounts for approximately 51.2 % of the variation in migration status, indicating a strong model fit.

Table 2: Binary logistic regression results for determinants of migration

Variable	B	S.E.	Wald	Sig.	Exp(B)	dy/dx
Age of respondents	-0.039	0.076	0.271	0.603	0.961	-0.008
Years of schooling	-0.175	0.105	2.766	0.096	0.840	-0.036
Family size	-0.542	0.43	1.587	0.208	0.582	-0.113
Total area (Ropani)	-0.208**	0.096	4.722	0.030	0.812	-0.043
Ownership of house (1=Yes)	0.446	0.644	0.481	0.488	1.563	0.093
Taken any loan (1=Yes)	2.837***	0.932	9.266	0.002	17.063	0.595
Group membership (1=Yes)	-0.349	0.714	0.240	0.624	0.705	-0.073
Main income source (1=agriculture)	2.504*	1.513	2.740	0.098	12.232	0.525
Food sufficiency (months)	0.039	0.108	0.129	0.720	1.040	0.008
Energy (1=LPG gas)	0.374	0.680	0.303	0.582	1.454	0.078
Latrine (1= advanced)	-1.017	0.707	2.070	0.150	0.362	-0.213
Knowledge about disaster risk (1= yes)	0.882	0.730	1.459	0.227	2.415	0.185
Financial responsibility (1= Sole)	2.354	0.743	10.036	0.002	10.529	0.494
Perception about migration (1= many opportunities)	1.522	0.773	3.878	0.049	4.582	0.319
Awareness about women empowerment (1=aware)	0.091	0.660	0.019	0.890	1.095	0.019
Migration network (1=available)	-1.199	0.713	2.825	0.093	0.302	-0.251
Constant	-0.393	2.430	0.026	0.871	0.675	
Dependent variable						
Omnibus Test of Model Coefficients						
Model Chi-square (df =16) = <0.01						
Nagelkerke R² = 0.512						

Note: ***=1% level of significance, **=5% level of significances, *= 10% level of significance

The findings indicate that total cultivable area exhibited a negative association with migration (p = 0.03), with and odds ratio of 0.812, suggesting that a unit increase in total area reduces the likelihood of migration by 18.8 %. Households with loans showed a strong positive association with migration (p= 0.02) with an odds ratio of 17.06, implying they have 17 times higher odds to sending a family member abroad. Individuals bearing solo financial responsibility for their families also had a significant positive effect (p = 0.002) with an odds ratio of 10.5. Respondents who perceive higher opportunities abroad were significantly more likely to migrate (p = 0.0490) with odds ratio 4.582). Additionally, presence of migration network was marginally associated with migration (p=0.093), For those households taking financial loans, the probability of migration increases. Similarly, the solo financial bearer of the family has 49.4% points of migrating. Each additional hectare of cultivable land decreases the migration by 4.%. Lastly, unit increase in years of schooling of household head decreases the migration by 3.7%. Overall, these results highlight the combined influence of structural push factor, economic pressor and perceived pull factors in shaping migration decisions among smallholder farmers in the area.

Impact of remittance in livelihood

To access the impact of remittances on household livelihoods, a comparative analysis was conducted between migrating and non-migrating households. Key indicators such as household expenditure patterns and livelihood assets were examined. Independent sample t-tests were applied to evaluate differences in mean values between the two groups, thereby identifying the extent to which remittances contribute to enhancing household welfare and asset accumulation.

Table 3: T-test for comparison of average expenditure between migrating and non-migrating respondents

Livelihood	Mean ± Standard Deviation		t- value	p-value
	Migrating (NPR)	Non- migrating (NPR)		
Average Gross Annual Income (NPR)	358110 (155850.17)	201720 (156849.34)	5.00***	<0.001
Average Annual Expenses on Food (NPR)	42728 (21479.11)	37280.00 (5098.70)	2.83***	0.006
Average Annual Expenses on Education (NPR)	12172 (16014.9)	5630.0 (9612.80)	2.47**	0.015
Average Annual Expenses on Health (NPR)	13450 (10075.35)	9210 (4657.76)	2.70***	0.008

Note: ***=1% level, **=5% level of significances. Figures in parentheses indicate SD

From the analysis above in table 3, it was found that there was a significant difference in the score for income in migrating (M=358110.00, SD = 155850.17) and non- migrating (M=201720.00, SD= 156849.34) households (p <0.001). Further, remittance income at migrating households also contributed to significantly higher expenditures in essential sectors such education (M = 12,172 NPR, p = 0.015) and health (M = 13,450 NPR, p = 0.008).

Similarly average annual expenditure in food was higher among migrating households (NPR. 42,728) than non-migrating households (NPR. 37280, p=0.006).

Overall, these findings demonstrate that remittance inflows substantially increase household purchasing power and investments in education, health, sanitation and productive assets. This aligns with findings from Adams and Cuecuecha (2008), underscoring the role of labor migration in enhancing human and physical capital among rural smallholders. The impact of migration on livelihood assets and facilities was further examined using Chi-square test in table 4 below.

Table 4: Chi-square test for elements of livelihood among migrating and non-migrating respondents

Elements of livelihood	Migrating	Non-Migrating	Chi-square	p- value
Owning a strongly built house				
Yes	29	26	0.364	0.650
No	21	24		
Source of energy				
LPG based	39	35	0.863	0.360
Conventional	11	15		
Latrine status				
Modern	20	9	5.87**	0.015
Conventional	30	41		
Land Purchase				
Yes	43	19	24.40***	<0.01
No	7	31		
Membership to any social group				
Yes	12	9	0.54	0.461
No	38	41		

*Note: ***=1% level, **=5% level of significances*

The table above indicates that Migration has a significant positive impact on HOUSEHOLD sanitation and assets accumulation. Migrant Households were more likely to upgrade from conventional to modern latrines ($\chi^2 = 5.87$, p = 0.015) and purchase land ($\chi^2 = 24.4$, p < 0.01) compared to non-migrant Households. However, no significant difference was observed between the groups in terms of owning a strongly built a house, energy source or social group membership. These findings indicate that remittance serve as a critical driver of livelihood improvement, enabling investment in education, health, sanitation and productive assets. This underscores the role of labor migration in enhancing both human and physical capital among rural smallholders. Overall, the results demonstrate that remittance inflows substantially increase household purchasing power and investment in human capital.

CONCLUSION

The findings highlighted that migration decision are shaped by the combination of structural push and pull factors. Respondents carrying the entire family's financial burden and those perceiving migration as a viable option for job opportunities were positively linked with migration. Remittance enables households to invest in productive assets, such as land purchase and sanitation improvements. Also, results showed significant difference in annual income and expenses on food, education and health sectors between migrating and non-

migrating household. Migration seems to strengthen physical, human and financial capital in the study area. Despite the huge importance of abroad employment and remittance inflow at household as well as country level, government support for migrants and their family left behind remains limited, exposing to economic shocks and social uncertainties. Hence, strengthening institutional mechanism to protect migrant's right, provide financial literacy, vocational skills and facilitate productive use of remittance is essential to maximize the development benefits of labor mobility.

REFERENCES

Adams, R.H., & Cuecuecha, A. (2008). The impact of remittance on investment and consumption in Ghana. *World Development,36*(8), 1383-1406.doi: 10.1016/j.worlddev.2007.11.007

Bhattarai, N., Manandhar, N., Shah, S., Twanabasu, R., Shrestha, S., Jyoti, S., & Joshi, S. K. (2020). Status of Migration and Its Perceived Effects in Khopasi, Kavrepalanchowk District: A Descriptive Cross-Sectional Study. *International Journal of Occupational Safety and Health*, *10*(2), 124-30. https://doi.org/10.3126/ijosh.v10i2.33276

Central Bureau of Statistics. (2012). *National population and housing census 2011: National report*. Kathmandu Nepal.

Central Bureau of Statistics. (2024). *Nepal living standards survey 2022/23: Statistical report.* Government of Nepal, Kathmandu. Accessed on October 17, 2025 from https://cbs.gov.np/

Gartaula, H. N. (2009). International migration and local development in Nepal. *Contributions to Nepalese Studies, 36*(1), 37–65.

Helvetas. (2022). *Safer Migration Project (SaMi), Phase III (2018-2022): Technical assistance partners' report*. Helvetas Nepal.

International Organization for Migration (IOM). (2024). *World migration report 2024*. Geneva, Switzerland. Accessed on October 17, 2025 from https://worldmigrationreport.iom.int/wmr-2024

Kolmair, M., Manandhar, S., Subedi, B., & Thieme, S. (2006). New figures for old stories: Migration and remittance in Nepal. *Migration Letters, 3*(2), 151-160.

Ministry of Finance. (2024). *Economic survey 2023/24*. Kathmandu, Nepal.

Mohanty, M. (2006). Globalization: New labor migration and development in Fiji. In A. Firth (Ed.), *Globalization and governance in the Pacific Islands* (pp.105-120). Canberra, Australia: ANU Press.

Nepal Rastra Bank (NRB). (2024). *Current macroeconomic and financial situation of Nepal (Annual data of 2023/24)*. Kathmandu Nepal.

Pandey, K. B., & Kunwar, L. S. (2000). Population growth and migration in Nepal. *Economic Journal of Development Issues, 1*(1), 27-35.

Strimann, B. (2005). *Livelihood strategies in north-western Pakistan: Results from the sustainable livelihood survey 2004, North-West Frontier Province (NCCR IP6 Working Paper Series No. 6)*. University of Zurich, Switzerland.

Subedi, M. K. (2009). *The impact of labor migration and remittance on household income and welfare in Nepal*. Paper presented at the Pacific Conference for Development Economics, San Francisco, CA.

Wagle, U. R. (2011). *Socioeconomic implications of the increasing foreign remittance to Nepal:* Evidence from the Nepal Living Standards Survey. *International Organization for Migration, Kathmandu.*