

# Remittances and Economic Growth: A Causality Analysis for Nepal



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**Abstract:** This paper deals with remittance and the economic growth of Nepal. Remittance is a significant source of the Nepalese economy. It is one of the critical sectors, and it has directly related to the immigration of people. This study aims to identify the relationship between Nepal's migration, remittance, and the economic growth. This paper is based on secondary sources of information. The Granger causality test examines the causality between remittance and economic growth of Nepal. The result of the Granger causality test shows that both the Nepalese people's entry and exit from the country are significant for the economic growth of Nepal. The remittance received from migrated people is significant for the economic growth of Nepal. The contribution of remittance to GDP has increased, and the poverty level has decreased over the years. The education sector has improved, and the development level is gradually increasing. Therefore, there is an urgent need for policies with a high priority on national interests for managing international migration (both emigration and immigration) and remittance. This implies that the policy maker should implement an appropriate policy to invest in capital formation. It may be conducive to the economic growth of Nepal.

**Keywords:** Migration, Remittance, & GDP of Nepal

## I. INTRODUCTION

Migration is a hot issue in the world after Globalization. The world Migration estimates that there will be around 281 million international migrants in the world in 2020, equating to 3.6% of the global population (World Migration Report, 2022). This is a small minority of the world's population, meaning that staying within one's country of birth is overwhelmingly the norm. Many people do not migrate across borders; much larger numbers migrate within countries, although we have seen this slowly over the past two years as COVID-19-related immobility has gripped communities everywhere. Remittance is the primary migration source, and they are earning remittances of USD 702 billion in 2020, which was USD 719 billion in 2019 from international migrants. It is a decline of 2.4%, less than initially projected. South Asia is one of the more migrant regions, and Nepal is one of the members of SAARC countries. Nepal is a landlocked country in South Asia bordered by China and India.

The governance system is a federal parliamentary republic, and the head of government is the prime minister. It has a population of 29,192,480 with a population growth rate of 0.93 per annum (Census, 2021). The economy of Nepal is mainly dependent on the agriculture sector, however, the agriculture sector's contribution to GDP is decreasing, whereas non-agriculture sectors have increased over the years.

In the 2019/20 fiscal year, the contribution of the agriculture and non-agriculture sectors to GDP was 27.6% and 72.4%, respectively (Economic survey, 2019, [17]). Nepal's economic source is remittance from international migration. The contribution of remittance to GDP was 24.1% in 2019 (World Bank, 2020, [16]). Nepalese economy seems to be covered by remittance in a quarter of GDP. The economy depends on remittance, even though it is not a permanent and continuous source. In the remittance-receiving countries list, the Philippines is the highest receiver country in the world; however, it is only 13% of GDP. Nepal has to work hard to reduce remittance contribution to GDP compared to the Philippines.

Historical and ethnographic evidence suggests that migration has historically been a significant feature of household livelihoods amid fragile socio-economic and environmental contexts (Sharma, 2012, [13]). In Nepal, migration began in the eighteenth century, when the state policies and agrarian changes forced peasants in the hills to move off their land and seek their livelihoods in Nepal (Sharma, 2012, [13]). The opportunities for work in the bordering states of India in sectors such as tea plantation, coal mining, and construction attracted a more significant number of Nepalese as laborers.

Labor migration of young men started with recruitment to serve in the army of the Sikh ruler Ranjit Singh and then in the British army in India (Seddon, Adhikari, & Gurung 2002). Although the Nepalese state resisted the recruitment of Nepalese by the British until 1885 out of concern that returning army service men would bring revolutionary ideas into the country, the policy changed in 1886 to allow the recruitment of Nepalese into the British Indian Army, a practice that continues to this day. Substantial migration flows are continuously increasing nowadays. Nepal's economic scope has been re-shaped by migration and remittances. It is a developing country sending a large economically active population to foreign employment and receiving many remittances.

Nepal is among the top five remittance-receiving countries in terms of percentage of GDP (WB, 2018), and the volume of remittance is substantial in the world figure.

Manuscript received on 09 August 2022 | Revised Manuscript received on 01 September 2022 | Manuscript Accepted on 15 November 2022 | Manuscript published on 30 November 2022.

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## Remittances and Economic Growth: A Causality Analysis for Nepal

Foreign migration is an old phenomenon in Nepal, but the number of outgoing workers increased after introducing liberalization policies.

The term migration refers to leaving one's native country with the intent to settle temporarily or permanently in other countries and across national boundaries. An estimated 3 million Nepalese are migrant workers who have gone abroad for employment.

Thus people working abroad; are of a productive age group, i.e., between 20 to 40 years of age. This figure does not include people working in India, which is estimated to be around 3 million; due to unemployment in the country. Foreign employment began with Economic liberalization in Nepal. It has followed the policy of economic liberalization since the mid-1980s, which was accelerated in the early 1990s. Structural transformation that encourages the movement of labor and other resources from low productive sectors into high productive economic activities is considered successful for increased economic growth. Migration for foreign employment has become a significant source of income for a Nepali household. During the last fiscal year, 2014/15, more than 520,000 labor permits were issued.

Malaysia is now the number one destination country for Nepalese migrant workers, closely followed by Qatar, Saudi Arabia, UAE, and Kuwait. Overseas employment is heavily male-dominated: roughly 95 percent of all labor permits are given to men (ILO, 2020, [7]). Remittance practices and outcomes are also rooted in the migration process and reflect the needs of movers and their sending households. It is a major contributing factor to increasing household income and national GDP. In 2020, remittance inflows topped US\$5 billion of the national GDP.

The positive side of migration abroad is the return of remittance to the country. It seems highly dependent on remittance inflows. Remittance inflows far exceed other financial inflows, such as foreign direct investment and net official development assistance. At the macro level, remittances represent a valuable source of foreign currency. The remittances reduce poverty by providing much-needed money for necessities, such as food, clothes, health care, and children's education at the household level. (ILO, 2020, [7]) Remittance is essential for household income and the economic growth of Nepal. However, it is not utilized in capital formation, and 79% of remittances are used for consumption, whereas only 3% of remittance is used for saving (CBS, 2011,[1]).

Foreign employment is the primary source of remittance for Nepal. However, it has started to decline due to the Covid-19 pandemic. The pandemic directly impacts remittance and poverty reduction. This study focused on a literature review on migration, remittance, and Gross Domestic Product (GDP), and research is presented and gaps that should be addressed. The following section also explains the objectives, methodology, and discussion of results. The final section offers a conclusion of the paper.

## II. LITERATURE REVIEW

Economic growth is one of the economic indicators of development. Foreign employment is a growing business in

the world, and it has become a significant contributor to growth and development, especially in developing countries. This has become a significant global phenomenon, and United Nations introduced Global Forum on Migration and Development (GFMD) to highlight the role of migration and remittance on development. Nowadays, there is a vast discourse about the contribution of labor migration to growth.

Manufacturing trade is another primary variable contributing to economic growth and development. It argued that Adam Smith first pointed out the positive effects of international trade on economic growth (Kafle, 2018). Gaudel (2006) pointed out remittance as a significant source of foreign currency to the developing nation and has become a substantial component of making current account surplus in the balance of payments. He argued that many workers from Nepal going abroad for employment are youth energetic, laborious, and enthusiastic, and they work hard to earn significant remittance income to support their families back home.

However, the downside of remittances reflects the view that remaining the young generation for a long time outside without family may increase their vulnerability, and ultimately, they will tend to leave their homeland. Shrestha (2008,[12]) analyzed the contribution of foreign employment and remittances to the Nepalese economy. He concluded that remittances sent by migrant workers are an effective tool for poverty reduction. Though foreign employment is boon to the economy, the facilities are inadequate to support the increasing migration trend. The government should promote foreign employment by inducting and adhering to the policy of economic diplomacy. Karagor (2009),[9] conducted an empirical study on remittances and economic growth in the case of Turkey. The study showed that remittance flow is statistically meaningful but harms growth. On the other hand, exports and domestic investments positively affect economic growth, while foreign direct investment has no meaningful effect.

Turkey, which met with regular and massive labour migration abroad after the 1960s, is still one of the most remittance-receiving countries in the world. De Haas (2012) mentioned that overseas employment could positively and negatively influence human development at the micro and macro levels. Migration can impact development through remittances, Diasporas, and trade links, but it can directly improve the human development outcomes of migrants. However, evidence shows that "the extent to which migration can play a positive or negative role in social, economic and political change in origin countries depends on more general development conditions".

In countries such as India and the Republic of Korea, "migration was not the factor that triggered development but, rather, that development enabled by structural political and economic reform unleashed the development potential of migration".

World Bank,(2016) examined the Nepal development update remittance at risk and found that a 10% drop in remittances equals 3% points of GDP.

In FY 2018, economic growth declined from 4.4% to just 1.4%, all other things equal. Further, government revenues would decline by about 1.5% of GDP, deepening the fiscal deficit as imports slow. Wagle and Devkota (2018),[19] examined the dynamics of foreign remittances and their impact on poverty in Nepal using data from the longitudinal panel surveys of 1996, 2004, and 2011.

The results from methodologically consistent, random-effects regressions that correct for potential attrition and heterogeneity bias supported significant poverty-reducing and, more accurately, economic well-being-enhancing effects of foreign remittances, mainly when originating in countries other than India.

The Rastra Bank of Nepal (2015) found in its research of 320 remittance-receiving households that they are spending 25.33% on loan payments, 23.9% on food and clothes, 9.7% on education, 3.5% on cultural events, 3.0% for property buying, 28.0% on saving and only 1.1% in productive sectors. It shows a large amount of remittance spending on consumption rather than investment sectors. Nepal has not benefited much from remittance inflow because only a tiny amount of spent on capital formation sectors. Based on the previous studies, remittance is one of the backbones of the Nepalese economy.

However; it is not a permanent source of economic development. In this context, this paper identifies the relationship between migrations, remittance, and Nepal's economic growth in the present context, which is an essential sector for the research.

### III. OBJECTIVES OF THE STUDY

Remittance is one of the vital issues for the economic development of Nepal. It is proven by previous research. However, it may or may not be the case in the present context of Nepal.

Due to the Covid-19 pandemic, many migrant workers returned to the country after losing their jobs, impacting the collection of remittances. The main objective of this study is to examine the causal relationship between remittance and economic growth in Nepal. This study contributes to the literature in the context of Nepal, being a significant attempt to examine the impact of remittances on GDP. In this context, the objectives of this study are as follows:

- To identify the trend of international migration from Nepal during the 2001/02 to 2019/20 periods.
- To describe the remittances and Gross domestic product (GDP) of Nepal.
- To find the causal relationship between remittance and the Gross domestic product of Nepal (GDP).

### IV. METHODOLOGY

This study is based on secondary data from different government institutions in Nepal. Most of the data employed

in this study were obtained from various issues of the Economic Survey of the Ministry of Finance, Quarterly Economic Bulletin of Nepal Rastra Bank (NRB), Banking and Financial Statistics of NRB, and Economic Reports of NRB. Moreover, the Department of Immigration of Nepal is another migration data source.

Descriptive statistics, trend analysis, and other relevant statistical tools applied for data analysis. The Granger causality test is used to identify the causality between the dependent and independent variables. It described as follows:

Granger in 1969 developed this test. To examine Granger causality, it has used following equation:

$$r_t = \alpha + \sum_{j=1}^k \beta_j r_{t-1} + \sum_{j=1}^k x_j s_{t-1} + \mu_{1t} \dots \dots \dots (1)$$

(Remarks ... here looks different than (2). Is it intentional?)

$$s_t = \delta + \sum_{j=1}^k \phi_j s_{t-j} + \sum_{j=1}^k \gamma_j r_{t-j} + \mu_{2t} \dots \dots \dots (2)$$

From the above equation, H1:  $\alpha_j = 0, j=1, \dots, p$ , means that independent variable does not granger cause GDP and H1 :  $\alpha_j = 0, j=1, \dots, p$  means that GDP does not granger cause independent variables. If null hypothesis is rejected, then alternative hypothesis is accepted. This is showed in International Journal of Pure and Applied Mathematics.

## V. RESULTS AND DISCUSSION

### 5.1. Trend of Migration of Nepal

The analysis of Nepal's exit and entry population is presented in figure 1 from 2002 to 2018. The figure shows two variables exit from Nepal (EXI) and entry from foreign migrant (ENT). The trend shows that the exits and entry of Nepali people are primarily similar during the study periods; however, the trend somehow fluctuated in the distribution.

The trend of exit population from Nepal for employment as well as overall other purpose has increasing trend from fiscal years 2002/03 to 2006/07. It is not continuously increasing till 2007/08.

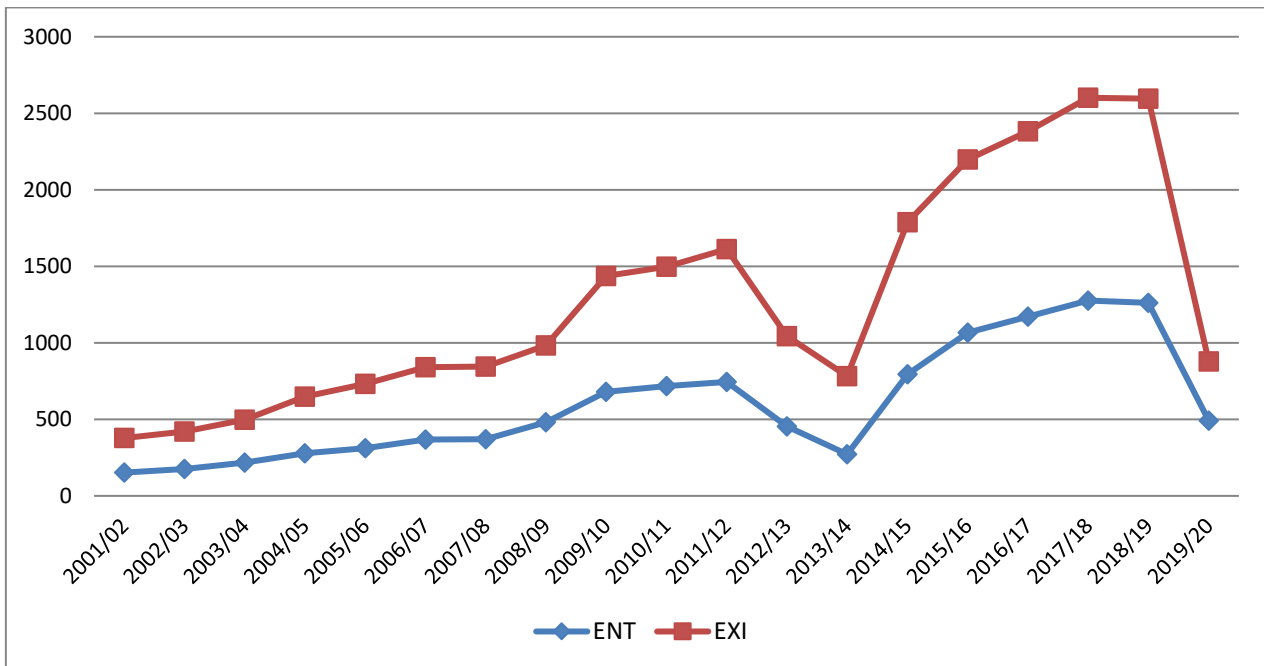
The world faced financial crises this fiscal year, and most developed or under-developed countries cut down their employment opportunities. Therefore, the exit population of Nepal was smaller than the fiscal year 2006/07. The trend of exit people increased continuously again tills 2011/12. However, it was not continuously increasing; it started to fall from 2012/13 to 2013/14. The trend of exit population started to increase from the fiscal year 2014/15 until 2018/19, and nearly 250,000 people exited from Nepal every fiscal year. Unfortunately, the trend started to decline, continuously decreasing till 2021.

Due to the Covid-19 pandemic, most countries have faced this problem and reduced job opportunities as most economic activities stagnated. Most countries closed their boarder to foreigners. Due to this reason, those who were interested in going aboard for work could not go. So the exit population continuously decreased till 2020.





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**Figure 1. Trend of Entry and Exit of Nepali People**

Similarly, the trend of the entry population from aboard is the same as the exit population during the study periods. From fiscal years 2001/02 to 2006/07, it was an increasing trend of entering population from the fiscal year 2007/08, it slightly decreased but not as exit population. It might be because of the job loss and the worker's return to their home country. Similarly, from 2008/09 to 2013/14, the trend decreased but not like exit people. The trend of entering people from 2014/15 to 2018/19 was increasing. During these periods, the increasing rate of people entering is smaller than exit people. If we looked at the fiscal year 2018/19, the trend started to decrease for entering people due to the Covid-19 pandemic. There were not enough return flights to Nepal from the worker receiving countries as most of the countries closed their border, and there was no way to return to Nepal. It was a crucial time for Nepali people working abroad as they lost their jobs was paid almost half the wages they previously got, even if they had jobs. This was the reason for abroad workers to return to Nepal.

**Table 1 Country-wise Migrant Population of Nepal**

Fiscal Year	Malaysia	Qatar	Saudi Arabia	USE (UAE?)	Kuwait	Others
2008/09	3,50,709	76,175	48,749	31,688	2,291	25,992
2009/10	1,13,982	55,940	63,400	33,188	8,255	19,329
2010/11	1,05,906	1,02,966	71,116	44,464	15,187	20,477
2011/12	98,367	1,05,681	80,455	54,482	24,575	21,105
2012/13	1,56,770	90,935	86,276	52,295	14,40	52,866
2013/14	2,14,149	1,28,874	86,876	54,965	19,353	23,597
2014/15	2,02,828	1,24,368	98,246	53,699	9,668	24,078
2015/16	60,979	1,29,038	1,38,529	52,793	10,049	27,325
2016/17	98,437	1,25,892	76,884	56,526	13,576	27,663
2017/18	1,04,207	1,03,174	40,963	60,243	17,555	35,881
2018/19	9,999	75,024	46,080	62,776	15,995	33,994
<b>Total</b>	<b>12,00,694</b>	<b>11,18,067</b>	<b>8,37,574</b>	<b>5,57,119</b>	<b>1,50,905</b>	<b>3,12,307</b>

**Source: Nepal Rasta Bank-2076 Paush**

Nepalese migrant workers can seek employment opportunities in any country except those prohibited by the Government of Nepal. The government has approved 110 countries for labor migration through recruitment agencies. Table 1 shows the trend in five top destination countries (Malaysia, Qatar, Saudi Arabia, UAE, and Kuwait) for labor migrant workers from 2008 when the government started keeping records of labor migration. From 2008/09 to 2018/19, Malaysia represents the top destination for Nepali

migrants. In 2008/09, 16% of the Nepali workers migrated to Malaysia, whereas that number was 42% in 2013/14. This number started to decrease in 2015. The Government of Nepal temporarily banned migration to Malaysia in 2018 due to the high risks faced by migrant workers in Malaysia.



As a result, only 4.0% of total labor permits were issued in 2018/19 for the migrant workers who sought to work in Malaysia (IOM, 2019). Similarly, Qatar, Saudi Arabia, UAE, and Kuwait are providing many job opportunities for Nepali youth, and those people are sending money to Nepal.

**5.2. Descriptive Analysis of Migration, Remittance and GDP**

It has used secondary data of real GDP, Remittance, entry and exit population, which is quite a significant number, and we converted them into smaller by using logit methods.

The Descriptive analysis of these data is shown in Table no 2. The real GDP index's, mean is 20.974, and the standard deviation is 0.698. The minimum, i.e., the lowest, and maximum, i.e., the most significant value for Real GDP, are 19.946 and 22.112. Here, the skewness value (i.e., 0.012) indicates that the distribution of the data series is somewhat symmetrical, and it is more common to have significantly positive returns than negative returns. If the Kurtosis value is greater than 3, the curve is more peaked than a normal curve, i.e., leptokurtic, and when the value is less than 3, it

is less peaked than a normal curve, i.e., platykurtic. When the Kurtosis value equals three series is perfectly symmetrical, and the curve is normal. Here, the Kurtosis value is 1.69, implying that the distribution is platykurtic. However, the normality of the data series has been measured in terms of Jarque-Bera (1.342) statistics, and its probability, i.e., *p*-value (0.511), implies that the data distribution is normal. For the Remittance index (LNREM), the mean is 19.309, and the standard deviation is 0.929. The minimum, i.e., the lowest, and maximum, i.e., the most significant value for Remittance, are 17.837 and 20.595. Here, the negative skewness value (i.e., 0.221) indicates that the distribution of the data series is somewhat nonsymmetrical, and it is more common to have large positive returns than significant negative returns. Here, the Kurtosis value is 1.687, implying that the distribution is platykurtic. However, the normality of the data series measured in terms of Jarque-Bera (1.52) statistics, and its probability, i.e., *p*-value (0.467), implies that the data distribution is expected.

**Table 2 Descriptive Analysis of GDP, Remittance and Entry and Exit People**

	LNGDP	LNREM	LNEXI	LNENT
Mean	20.974	19.309	6.373	6.188
Median	21.036	19.351	6.235	6.175
Maximum	22.112	20.595	7.197	7.152
Minimum	19.946	17.837	5.419	5.026
Std. Dev.	0.698	0.929	0.565	0.664
Skewness	0.012	-0.221	-0.051	-0.09
Kurtosis	1.698	1.687	1.898	1.915
Jarque-Bera	1.342	1.521	0.969	0.958
Probability	0.511	0.467	0.616	0.619
Sum	398.521	366.88	121.094	117.59
Sum Sq. Dev.	8.765	15.549	5.739	7.942
Observations	19	19	19	19

**Source: Author self-calculate data**

For the Remittance index (LNREM), the mean is 19.309, and the standard deviation is 0.929. The minimum i.e., the lowest, and maximum i.e., the most significant value for Remittance, are 17.837 and 20.595. Here, the negative skewness value (i.e., -0.221) indicates that the distribution of the data series is somewhat nonsymmetrical, and it is more common to have large positive returns than significant negative returns. Here, the Kurtosis value is 1.687, implying that the distribution is platykurtic. However, the normality of the data series measured in terms of Jarque-Bera (1.52) statistics, and its probability i.e., *p*-value (0.467), implies that the data distribution is expected. For the exit people index (LNEXI), the mean is 6.373, and the standard deviation is 0.565. The minimum, i.e., the lowest, and maximum, i.e., the most significant value for Total import, are 5.419 and 7.197. Here, the negative Skewness value (i.e., 0.051) indicates that the distribution of the data series is somewhat nonsymmetrical, and it is more common to

have enormous positive returns than significant negative returns. Here, the Kurtosis value is 1.898, implying that the distribution is platykurtic. However, the normality of the data series has been measured in terms of Jarque-Bera (0.969) statistics, and its probability, i.e., *p*-value (0.616) implies that the data distribution is normal. For the entry people index (LNENT), the mean is 6.188, and the standard deviation is 0.664. The minimum, i.e., the lowest, and maximum, i.e., the most significant value for Grand, are 5.026 and 7.152. Here, the negative Skewness value (i.e., 0.090) indicates that the distribution of the data series is somewhat nonsymmetrical, and it is more common to have significantly positive returns than significant negative returns. Here, the Kurtosis value is 1.915, implying that the distribution is platykurtic.

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However, the normality of the data series has been measured in terms of Jarque-Bera (0.958) statistics, and its probability, i.e.,  $p$ -value (0.619), implies that the data distribution is normal.

### 5.3. The Causality between the Migration, Remittance and GDP

#### 5.3.1. The Unit Root Results

The first stage of the analysis is to determine if the time series data is non-stationary using the Augmented Dickey-Fuller (ADF) test. The stationary of a data series is a prerequisite for time series analysis and to enhance the accuracy and reliability of the models constructed. Generally, a data series is called a stationary series if its mean and variance is constant over a given period. The covariance between the two extreme periods does not depend on the actual time it is computed but depends only on the lag between them. The Augmented Dickey-Fuller (ADF) test is used to determine the integrated level of each series. The results of the ADF test for each of the variables in levels and first differences are reported in Table 3.

The results show that the  $p$ -values for some of the variables in the research are more significant than 0.5. So, the null hypothesis cannot be rejected. Therefore, the variables are non-stationary, meaning that those variables follow a random walk with drift and no time trend. Moreover, the absolute value of test statistics is less than the critical values at 5%, so the variables have a unit root meaning they are not stationary at the level. This implies that the first difference of those variables should be taken before being tested for co-integration. The results shown in the table at the level, the remedy is to take the first difference of all the variables before using them for the co-integration test. The test at first difference shows that the  $p$ -values of all variables are less than 0.5. In other words, the absolute values of test statistics are more significant than the critical value at 5%, meaning that the null hypothesis is rejected, indicating the variables are stationary at first difference. The unit root results showed that all variables suffered unit root at the level. The test statistics indicate that series are spurious from the unit root test. Thus, first difference data are employed for unit root testing.

**Table 3 ADF Unit Root Test Results**

Level	ADF Statistics	LNGDP	LNREM	LNENT	LNEXI
with constant	P- value	1.0675	-1.6689	-2.0246	-1.9538
	T-value	0.3016	0.1146	0.0599	0.0684
without constant	P- value	13.6518	1.2224	0.4591	0.1777
	T-value	0	0.2382	0.6519	0.8616
<b>Remarks</b>		Sig.	No. Sig.	No. Sig.	No. Sig.
<b>First different</b>					
with constant	P- value	-2.7631	-1.3183	-2.8211	-1.8896
	T-value	0.0145	0.2072	0.0129	0.0783
without constant	P- value	-0.203	-1.4645	-2.9258	-2.1098
	T-value	0.8416	0.1624	0.0099	0.051
<b>Remarks</b>		No. Sig.	No. Sig.	No. Sig.	No. Sig.
<b>Second different</b>					
with constant	P- value	-4.4844	-3.218	-2.8211	-3.5205
	T-value	0.0007	0.0062	0.0129	0.0034
without constant	P- value	-4.5416	-3.2729	-4.6401	-3.5602
	T-value	0	0.0051	0.0003	0.0028
<b>Remarks</b>		Significant	Significant	Significant	Significant

The results show that the second difference is entirely unit root free, and all series are integrated of orders one. Thus, level forms of data at second difference are employed in empirical analysis, particularly empirical models. We can conclude that these variables are not stationary at the level and first difference but stationary at the second difference. So, we can use those variables for further analysis.

#### 5.3.2. The Granger Causality test

This study aims to examine whether different macroeconomic variables of interest matter for real GDP; alternatively, real GDP matters for macroeconomic variables. Granger causality test is reported in Table 4

below: The test of Granger Causality showed that within six pairs of variables, only three are unidirectional causes variables, and the rest of the pair variables are not significant causes of each other. The pair-wise causality tests the null hypothesis that Exit of people (LNEXI) does not the Granger Cause real GDP (LNGDP) null hypothesis is accepted ( $p= 0.378$ ) because it is more than 0.05.

Hence the alternative hypothesis that people exit does not Granger Cause real GDP. On the other hand, the hypothesis that real GDP (LNGDP) does not Granger Cause to exit people (LNEXI) Null hypothesis is also rejected ( $p= 0.0057$ ) because it is less than 0.05. Hence, we can conclude that exit people have a cause to real GDP. It means that if there is an increase in the exit people, GDP will increase. In contrast, if there is a decreasing GDP, the people's exit will increase. It has unidirectional effects. Therefore, there is unidirectional

causality between the exit of people from Nepal and the real GDP of Nepal. Out of a total workforce of 14 million, 4 million or 28% of the workforce are believed to be working overseas today; at the same time, the remittances have grown to more than 30% of GDP, and Nepal is the highest remittances recipient countries in the world adjusted for the size of the economy (World Bank, 2016). It proved that remittance is significant for GDP growth even in past years of the Nepalese economy.

**Table 4 Pair wise Granger Causality Tests**

Null Hypothesis:	Obs.	F-Statistic	Prob.
LNREM does not Granger Cause LNGDP	15	1.6411	<b>0.0605**</b>
LNGDP does not Granger Cause LNREM		0.70334	0.6177
LNEXI does not Granger Cause LNGDP	15	1.26604	0.3785
LNGDP does not Granger Cause LNEXI		11.4014	<b>.0057**</b>
LNENT does not Granger Cause LNGDP	15	6.58956	<b>0.022**</b>
LNGDP does not Granger Cause LNENT		3.09302	0.1052
LNEXI does not Granger Cause LNREM	15	0.17405	0.9438
LNREM does not Granger Cause LNEXI		1.31955	0.362
LNENT does not Granger Cause LNREM	15	0.17379	0.9439
LNREM does not Granger Cause LNENT		2.35962	0.1664
LNENT does not Granger Cause LNEXI	15	0.92339	0.5082
LNEXI does not Granger Cause LNENT		1.48058	0.3174

**Lags: 4, Sample: 1 19**

The test of entry population (LNENT) has a cause to GDP (LNGDP); the null hypothesis is rejected ( $p= 0.022$ ) because it is less than 0.05. Hence the alternative hypothesis that people's entry does not cause real GDP is accepted. On the other hand, the hypothesis that GDP (LNGDP) does not granger cause the entry of people (LNENT) Null hypothesis is also accepted ( $p= 0.1052$ ) because it is more than 0.05. Hence, we can conclude that people's entry has a cause on real GDP. It means that if there is an increase in the entry of people, then GDP will be increased; in contrast, if there is a decrease in GDP, then the entry of the population will be increased.

It has unidirectional affected. Therefore, there is unidirectional causality between entry those people work and returning to Nepal; this is obvious for those returning from outside the country in Nepal. They bring some money skills and working habits, then invest those things in the economic activities and create money from those activities. Finally, this result said that the higher the number of people who come from outside the country, the higher possibility of economic development.

The pair-wise causality tests the null hypothesis that remittance (LNREM) does not granger cause real GDP (LNGDP) null hypothesis is rejected ( $p= 0.06$ ) because it is less than 0.10. Hence the alternative hypothesis that remittance does granger cause real GDP is rejected. On the other hand, the hypothesis that real GDP (LNGDP) does not

granger cause remittance (LNREM) Null hypothesis is also accepted ( $p= 0.06177$ ) because it is more than 0.10. Hence, we can conclude that remittance has a cause on real GDP. It means that if there is an increase in remittance, then GDP will be increased.

However, there are increases or decreases in GDP, and no effects on remittance follow. Therefore, there is unidirectional causality between remittance and the real GDP of Nepal. This is a normal finding because remittance contributes to GDP by 24.1% (Economic Survey, 2077/78). Remittance is played a vital role in poverty reduction in Nepal (See Table 5).

During the fiscal year 2060/61, the total remittance amount received was NRs. 58.6 billion and 30.9% of people were poor. At the same time, only 31.9% of households received remittances from outside the country. Similarly, in the fiscal year 2074/75, the total remittance received was NRs. 755.1 billion and 18.7% of people are poor in Nepal. Remittance receiving households were 2.3% less likely to get caught in poverty than remittance non-receiving households. The probability of households plunging into poverty decreases by about 1.1% with every 10% increase in household remittance inflows (Byanjankar R. & Sakha M, 2021[1]). It shows that a remittance is an essential tool for poverty reduction.



**Table 5. Remittance and Poverty Reduction**

Fiscal year	Poverty rate	Under 5 Year death rate	Literacy rate (Over 6 Years) <sup>1</sup>	Total remittance (Rs. Billion)	Remittance receiving households
2060/61 <sup>2</sup>	30.9	64.6	51	58.6	31.9
2067/68	25.2 <sup>3</sup>	44.4	65.9	253.6	55.8
2074/75	18.7 <sup>4</sup>	32.2	78	755.1	-

Similarly, remittance is not only for poverty reduction; it is helpful to literate the people also. The result shows higher remittance than higher education in the given periods which is shown in Table 5 that higher remittance means higher literacy. It is significant to literate people in the society of Nepal. If we observed the figure for the fiscal year 2060/61, the remittance amount was NRs. 58.6 billion, and the literacy rate was only 51%, whereas, in the fiscal year 2074/75, remittance reached NRs. 755.1 billion, and the literacy rate also increased to 78%. It shows that remittance and literacy rates also significantly correlated with each other. Similarly, remittance helps reduce the death rate of children under five. If we looked at the fiscal year 2060/61, remittance was NRs. 58.6 billion, and the death rate was 64.6 per 1,000 births. Likewise, in the fiscal year 2074/75, remittance was NRs. 755.1 billion, and the death rate is 32.2 per 1,000 births only. It means that remittance is also related to the death rate of children less than five years of age. The migration of people from Nepal to other countries for work or other reasons plays an essential role in the country's economic development. However, Nepali workers working in foreign labor markets are unskilled. Such workers typically earn low wages. Remittances are increasing satisfactory because skillful Nepali migrants are attracted to high-paid countries like America, Australia, and European countries. The developed countries offer quality higher education with better job opportunities after graduation. They are sending money as remittance, and that remittance plays a vital role in poverty reduction, increasing literacy rate, and reducing the death rate among children under five. The remittance inflow in Nepal is significant, and it helps other financial inflows, such as foreign direct investment and net official development assistance. (Kathmandu: ILO, 2016, [7]).

## VI. CONCLUSION

Nepal has a long history (more than 200 years) of emigration, and it is an increasing trend. There are no effective emigration policies due to the lack of proper research on one side and less government interest in this field on another side. The results show that Nepalese exit and entry are increasing continuously from 2001/02 to 2011/12. It started to decline from 2012/13 till 2013/14. The trend of migration started to increase in 2018/19. After 2019, the trend started to decline due to the Covid-19 pandemic. The overall trend shows that the flow of exit and entry population in Nepal has continuously increased, and it cannot be stopped. In this age of globalization, it is easy to

look for opportunities abroad. Nepalese people exit from Nepal for employment, working in different countries. Nepalese workers can seek employment opportunities in any country worldwide, not prohibited by the Government of Nepal. Currently, the government is trying to approve more countries for labor migration through recruitment agencies. Five significant countries currently provide more employment for Nepalese: Malaysia, Qatar, Saudi Arabia, UAE, and Kuwait. In addition to the impact of the economic downturn, it is also important to note that the GCC countries have also been pursuing nationalization policies whereby hiring local nationals has been prioritized. Hence, it is recommended that the Government of Nepal apply for high skills vocational training for youths and look for the best alternative destinations for foreign employment. The Granger causality test showed that both entry and exit populations are significant for Nepali economic growth. It is pretty evident in Nepalese society. Our social observations show that most return workers run small-scale businesses or agricultural farms and make money. If they are not able to own their business, they work outside from home with higher wages to earn their living. On the other hand, the exit population is also significant for economic growth. Those who are going abroad for work send money to their families back home, improving their economic situation. It is estimated that 5 million people have been working in different countries. The personal remittance received was 24.1% of the GDP of Nepal in 2020 (World Bank). It is a considerable amount, and it plays a vital role in different sectors of the economy. The remittance is significant for Nepal's economic growth, which is proved by the Granger Causal test. The contribution of remittance in the share of GDP has increased, the poverty level has decreased, and the education sectors have improved gradually. In contrast, the level of development has increased significantly. Similarly, it is crucial in reducing the death mortality among children under five. Therefore, there is an urgent need to manage international migration (both emigration and immigration), keeping national interest in high priority. Increased awareness and better training of prospective Nepalese migrants in languages and skills should be improved to meet the changing needs of the labor markets in destination countries would also help to improve the development impact of migration. So, we should receive remittance within respective channels, and a high-skill workforce should be developed and sent to foreign employment. It would be more beneficial for the economic development of Nepal.

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