

Empirical Analysis of Remittance to Economic Effects of Nepal's Economic Growth

Kishor Koirala

Department of International Trade, Chonbuk National University, Korea.

Ji Young Jeong

Department of International Trade, Chonbuk National University, Korea.

Received 9 February 2015, Revised 3 March 2015, Accepted 18 March 2015

Abstract

Remittance as a major source of foreign income has become a lifeline for economic development in Nepal. Using secondary and nationally representative household survey data, we have measured the foreign remittance to Nepal, its impact on Nepal's economic growth, uses and implications of remittance on low, medium and high remittance recipient households. We further analyze the role of remittance on GDP and PPP of Nepal, using a linear correlation and regression models. Our results indicate a highly positive correlation between remittance income and GDP and PPP growths in Nepal, contributing the overall economic development of the country. However, most part of the remittance income in Nepal is used in daily consumption and other nonproductive sectors. The use of remittance on non-productive sector is significantly highest in low-income group, medium in medium-income group and lowest in high-income group. The remittance income has significantly positive impacts on economic growth of Nepal and recipient households to improve their living standards.

Keyword : Migration, Remittance, Economic Growth, Living Standard, Nepal

1. Introduction

Remittance income has become an important source for economic development in less developed economy. Thagunna and Acharya(2013) say that in Nepal, the foreign labor migration and the value of remittances have increased substantially in the last fifteen years. The amount of remittances reflects only transfer record in the balance of payments. Another study by Gaudel (2006) says that, unrecorded flows through informal channels are believed to be more than the recorded flows. The official data from the MOF/Nepal (2009) and Nepal Rastra Bank(2009) show, for example, that the real value

This paper complies with the ethical codes set by NRA and AJBC.

of remittance to Nepal increased 76 folds during the 18 years since 1991 with the 2008 remittance reaching over NPR 139 billion (equivalent to US\$ 2 billion, remittance from India is not included). This change reflects a 40 times increase in the ratio of remittance to the GDP during this period, up from less than one half of 1% during the early 1990s to over 18% by 2008. This substantiates the role that the foreign employment is playing in the macroeconomic operation of Nepal. As suggested by CBS(2004), substantial portions of families receiving remittance close to 18% in 2004 compared to 11% in 1996. Many researches, Kollmair et al.(2006), NIDS(2007), Seddon(2005), and Seddon et al.(2002), conclude that given the inability of these official sources to incorporate the number of workers employed abroad illegally as well as the money received using means other than banks or formal transfer channels, the actual ratio of remittance to GDP could increase many folds.

A study by Adhikari(2006) says, especially in the underdeveloped countries like Nepal, most people migrate to foreign land in search of employment so that they can well feed and support their families. According to Wagle(2012), the period since the 1990s witnessed a strong economic performance and labor demand in many countries in the Middle East, East Asia, and West, which coincided with the major political turmoil in Nepal causing enormous increase in emigration and foreign remittance. The Kathmandu Post(2010) writes, at present, 37.0% of the total populations migrate to foreign countries and is the fifth highest remittance incoming country in terms of GDP in the world.

Wagle(2009) says remittance has played an increasingly pivotal role in narrowing down the trade deficit caused by shrinking exports and bloating imports. Data from Nepal Rastra Bank(2009) and NIDS(2007) indicates that during the eight years ending in 2008 alone, for example, the real trade deficit for goods and services increased by almost 150%, indicating the necessity of alternative sources of foreign currency such as remittance to narrow the gap. Studies by Wagle(2009a, 2009b) imply that at the family level, this allowed families to increase incomes, consumption, savings, and asset formation, greatly affecting the overall economic activities and well-being. A study done by Lokshin et al.(2007) and data from World Bank (2006) imply that the widely touted declining poverty figures (from 42% in 1996 to 31% in 2004), are attributed to the increasing remittance receipts with econometric analyses and simulations showing 20% of these declines to be due to remittances. Wagle(2009a) says that these direct effects of remittance compound with multiplier effects generating enormous impetus for growth in the real estate, construction, banking and investment, trade, healthcare, and education sectors.

Keeping these facts into consideration, this paper has raised some issues regarding the flow of remittance income and its role in economic development of Nepal. The ba-

sic issues are: What is the relationship between remittances, GDP and PPP? How the remittance is utilized? What are the economic implications of remittance? How the remittance affects on purchase capability of recipient households? With these issues, this paper has set some specific objectives. This paper examines changes in foreign employment and remittance to Nepal during the 2000 and 2012. The specific objectives are to describe the role of remittance income for economic development of Nepal. Assess the use of remittance by low, medium and high recipient households. Analyze the economic implications of remittances on low, medium and high recipient households. and analyze the role of remittance on purchase capability of recipient households.

On chapter II, Literature Review, we present background of our study with respect to published articles and establish an overview with previously done researches. Chapter III, Nepalese Economy, point outs an important aspect of our study, Nepalese economy and dynamics. This chapter analyzes various dynamics of this study like, Nepalese economy and remittance, GDP with respect to remittance inflow, Countries of migration, Reasons of migration, Economic correlation etc. Chapter IV, Empirical Analysis of Remittance to Economic Growth, is our analysis segment where we analyze correlation between our variables with our survey data and secondary data. Here we test our hypothesis model, evaluate relations, and describe outcome of our empirical analysis with policy suggestions. Finally on our Chapter V, we conclude our study and generalize outcome of our overall study.

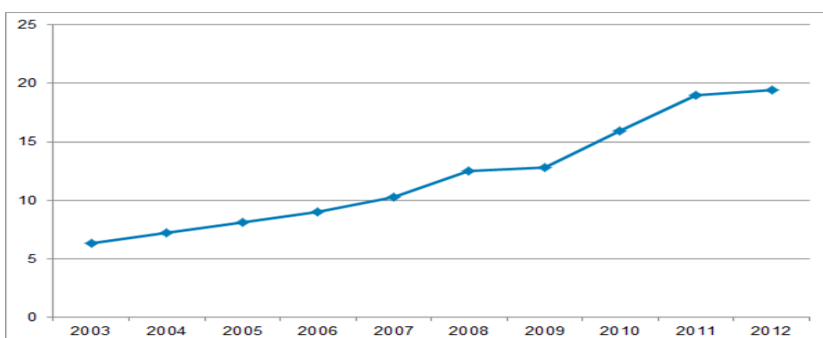
2. Literature Review

One of the big problems of research particularly in the developing countries like Nepal is the lack of availability, reliability and systematic publication of data and migration/remittance sector cannot be excluded from this situation. Hence, a detail analysis of remittance phenomenon from the perspective of economic growth, poverty and development at various levels of spatial aggregation is difficult. The impact of remittance on poverty and income distribution in developing countries has been extensively investigated since 1980s, Adams(1991) stated with mixed findings. In general, it is agreed that migration and remittance reduce poverty but the impact on inequality was mixed. Gupta et al.(2009) suggest a positive effect of remittance on poverty reduction through increased income and higher standard of living by remittance receiving families. Anita et al.(2005) also indicate remittance have significant positive impact on human capital development in developing countries-in the form of less labor, higher education levels and better standards of health. Brown and Jimenez(2008) conducted a study for Fiji and Tonga and found a positive impact of remittance on poverty and income distribu-

tion. Adams et al.(2008) analyzed the impact of remittance on poverty and inequality for Ghana. They found remittances to decrease poverty but increase income inequality. Macro level studies for a cross section of countries appears to be sparse. Giuliano et al.(2005) use cross-country data on remittances for 73 developing countries from 1975-2002 (using 5- year averages) to examine the relationship between economic growth and remittances. Their study focused on how a country's capacity to use remittances and its effectiveness in doing so is influenced by local financial conditions. They found the marginal impact of remittances on growth to decrease with the level of financial development.

Over the past few years, remittance income in Nepal has become a main source of foreign currency for development of economy that has been receiving attention in the Nepali macroeconomic environment. Lokshin et al.(2007) says, in Nepal, one-fifth of the poverty reduction occurring between 1995 and 2004 was claimed to be due to out-migration. They further reported that 44% of the average household expenditure was covered by remittances in 2004. Lokshin et al.(2007) argue, "Migration and remittances improve the welfare of households in the sending communities by stimulating local economic development Migrants channel remittances into productive investment at home. Even when some households spend most of the remittances on current consumption, the resulting demand for goods and services can be met by other working adults in the community, thus generating strong positive externalities". An analysis of the National Living Standard Survey data carried out by Seddon et al.(2002) also shows that 24% of rural households received remittances in 1996, which contributes to 27% on average to their total income. KC(2003) reported that the districts with higher number of population abroad have a positive correlation with development indicators that could probably be because of remittances. Apart from eradicating poverty in the Nepali rural areas, remittance inflow has also maintained the balance of payment situation. In all, the

Figure 1 GDP Trend of Nepal



Source: World Bank 2013, Nepal Rastra Bank 2013

remittance inflow has been a key to the Nepali macroeconomic stability.

Capital inflow from the external economy provides a great buffer to the economy. Capital inflow stimulates the economy, and when invested, also leads to the employment generation. However, academics have raised concern on the importance of as well as methods of channelizing those funds for productive investment purposes. Numerous studies (Salman, 2011) have empirically analyzed the impact of the foreign capital flow into their respective economies. Relating the remittance inflow to the Nepali economic development, scope is significant in the infrastructure sector. Then many studies discuss the link between infrastructure development and economic development and highlights the current trend of external financing through Official Development Assistance (ODA), which brings our discussion of remittance being the potential mode of financing.

Numbers of studies have been conducted regarding remittance and its economic impacts in context of Nepal, and analyzed the nine-year remittance inflow and found that the consumption, import, investment and saving are positively correlated with the remittance inflow. Yadav(2012) investigated the role of remittances on banking sector development in Nepal and found that remittance inflow has great role on the banking sector development. Acharya and Leon-Gonzalez(2012) says the national-level simulations indicate that remittance decreases the head count poverty by 2.3% and 3.3% in the first round of the survey, and between 4.6% and 7.6% in the second round. It reduces even further the depth (at least 3.4% and at most 10.5%) and severity (at least 4.3% and at most 12.5%) of poverty. Wong(2011) observed the link between remittance and family relationships in Chitwan, Nepal. He found that work migrants have better life quality and relationships with their families than non-migrants, who cannot offer remittances.

3. Nepal's Economy

3.1. Nepalese Economy and Remittance

Economic growth in any country depends upon the sustained growth of productive capacity, supported by savings and investment. Investment provides the base and prerequisite for economic growth and development. A part from a nation's foreign exchange reserves, exports, government's revenue, remittance, financial-position, available supply of domestic savings, magnitude and quality of foreign investment is necessary for the wellbeing of a country. GDP serves as a measure of country's market size, and explains potential economies of scale production along with market size, also has a positive influence on labor migration. Figure 1 shows indicates GDP of Nepal of recent years which implicates Nepalese economy, its situation and growth trend.

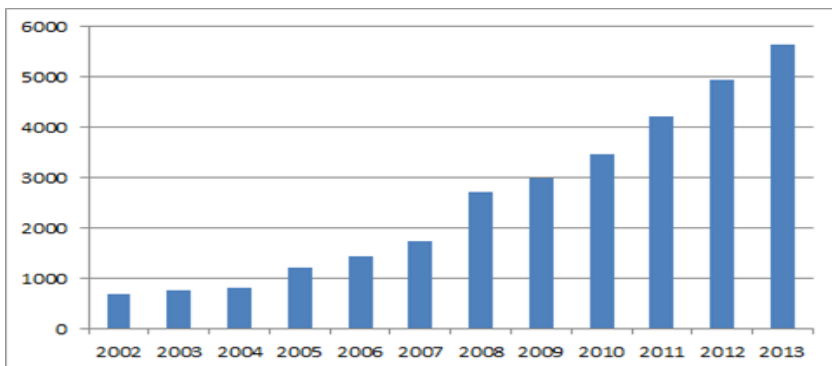
One of the major sources of Nepalese economy is remittance. Remittance can generate a positive effect on the economy through various channels such as saving, economic growth, investment, consumption, and poverty and income distribution. Migrant worker's remittance flow in as a component of foreign savings and such as complements national savings by increasing the total pool of resources available for investment. The poverty reducing and income distribution effects of remittances are also significant. This case is based on the fact that the recipients of remittances are often low-income families whose off spring left the country to work abroad. In this condition, migration is taken as a response to escape poverty at home and improve the income earning capacity of the migrant by attempting to enter foreign labor markets in richer countries. Again remittances assist in alleviating poverty of the family of migrants in the home country by supporting their income through transfers. Nepal being one of the countries with significant population being under poverty line, labor migration and formation and inflow of remittance is significantly high compared to other countries. Figure 2 shows trend of remittance inflow in Nepal. Within a decade from 2002 to 2012, Nepal's remittance inflow has increased 20 times, thus leaves significant impact on Nepalese economy.

Remittances assist in augmenting national income by providing foreign exchange and increasing national savings and investment as well as by providing hard currency to finance essential imports hence curtailing any BOP crisis. Since they bear no interest, do not have to be repaid, and their utilization is not tied to specific investment projects with high import content, they have a more positive effect on BOP than other monetary inflows such as foreign direct investments or loans.

3.2. Remittance Inflows

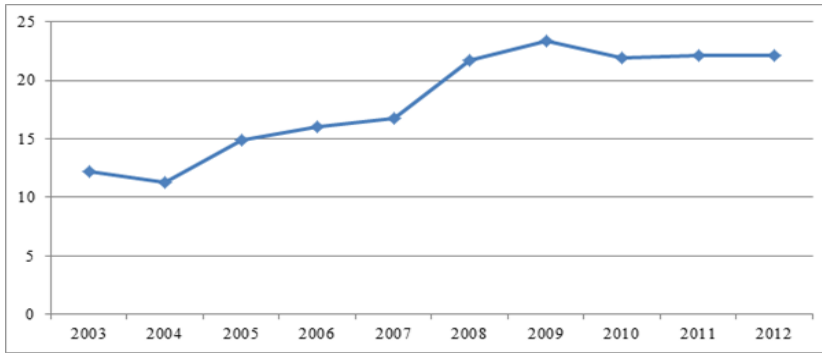
Remittance inflow has been significant to GDP in Nepal. Figure 3 shows year wise

Figure 2 Remittance Inflows to Nepal from 2002-2013



Source: World Bank, 2014, Migration and Development Brief

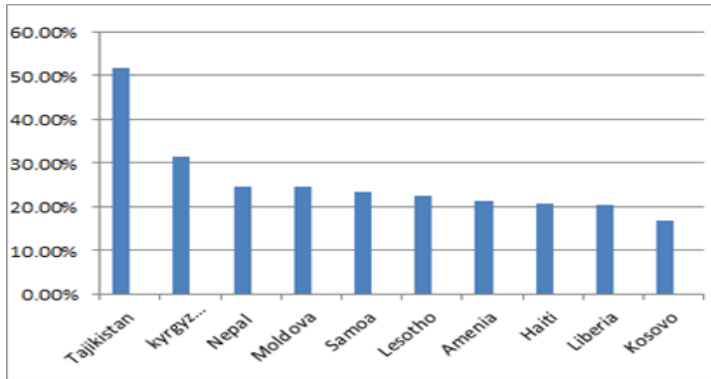
Figure 3 Remittance Percentage Share of GDP



Source: World Bank, 2013, Nepal Rastra Bank, 2013

Figure 4 Third Highest Remittance Inflows to Nepal, 2012

(Unit: % of GDP)



Source: World Bank, 2014, Migration and Development Brief

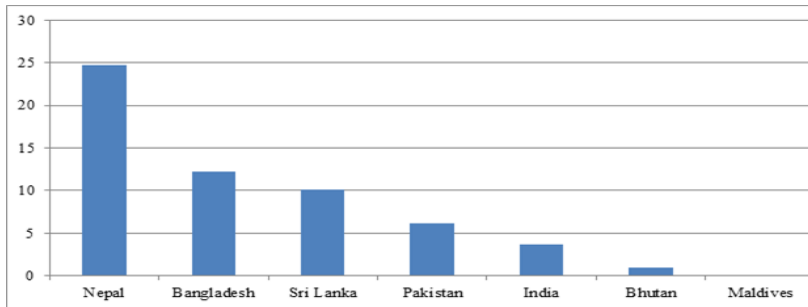
trends of remittance percentage share of GDP. As a share of GDP in 2012, the top five remittance recipients were Tajikistan (51.9%), Kyrgyz Republic (31.4%), Nepal (24.7%), Moldova (24.6%) and Samoa (23.5%). In 2010, Nepal was the sixth highest remittance recipient in the world. In terms of US\$, India received \$70 billion in 2013, followed by China \$60 billion, the Philippines \$25 billion, Mexico \$22 billion and Nigeria \$21 billion. Figure 4 shows that Nepal has been third highest among the countries on remittance to GDP ratio. In South Asia, as on Diagram 5, India received the highest amount of remittances; Nepal has the highest recipient as a share of its GDP. As a share of total remittance inflows to South Asia, India receives about 63.2% and Nepal 4.7%.

3.3. Major Migration Countries

Nepal has not been able to generate enough employment opportunities for the labor force entering the labor market every year. This has increased the rate of unemployment in the country, which results migration of millions of youth to overseas for employment. The number of Nepalese workers going for foreign employment is growing every year. According to various reports, large numbers of Nepalese workers have gone for foreign

Figure 5 Received Amount of Remittance in South Asia 2012

(Unit: % of GDP)



Source: World Bank 2014, Migration and Development Brief

Table 1 Economic Growth Rate and Remittance Inflows from 2004-2013

Year	Economic Growth (Rate %)	Remittance Inflows (\$Billions)
2004	4.41	0.823
2005	3.23	1.212
2006	3.36	1.453
2007	3.41	1.734
2008	6.10	1.727
2009	4.45	3.000
2010	4.82	3.500
2011	3.42	4.200
2012	4.83	4.300
2013	3.65	5.310

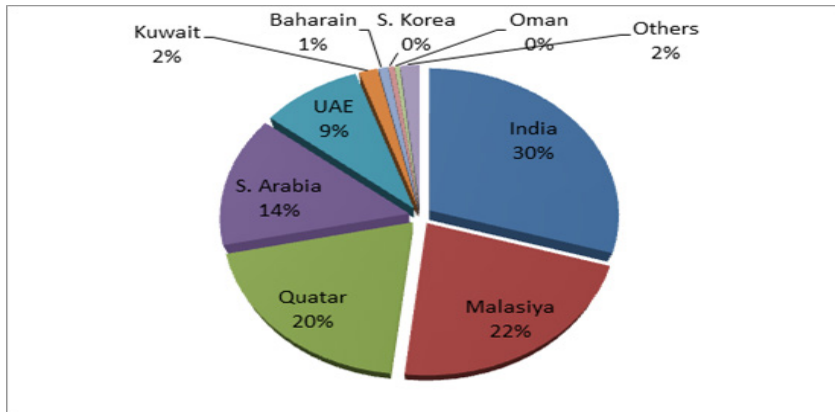
Source: World Bank 2014, Migration and Development Brief

Table 2 Annual Inflation Rate (% Change) from 2010-2014

Year	Average	Food	Non-Food
2010	9.6	15.1	4.9
2011	9.6	14.6	5.3
2012	8.3	7.7	9.0
2013	9.9	9.7	10.1
2014	9.1	11.6	6.8

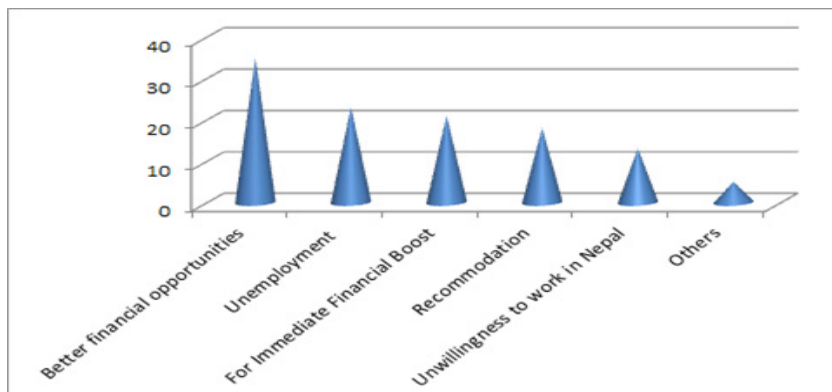
Source: Nepal Rastra Bank, 2014

Figure 6 Country Wise Out-Migration from Nepal



Source: Central Bureau of Statistics, 2013

Figure 7 Reason to Seek Abroad



employment without securing government permission as well. Based on the official and unofficial records as of now, more than 4 million people have gone for foreign employment. The contribution of foreign employment to reducing unemployment and poverty, and enhancing Nepalese economy should be considered significant.

As on Figure 1, of the total 4,203,795 Nepalese workers went for foreign employment until 2012, India happens to be the first destination providing foreign employment to 1,247,009 (29.66 %) Nepalese workers followed by Malaysia with 931,526 (22.16%), Qatar with 830,127 (19.75 %), Saudi Arab with 6006,98 (14.29 %), and UAE with 377789 (8.99 %). Likewise, 69,293 (1.65 %) are in Kuwait, 36,042 (0.86 %) in Bahrain, 22,178 (0.53 %) in South Korea, 17,497 (0.42 %) in Oman and 71,636 (1.7 %) in other countries.

The main reasons behind the foreign employment is due to lack of employment opportunities within the nation, political instability, the low salary structure, government

liberal policy and higher demand for the labor in the industrialized Asian and middle-east countries. Almost all of the blue-collar workers and most of educated Nepalese people living and working abroad have immediate family members in Nepal. Blue-collar workers, who invariably come from poor family and are sole breadwinner, have to send money back home to support their family. Most of Nepalese students who have gone abroad (United States, United Kingdom, and Australia etc.) for higher studies have decided not to return to their country because of lack of opportunities (The Kathmandu Post, 2010).

3.4. Reason to Migrate

On our survey we also asked user why they choose to go abroad to work. Figure 7 shows the result of our survey. Since we allowed multiple selections, data is not proportional to sample size. But it becomes clear that seeking better opportunities is the most frequent hence can be called prominent reason, which also relates to Nepal's poor economy as push factor of its own manpower.

3.5. Economic Correlation Aspect

An increase in the capacity of an economy to produce goods and services, compared from one period of time to another is referred as economic growth. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. For comparing one country's economic growth to another, GDP or GNP per capita are used as these take into account population differences between countries. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Of more importance is the growth of the ratio of GDP to population (GDP per capita), which is also called per capita income or PPP. An increase in per capita income is referred to as intensive growth. GDP growth caused only by increases in population or territory is called extensive growth. In this paper, we have analyzed the relationship between remittance and the factors that signify economic growth of Nepal.

Economic growth is usually associated with technological changes. An example is the large growth in the U.S. economy during the introduction of the internet and the technology that it brought to U.S. industry as a whole. The growth of an economy is thought of not only as an increase in productive capacity but also as an improvement in the quality of life to the people of that economy. Besides GDP and per capita income of a country, economic growth is usually related with quality of life. The quality of life is determined according to economic status, purchase capability, quality of life and facilities, health, social status, etc. To determine these parameters, purchase capability and

field of expenditure, we have conducted a survey among the households who receive different amounts of remittance and evaluated the past and present scenario, to find out: has the remittance actually helped to increase life standard as significant factor of economic development?

Therefore, the impact of remittance is evaluated here under two perspectives: evaluation from GDP and PPP of economic growth and quality of life evaluation of economic growth. We have done empirical analysis for impact on remittance on both the aspect so that we can develop a complete picture of Nepalese economy on our next section.

4. Empirical Analysis of Remittance to Economic Growth

4.1. Research design and methods of data collection

In this study, we have adopted the descriptive research design; however, some of the hypotheses were also tested. This study was carried out through internet surveys. For primary data collection, randomly selected peoples within the category were requested to respond our questionnaire via email. For those who have no internet access, direct survey were carried out in Nepal with the help of our representatives. The total respondents were 20 for each group. Great care has been taken to select the samples so that they represent the actual foreign migrant population. Primary data were collected mainly through questionnaire and few through interview and discussions. A pre-tested interview schedule, comprised of both open-ended and close-ended questionnaires, was administered to the selected foreign migrants. Appropriate measures were taken so that more information & data could be collected & relative accuracy ensured.

Secondary data are mostly based on information available with Ministry of Labor and Transport Management (MoLTM), Ministry of Finance (MoF), Department of Foreign Employment (DoFE), International Organization for Migration (IOM), Central Bureau of Statistics (CBS), Nepal Demographic and Health Survey (NDHS) and Nepal Rastra Bank (NRB). It is also based on previously published literatures and secondary information. A lot of data have been used to explain and justify the concepts. Qualitative as well as quantitative data have supported the argument. There are various sources of data and information that vary in nature. Different forces and factors have been used to link the main concept explained in the paper. However, only information from government, World Fact Book and some other books and journals sources are used for explanation. Information on migration history, present status, and contribution were collected through review of records, reports and journals.

4.2. Evaluation from GDP and PPP

In this section, we evaluate the relationship between remittance inflow and economic development parameters such as GDP and PPP of Nepal using correlation analysis based on the available secondary data.

Table 3 shows the year-wise data on GDP of Nepal, remittance received form authentic channel and contribution of remittance on GDP (NRB, 2013). The remittance has gradually increased since 2004 to 2009 and then decreased in 2010, and again in

Table 3 Remittance and GDP in Nepal from 2003-2012

Fiscal Year	GDP (\$billions)	Remit (\$Billions)	% of GDP
2003	6.330	0.771	12.18
2004	7.274	0.823	11.31
2005	8.130	1.212	14.91
2006	9.044	1.453	16.07
2007	10.326	1.734	16.79
2008	12.545	2.727	21.74
2009	12.855	3.000	23.34
2010	15.956	3.500	21.94
2011	18.977	4.200	22.13
2012	19.415	4.300	22.15

Source: World Bank 2013, Nepal Rastra Bank, 2013

Table 4 Correlation between Remittance and GDP

	GDP	Remittance
GDP	1	
Remittance	.990**	

Note: ** correlation is significant at the 0.01 level (2-tailed). Considering GDP as dependent variable and RMT (remittance) as independent variable we present a model for regression analysis.

Table 5 Model 1 Coefficient Analysis

Model 1: $GDP = f(RMT)$, GDP as a function of RMT, which can be re-written as: $GDP = \beta_0 + \beta_1 RMT + \mu$. Here β_0 , β_1 , μ are constant, coefficient of RMT, and error parameter, respectively.

	Unstandardized Coefficients		Standardized Coefficients	
Model	Beta	Std. Err	Beta	t
Constant	3.859	0.464		8.321
RMT	3.468	0.172	0.99	20.159
R square 0.981				
Adj. R square 0.978				

Note: This table shows the result of linear regression analysis coefficients of Model 1. From this table, we can see that the data fit the model appropriately and as the coefficient suggest that RMT is significant to the GDP determination with the provided data that implies GDP is highly dependent to Remittance.

Table 6 GDP per capita of Nepal 2003-2012

Year	PPT	PPT Growth Rate %
2003	958.82	2.15
2004	979.47	3.01
2005	1009.03	3.01
2006	1028.85	1.96
2007	1049.23	1.98
2008	1071.81	2.15
2009	1124.27	4.89
2010	1162.15	3.36
2011	1204.47	3.64
2012	1236.95	2.69

Source: <http://www.tradingeconomics.com> and World Bank**Table 7** Correlation between Remittance, GDP, and PPP

	RMT	PPP	GDP
RMT	1		
PPP	.987**	1	
GDP	.990**	.990**	1

Note: ** correlation is significant at the 0.01 level (2-tailed).

Table 8 Model 2 Coefficient Analysis

Model 1: $PPP = f(RMT)$, PPP as a function of RMT, which can be re-written as:
 $PPP = \beta_0 + \beta_1 RMT + \mu$. Here β_0 , β_1 , μ are constant, coefficient of RMT, and error parameter, respectively.

Model	Unstandardized Coefficients		Standardized Coefficients	
	Beta	Std. Err	Beta	t
Constant	916.81	10.91		84.01
RMT	69.85	4.04	0.98	17.25
R square 0.974				
Adj. R square 0.971				

increasing trend since 2011. The share of remittance in the GDP cannot be ignored. In 2012, the contribution of remittance on GDP was 22.15% (Table 3). Nepal became one of the top five highest remittance-incoming countries (in terms of GDP) in the world. Tajikistan, Tonga, Lesotho and Moldova rank above Nepal. It is estimated that the percentage share of remittance in the GDP will rise to 25% in the coming years. This shows the number of Nepali labor hired by foreign countries has gone up significantly. Population growth rate of Nepal stands at 1.6% in 2011 whereas remittance growth rate exceeded 17% during the same period. According to Nepal Demographic and Health

Survey, 27% of the working population has left the country.

We have determined a correlation between remittance inflow and GDP from the collected data. Table 4 shows that there is a high degree of positive correlation ($r = 0.990$) between GDP and remittance. The remittance received and GDP increase concurrently. Although the GDP is dependent on many other determinant factors, the direct inflow of remittance certainly contributes to GDP of country, which becomes evident from our correlation analysis.

Model 1

$$GDP=f(RMT)$$

GDP as a function of RMT, which can be re-written as:

$$GDP = \beta_0 + \beta_1 RMT + \mu$$

Here β_0, β_1, μ are constant, coefficient of RMT and error parameter, respectively.

Table 6 shows the data of PPP for ten years since 2003. Figures presented are on USD. It can be seen that PPP has been slowly increasing. However, the highest growth rate was on the year 2009 and least growth rate was on the year 2006. It can be observed that within a decade Nepal has increased its PPP by 278.13 USD, an increase by 29%.

We have examined the correlation between PPP and Remittance received from the data from Table 3 and 6 to see whether the remittance has been contributing factor to PPP or not. From Table 7, we can see that PPP and Remittance (RMT) are highly correlated which implies that as the remittance increases GDP per capita (PPP) also increases. Table also shows further correlation with all three variables.

We have also checked, using next model, PPP as function of remittance to determine a further relationship between Remittance and PPP.

$$PPP=f(RMT)$$

Which can also be re-written as?

$$PPP = \beta_0 + \beta_1 RMT + \mu$$

Table 9 Use of Remittance by Low, Medium, and High Recipient Households

Use of Remittance	Low	Medium	High
Daily consumption	79.8 ± 2.9 ^a	71.7 ± 2.4 ^b	61.1 ± 1.6 ^c
Repayment of loan	8.2 ± 0.7 ^b	7.1 ± 0.3 ^b	10.9 ± 0.5 ^a
Household property	3.1 ± 0.6 ^b	8.2 ± 0.2 ^a	10.0 ± 0.5 ^a
Education	5.9 ± 0.4 ^b	5.9 ± 0.2 ^b	6.8 ± 0.5 ^a
Capital formation	2.0 ± 0.3 ^c	6.0 ± 0.4 ^b	9.1 ± 0.7 ^a
Others (health, donation, etc.)	1.0 ± 0.2 ^b	1.1 ± 0.1 ^b	2.1 ± 0.2 ^a
Total	100	100	100

Note: Mean values with different superscript in the same row are significantly different ($p < 0.05$) by SPSS analysis. N=20 for each group. Source: Field Survey, 2013. Mean. ± SD.

Table 10 Economic Implications of Remittance on Low, Medium, and High Recipient Household

Parameter	Before			After		
	Low	Mid	High	Low	Mid	High
Economic Status (Balance and Capital)	1.5 \pm 0.2 ^b	3.2 \pm 0.5 ^b	5.4 \pm 0.4 ^b	2.6 \pm 0.3 ^a	3.8 \pm 0.4 ^a	6.5 \pm 0.3 ^a
Expense Capability (Monthly Expenses)	1.0 \pm 0.1 ^b	2.4 \pm 0.3 ^b	4.2 \pm 0.3 ^b	2.6 \pm 0.2 ^a	4.2 \pm 0.2 ^a	6.9 \pm 0.2 ^a
Quality of Life and Facilities (Education, Utilities)	2.2 \pm 0.1 ^b	4.0 \pm 0.3 ^b	6.2 \pm 0.2 ^b	2.8 \pm 0.1 ^a	6.2 \pm 0.3 ^a	7.2 \pm 0.3 ^a
Health (Quality and Expenses)	2.4 \pm 0.2 ^b	3.6 \pm 0.2 ^b	6.4 \pm 0.3 ^b	3.8 \pm 0.1 ^a	5.0 \pm 0.2 ^a	7.5 \pm 0.2 ^a
Social Status (Respect, Participation, etc.)	2.2 \pm 0.1 ^b	4.8 \pm 0.1 ^b	7.4 \pm 0.2 ^b	3.8 \pm 0.2 ^a	6.4 \pm 0.3 ^a	8.4 \pm 0.2 ^a

Note: Mean values with different superscript in the same row are significantly different ($p < 0.05$) by SPSS analysis. N=20 for each group. Source: Field Survey, 2013.

Table 11 Economic Implications of Remittance on Low, Medium, and High Recipient Household

Hypothesis	Obs	f-statistics	p-value
RMT = f(GDP)	7	0.031	0.86
GDP = f(RMT)	7	0.874	0.38
RMT = f(PPP)	7	1.614	0.25
PPP = f(RMT)	7	8.770	0.02*

Note: Significant $p < 0.05$.

Here β_0, β_1, μ are constant, coefficient of RMT and error parameter, respectively.

Here PPP is a dependent variable and RMT an independent variable.

Table 8 is the parameters and coefficients of linear regression analysis of secondary data and we can see that data fit the model appropriately and as the coefficients suggest the remittance is significant to the PPP determination with the provided data which implies PPP is highly dependent to variable remittance. Increase on GDP and PPP can be considered as overall development of the country. Remittance is found to be one of the determinant factors for GDP and PPP of Nepal. Evaluating the socioeconomic impacts of remittance is another very important aspect of remittance study. Thus, here we have analyzed the use of remittance as well as its impact on living standard of the recipient households, using primary data.

4.3. Use of Remittance and its Impact on Living Standard

Study on the use of remittance is important to understand how the remittance is being used and how it influences the nation's productivity. From the Table 9, it can be seen that most of the remittance is being used on non-productive sectors such as daily consumption and repayment of loan. Use of remittance on non-productive sector is significantly highest in low-income group, medium in medium-income group and lowest in high-income group ($p < 0.05$). In contrast, use of remittance on productive sector is significantly higher in high-income group than medium and low-income group ($p < 0.05$). This may imply that low-income group people had insufficient funds for daily consumption before the remittance inflow thus now expending has obviously increased their life standard.

People who went to high income countries seemed have higher loans or they spent much amount on loan repayment rather than other groups. Low-income group barely used remittance on household properties but other two groups improved their housing somehow by spending money on that. No matter the income group, people seem have spent equal percentage of their remittance income on education of family members. This implies that, people with low income have considered education as vital aspect of expenditure needs and an important investment for future generation. Only households with high and somehow middle remittance have been able to form capital from rest of the expenses. This is an important aspect of development, as the formed capital would eventually be used on further business and investments.

After we have seen the area of expenditure now we can see if the significant factors that determine quality of life and economic development of respondents of our survey has increased due to remittance or not. To study the economic implications of remittance, the respondents of the low-, medium-, and high-income group households were asked to rate their status before and after the remittance being received after minimum of two year. Respondents rated the parameters (Table 10) asked within range of 0 and 10, 0 being the least and 10 being the maximum with respect to standard set for minimum and maximum. This range was set with minimum and maximum averaged by capability to buy things and monthly expenses and was set 0 for 'below 30\$ month' and 'more than 1500 & per month' was set 10 considering Nepalese economy.

It was found that remittance has the positive impact on all socioeconomic parameters of the respondent households. It can be seen that each of that parameter considered has significantly increased after the remittance was received (Table 10). The remittance has not only increased their personal income but also their social prestige. The rural people lying below the poverty level have succeeded to uplift their economic standard receiving the opportunity of foreign employment. Remittance as a major source of foreign currency to the developing nation has become a substantial component of making

current account surplus in the balance of payments. It is argued that many workers from Nepal going abroad for employment are no doubt young, energetic, laborious and enthusiastic. They do hard work for earning large remittance income to support their families.

We have observed impact of remittance on both parameters of economic development and it can be concluded that remittance have significant and positive impact on those parameters. To test further a significant relationship we Granger causality test with our model relationships. From table we can see that relation $PPP=f(RMT)$ is significant. This implies that per-capita income with respect to remittance is significant. It can be restated as remittance being a significant factor of per capita income the function or model where remittance is function of PPP is significant among other relationships.

The downside of remittance reflects the view that the shortage of labor due to emigration has not only compelled to keep barren land in rural areas but also hamper agricultural productivity and ultimately the country would be liable to import the large quantity of food grains. Despite these, remaining young generation from the families for long time may affect their reproductive age and their vulnerability may be subject to communicable diseases. It is also possible that if they come back with good skills and earnings, they may not normally cope with the environment of the homeland and consequently they will have a tendency to leave the country again. Thus, in order to recover the loss of economically active labor force to the domestic economy, they should be encouraged to come back again with skilled knowledge for utilizing their savings and working experience for development to the productive areas in accordance with the priority of the national development plans.

Another important downside is a risk of communicable diseases like HIV/AIDS through migrants on the other may enter into the country. More specifically, this type of communicable disease may be due to poverty, illiteracy, gender discrimination, women exploitation, insecurity, and the lack of legal advice as well as proper treatment. Thus, to minimize this problem, especially rural people should be made aware of the communicable diseases through mass media, education, health care and training cum workshops. Furthermore, a part of remittance income should set aside by the government through welfare scheme that may become the long run solution to the problem of communicable diseases.

4.4. Policy Implication and Suggestions

Remittances constitute an integral part of household livelihood strategies. They make a direct contribution to raising household income, while broadening the opportunities to increase the income. They also allowed households to increase their con-

sumption of local goods and services.

Other side at community level, remittances creates a multiplier effects in the domestic economy as well producing employment opportunities and spurring new economic and social infrastructure and services, especially where effective structures and institutions have been set up to pool and direct remittances. Where these have been set up and encouraged and where the state is cooperative, remittances can bring about a change, especially in remote rural areas where government resources have not been effective. The findings of this study have some highly relevant policy implications.

As the Nepalese economy is significantly constituted by remittance large sum of human resource and its benefits to development is located outside the country. Development of domestic economy is thus not significant as it should be to the overall national economy. To strengthen domestic economy, socio-economic paradigm should be self-sustaining with domestic economy. As the major impact has been seen on PPP from remittance income, appropriate measures should be taken to further improve PPP from domestic resources to make economy strong. There needs strong implementation of policies that would shift Nepali economy away from its remittance dependency in the future. Incoming economic backlashes from returning manpower with sudden capital increase must be studied to prevent domestic situation to worsen.

Since most part of the remittance is used in unproductive sector, the government should make policies to encourage the migrants to use remittance in the productive sectors. Opportunities for productive use of remittances through the identification of appropriate investment policies, small and medium scale domestic industries must be created. A huge portion of remittance is used to pay the loans of migration fees. Thus, action should be taken to reduce migration fees. It is recommended to the government agencies for the formulation and implementation of remittance utilization policy for the enhancement of national economy.

As remittance aids overall economy proper management of entire process, from labor migration to remittance inflow and finally return of manpower, must be studied and appropriate rules must be implemented. Since the country's major economy relies tremendously on the remittances, proper policies for the migration procedure and remittance inflow should be made. Official transfer of remittance should be encouraged. The formulation and effective implementation of pro poor migration policy is the need of today. To streamline the skill and assets of the returnees, for the economic development of the own country, policies must be developed. The government should play proactive role to promote foreign employment by inducting and adhering to the policy of economic diplomacy. Retirement plans for returning manpower and usage of their knowledge to develop domestic infrastructure and economy must be formulated.

5. Concluding Remarks

Foreign labor migration and remittance inflows into Nepal have increased rapidly over the last fifteen years. The remittance has an important implication for the economic as well as social status of Nepal. It has a positive effect on increasing GDP and PPP, poverty reduction and higher standard of living by remittance receiving families. We measure the foreign remittance to Nepal, its effect on country's economic growth, its uses and socioeconomic implications, by analyzing secondary as well as nationally representative household survey data. We further analyze the role of remittance on GDP and PPP growth, using correlations and linear regression models.

Our results demonstrate that there is an increasing trend in foreign labor migration and remittance inflows into Nepal. There is a highly positive correlation between remittance income, GDP and PPP growth in Nepal. It is found that most part of the remittance income is used in daily consumption and other non-productive areas. The use of remittance on non-productive sector is significantly highest in low-income group, medium in medium-income group and lowest in high-income group. The remittance income has significantly positive socioeconomic implications on all recipient household groups. Remittance helped to improve their economic condition, expense capability, quality of life, education, health and social prestige.

As most part of the remittance is found to be used in non-productive sectors, there is urgent need to make proper policy and strategy measures by the government to capture the remittance fund and utilize in sectors that are more productive. With more investment in industrial and other productive sectors, the economy would generate its own economic return, making the domestic market stronger and entrepreneurship to improve. Such economic return would create more opportunities and incentives for future investment – creating a virtuous cycle. Greater economic return would have negative causality on migration, as opportunities within Nepal would provide incentives for people to stay. Gradually, the economy would emerge out of its remittance dependency. This essentially, would establish Nepali economy to be self-confident and competitive.

REFERENCES

- Acharya, C. P., & Leon-Gonzalez, R. (2012). The Impact of Remittance on Poverty and Inequality: A Micro-Simulation Study for Nepal. *GRIPS Discussion Paper*, 11-26.
- Adams, R. H., Cuecuecha, A., & Page, J. (2008). The Impact of Remittances on Poverty and Inequality in Ghana (Working Paper No. 4732). Retrieved from World Bank Pol-

- icy Research website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1276669
- Adams, R. H. (1991). The Effects of International Remittances on Poverty, Inequality and Development in Rural Egypt. Research Report (International Food Policy Research Institute) 86. Washington DC. Retrieved on 12, September, 2013 From <http://www.ifpri.org/sites/default/files/publications/rr86.pdf>
- Adhikari, J. (2006). Poverty, Globalization and Gender Labor Migration in Nepal. In S. Arya & A. Roy (Eds.), *Women and Migration in Asia: Poverty, Gender and Migration* (pp. 87-106). New Delhi/Thousand Oaks/London: SAGE Publications.
- Anita, B. and David, P. (2005). "International Remittances," International Financial Management, Harvard Business School.
- Brown, R., & Jimenez, E. (2008). Estimating the Net Effects of Migration and Remittances on Poverty and Inequality: Comparison of Fiji and Tonga. *Journal of International Development*, 20(4), 547-571.
- Central Bureau of Statistics (2004), Nepal Living Standard Survey 2003/04: Statistical Report (Volumes I and II), Central Bureau of Statistics, Kathmandu.
- Central Bureau of Statistics (2013), Nepal Living Standard Survey 2011/12: Statistical Report (Volumes I), Central Bureau of Statistics, Kathmandu.
- Gaudel, Y. S. (2006). Remittance Income in Nepal: Need For Economic Development. *The Journal of Nepalese Business Studies*, 3(1), 9-17.
- Giuliano, Paolo, and Marta Ruiz-Arranz(2005), "Remittances, Financial Development, and Growth," IMF Working Paper.
- Gupta, S., Powell, R., & Yang, Y. (2009). Effect of Remittance on Poverty and Financial Development in Sub-Saharan Africa. *Journal of International Economic*, 37(1), 104-115.
- KC, B. K. (2003). Migration, Poverty and Development in Nepal. *Ad Hoc Expert Group Meeting on Migration and Development*. Bangkok: Economic and Social Commission For Asia and the Pacific, The United Nations.
- Kollmair, M., S. Manandhar, B. Subedi, and S. Thieme(2006), "New Figures for Old Stories: Migration and Remittances in Nepal," *Migration Letters*, 3(2), pp. 151-60.
- Lokshin, M., Bontch-Osmolovski, M., & Glinskaya, E. (2007). Work-Related Migration and Poverty Reduction in Nepal (Working Paper NO. 4321). Retrieved from World Bank Policy Research website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=985003
- Ministry of Finance (2009), *Economic Survey: Fiscal Year 2001-02*, Government of Nepal Ministry of Finance, Kathmandu.
- Nepal Institute of Development Studies (NIDS)(2007), *Nepal Migration Year Book 2006*,

- Nepal Institute of Development Studies, Kathmandu.
- Nepal Institute of Development Studies (NIDS)(2008), Nepal Migration Year Book 2007, Nepal Institute of Development Studies, Kathmandu.
- Nepal Rastra Bank (2009), Quarterly Economic Bulletin, 44(3), Nepal Rastra Bank, Kathmandu, Nepal.
- Nepal Rastra Bank (2013), Trends of Remittance to Percentage Share of GDP in Nepal,
- Nepal Rastra Bank (2014), Annual Inflation Rate of Nepal,
- Seddon, D. (2005), "Nepal's Dependence on Exporting Labour," Migration Information Source, <http://migrationinformationsource.org>.
- Seddon, D., Adhikari, J., & Gurung, G. (2002). Foreign Labor Migration and The Remittance Economy of Nepal. *Critical Asian Studies*, 34(1), 19–40.
- Thagunna, K.S. and Acharya, S. (2013), "Empirical Analysis of Remittance Inflow: The Case of Nepal," *International Journal of Economics and Financial Issues*, 3(2), pp. 334-344.
- The Kathmandu Post. (2010). Nepal among Top 5 Countries. Retrieved from <http://www.ekantipur.com/the-kathmandu-post/2010/11/09/money/nepal-among-top-5-countries/214646/>
- Wagle, U. (2009b), "Thriving Kathmandu: Causes for Concern," The Himalayan Times, September 11.
- Wagle, U. (2009a), "Thriving Kathmandu: Causes for Celebration," The Himalayan Times, July 30.
- Wagle, U. R. (2012). Socioeconomic Implications of the Increasing Foreign Remittance to Nepal: Evidence From the Nepal Living Standard Survey. *International Migration*, 50(4), 186-207
- Wong, K. U. (2011), "The Link Between Remittance and Family Relationships in Chitwan Valley, Nepal," Thesis, the University of Michigan, Ann Arbor Department of Sociology, pp. 53.
- World Bank, (2006), "Nepal: Resilience Amidst Conflict: (An Assessment of Poverty in Nepal 1995-96 and 2003-04," World Bank Report # 34834-NP, World Bank, Washington, DC.)
- World Bank, (2013), GDP and Remittance Trend of Nepal,
- World Bank, (2014), Migration and Development Brief,
- Yadav, M. N. (2012). Role of Remittances and Banking Sector Development in Nepal. *Journal of Elixir International*, 50(2012), 10390-10399.