

CHAPTER I

INTRODUCTION

1.1 Background of the study

The process of a person or people travelling to a new place or country usually in order to find work and live there temporarily or permanently is known as migration. There are various types of migration. They are: internal, external, permanent, rural to urban or urban to rural. Among others foreign employment is regarded as an external migration. Most of the migrations, like foreign employment, have been taking places or the purpose of economic prosperity or utility maximization or improvement in living standard. In this sense, migration and foreign employment are economic phenomena (Azam, 2015).

Main thrust of this study is closely related to remittance-income, which is the consequence of the foreign employment. The remittance brings various kinds of consequence in short and long run. Due to the globalization, modernization, liberalization and other global socio-economic phenomena, foreign employment rate is increasing in recent years. As a result the economy of developing countries like Nepal is directly shape by remittance (Dhungana, 2012).

Remittance means the transfer of funds from international migrants to their family members in their home country. It is different from other external capital inflow like foreign direct investment, foreign loans and aids. It is the largest source of foreign exchange earnings for developing countries. Many developing countries have experienced tremendous surge in the inflow of remittances in past two decades. They export manpower to generate remittances. Foreign remittances are the source of poverty reduction, better health care and education. Remittances are the main source of increasing investment and consumption in recipient countries. The increase in investment and consumption is the sign of economic development. Remittances support in poverty reduction. These flow to neediest group of the population. In this way remittances directly contribute in poverty reduction. These draw positive effect even fully consumed as these are better for the welfare of the society. Remittances can contribute to higher investment in human and physical capital. But if remittances are used for consumption not for investment as is the nature of the developing countries

then these can be harmful. As they fail to create enough savings that are necessary for economic growth (Sarkar, 2018).

Remittances, defined as financial inflow arising from the cross-border movement of nationals of a country, are the transfer of money and goods sent by migrant workers to their country of origin. Globally, remittance flows to low and middle income countries (LMICs) are estimated to be a total of UD\$ 442 billion in 2016, an increase of 0.8 percent over the past year, in which the officially-recorded remittance receipt developing countries are mostly from Asia, Latin America, Eastern Europe and Africa (World Bank 2016).

Remittance is playing an increasingly large role in the economics of many countries, contributing to economic growth and the livelihoods of less prosperous people. Available statistics indicate that the number of international migrants in the world moved from 75 million in 1960 to just over \$575.9 billion in 2016. Global remittances have been estimated to have reach \$615.9 billion in 2018, as against \$466.7 billion in 2010 (World Bank, 2017).

The migration from Nepal, in addition to India, to the Middle-East (Saudi Arabia, Qatar and United Arab Emirates) and Southeast Asia, such as Malaysia¹ had not only dramatically increased during the armed conflict period in Nepal, but also prolonged for a decade even after signing the Comprehensive Peace Agreement in 2006. It made the absentee population increase by about two million, more than double that of the year 2001 (Central Bureau of Statistics, 2012).

Nepal received remittances worth Rs.699 billion in the Fiscal Year 2016/17 ranking fourth in the list of countries with large contribution of remittances to GDP, according to a report launched by Ministry of Labor, Employment and Social Security, with support from International Organization for Migration, the UN Migration Agency, the International Labor Organization (ILO) and The Asia Foundation (The Himalayan times, 2018).

Foreign workers contribute remittances - transfer of funds by workers (remitters) living and working in developed countries, typically to their families in their home countries. Examples from past history include Middle Easterners living in Europe,

Latin Americans in the United States, and Koreans, Filipinos in Japan and Nepalese in India. Remittances constitute a significant amount of national income.

Although the use of remittances varies from country to country, the recipients of remittances commonly rely on them for living costs, education and investments. For the purpose of survival particularly after the First World War, Nepalese youths have continually migrated to foreign countries. The growth of migration has rapidly been accelerated since the last two decades after Nepal underwent policy changes conducive to open and liberal economy. In the beginning, the thrust of these economic policies was to either privatize or dismantle public enterprises. Policy failures have continued because of the inability of the private sector to operate such enterprises. Actions have not stopped in spite of the negative implications on the economy in the short as well as in the long run. It created chronic unemployment. Obviously, economic transformation did not produce significant positive change but started to decline over time. In addition, since the late 1990s Nepal experienced a decade long armed conflict. It is estimated that the conflict cost the nation around 2.5% of GDP growth per annum since 2000 (Shakya, 2009).

A significant number of Nepalese youth, over two million, work in different countries of the world India, East Asia, Middle East are particularly popular countries for employment. Over 1500 Nepalese leave the country every day in search of greener pastures. The outflow of people in search of opportunities in foreign countries has increased over the years. It seems employment to potential Nepalese workers depends on the need of foreign countries. These youth send remittances to their families. The number of youths migrated from Nepal and remittances they send back to home have amazingly increased over the years and it is believed that remittance plays a significant role in providing livelihood to the majority of people who live in rural areas. The bulk of inflow of remittance in Nepal has been increasing over the years. Nepal received around US \$ 4.6 billion remittances in 2012 which jumped from US\$ 2.9 billion in 2009, an increase of 58.6%. Remittance contributed 18% share to the total GNP of Nepal in 2006, the highest among the South Asian countries (Dhungel, 2014).

In 2004 remittances covered 14.2 % of GDP which skipped to nearly 25 percent in 2012. These data reveal that the dependency of Nepalese economy on remittance has

been increasing over the years and this trend looks to continue for the days to come. The expenditure trend of the remittance received indicates that it may have significant role in reducing poverty. Out of total remittances, 78.9% is spent on daily consumption followed by repaying loans (7.1%), household property (4.5%) and education (3.5%). This pattern of use of remittance indicates that there is a big implication on the livelihood of the people as major portion of remittance is spent on consumption. Merely 2.4 % of remittance is spent on capital formation (CBS, 2011). Lack of employment generation due to the unproductive use of remittance will definitely hit the economy hard in the long run as the country is deep in the remittance trap.

Remittance is an important source of foreign income for developing countries like Nepal increasing dramatically in size over recent decades. It is a private income that is regularly or periodically transferred from international migrants to family members in their country of origin. It represents one of the largest sources of financial flows to developing countries. Foreign employment is gradually getting a major source of foreign exchange earnings and sustaining the positive balance of payment in Nepal. Remittance income has been mostly used on domestic purpose such as managing land and building, children education, health care, entertainment and so-on. Moreover, it is used in productive and commercial sectors in some extent to operate micro and macro level business. Huge amount of capital is needed to the under-developed countries for the enhancement of productivity and bolstering economic development. Remittance income is one of the major sources of capital formation in the context of Nepal. Furthermore, migration of the unskilled workers on return to their home countries acquires practical and useful skills in abroad. The remittances have become a major issue in the international financial literature over a decade because of their increment of size and volume as well as rise in the number of migrants around the world and will likely continue in the future (Dhungana, 2012).

Nepalese economy is largely based on agriculture, however, the large number of people leaving for foreign employment has been significantly increased due to incredible number of unemployment, poor development of industrial sectors, low level of salary and earnings, lack of business environment and soon. Millions of youth are compelled to heading for overseas seeking employment due to failure in creating

employment opportunities within the country. Statistics for the last three years shows on average 250,000 people leaving the country annually for foreign employment and the number is on rise. Although foreign employment remains a major source of foreign currency for the country, in the long-run it could fall in the remittance trap. It is another challenge of engaging the youths in the nation's development by creating employment opportunity within the country itself (Economic Survey, 2010/11).

1.2 Statement of problems

Remittance has been one of the major sources of foreign exchange earnings. Few years Nepal remittance is growing rapidly. Despite a constant rise in remittance earning, the productive use of remittances has been the matter of concern. Since the study under consideration was concerned with the contribution of remittance in per-capita real GDP, so the study tries to answer the following questions.

- i) What is the trend of remittance and per capita real GDP in Nepal?
- ii) What is the impact of remittance in per-capita real GDP in Nepal?

1.3 Purpose of the study

The main purpose of the study is to assess the contribution of remittance to Nepalese economy through per capita real GDP. The specific objectives of the research are as follows.

- i) To analyze the trend of remittance and per capita real GDP.
- ii) To examine the impact of remittance in per capita real GDP.

1.4 Significance of the study

Remittances are typically helpful to meet specific needs of the respondents' family members and thus tend to increase their standard of living. In lower class or poor households, they may finance their remittances to fulfill their basic needs, such as in consumption, housing, children education and health care and to pay for loan. Remittance had become an important source of foreign exchange earnings, saving, investment, consumption, predominantly from developed countries to developing countries. The availability of foreign exchange through remittances has not only helped the receipt countries in achieving a reasonable high economy growth by reducing the current account deficit. There is, however, also an alternative view that remittance may here a negative impact on output receipt economics.

1.5 Limitations of the study

This research will try utmost care to cover most of the important sector; but still subject to limitation. Some limitations are as follows.

- i) This study is fully based on secondary data. Reliability of the findings depends upon the trustworthiness of the sources of data.
- ii) Only remittance and per capita real GDP are taken as independent and dependent variables respectively.
- iii) The study only covers the time period of 1990/91 to 2018/19, as it is difficult to include the whole time period. Therefore, limited time period is taken.
- iv) Only selected statistical tool is used.

1.6 Chapter plan

This study is comprised of five chapters, each devoted to some aspects of financial performances. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly mentioned here.

Chapter-I: Introduction

This chapter includes background of the study, statement of the problem, purpose of the study, significance as well as limitations of the study.

Chapter-II: Literature Review

This chapter deals with the theoretical review, theoretical determinants of remittance, theories of economic growth, review of previous national and international studies and research gap of the study.

Chapter-III: Research Methodology

The third chapter describes the research methodology uses in carrying out the present research. It deals with research design, sources of data, data processing procedures, population and sample, period of the study, method of analysis and financial and statistical tools.

Chapter-IV: Results

This chapter fulfills the purposes of the study by presenting the data and analyzing them with the help of various statistical tools and techniques followed by methodology.

Chapter-V: Conclusion

This chapter deals with the discussion, conclusion and implication for the improvement of effective remittance utilization.

References and appendices are also attached at the end of the study.

CHAPTER II

LITERATURE REVIEW

The speed of economic development of a nation poses one of the most essential issues in economic debate. There has been a vast growth in literature on remittances compared to the previous decades. Since the phenomena of remittance inflows is highly intertwined with that of migration where remittance is highly related to and originate from the theories of migration. The evaluation of such theories and international and national research has been discussed in this chapter.

2.1 Theoretical Review

Macroeconomic studies demonstrate that though remittances are affected by the economic cycles of source and host countries, they provide a crucial avenue of foreign currency, boost national income, finance imports and contribute to the balance of payments. While other capital flows appear to rise during favorable economic cycles and fall in periods of economic downturn, remittances seem to react less violently and exhibit incredible stability over time. For instance, a year after the global financial crisis in 2008, remittance inflows to emerging markets continued to go up by 6 percent while capital flows plummeted by 14 percent. Likewise, remittances seem to be better targeted at the requirements of the poor, over foreign aid or FDI, as recipients generally rely on remittances to cover daily living expenses or to undertake small investments in business. Though, Nepali migrant workers sent home \$8.1 billion in 2018, making it the 19th biggest beneficiary of funds sent by migrants around the world, according to a report released by World Bank on Monday. The remittances were up 16.39 percent year-on-year despite a drop in the number of departures. As a share of the gross domestic product for 2018, Nepal is among the top five recipient smaller economies, along with Tonga, Kyrgyz Republic, Tajikistan and Haiti (Prasain, 2019).

2.1.1 Theoretical determinants of remittance

Over past three decades, remittances from permanent migrants have been the dominant component of total migrant remittances received. Remittances from temporary migrants are relatively more altruistically driven whereas those from permanent migrants are more self-interest or investment driven. To this extent, as far as remittances are concerned, migrants react differently to macroeconomic conditions

at home depending upon their duration of stay. This implies that generally initial remittances are essentially altruistic. Overtime, remittances tend to be driven by self-interest economic motive. However, because altruism is inherent in all other motives of remittances and other motives of remittances only become important after altruism, a labor-exporting country will receive more remittances on a permanent basis if there is a stable and investment friendly macroeconomic environment. In other words, given a sound macroeconomic environment, a typical labor-exporting country can receive higher remittances in excess of pure altruism more permanently.

Pure Self Interest theory

In contrast to altruism, self-interest is also a motivation to remit. In this case a migrant sends remittances with the aspiration to inherit, to demonstrate laudable behavior as an investment for the future or with the intent to return home. If a migrant wants to invest at home, the household can be a trustworthy and well-informed agent. If a migrant intends to return home, he may already invest in housing, livestock etc. and will ask the family to be the agent. The migrant may also send remittances to invest in his reputation at home. Inheritance may be used as a blackmailing device by the household head to receive remittances. According to this theory, remittances increase with the household's assets and income, the probability of inheriting (dependent on the age of parents, number of siblings, etc.), the migrant's wealth and income, and decreases with risk aversion. Only in the case of the aspiration to inherit, can self-interest be distinguished from altruism in the migrant's behavior and a larger income and or wealth of the household should lead to more remittances. Finally, in a three generation setting, remittances may be sent to parents to ensure that the remitter's own children also take care of him in old age (Cox & Stark, 1994), known as the demonstration effect. Care and transfers have to be visible to the grandchildren generation for maximum effect.

Tempered Altruism theory

A less extreme view of the motivations to remit is tempered altruism. In this case the migrant and the family at home mutually benefit from migration, through some kind of implicit contractual arrangement. Altruism and self-interest can nevertheless play a role here, by making the contracts self-enforcing. The contractual arrangements discussed here are coinsurance, loan repayment and exchange for services.

2.1.2 Theories on Economic Growth

Harrod Growth Model

Harrod model was developed by Roy Harrod in 1939 A.D. states that to attain the dynamic equilibrium between investment and saving output should grow at constant s/v rate where s = marginal propensity to save and v = capital output ratio. According to Harrod model steady state equilibrium growth model requires that actual growth rate must be equal to warranted growth rate where steady state full employment growth rate requires actual growth rate, warranted growth rate and natural growth rate. So, if there is steady state full employment growth rate then the labor, capital and all the other resources in the economy are fully utilized and hence the economy is in the equilibrium with full employment of labor, capital and all the other resources.

The Domar Growth Model

Domar model of economic growth is rate of investment which keeps equality between capacity generating effects and income generating effects. So, According to Domar model at steady state equilibrium growth investment should be grow at constant rate of marginal propensity to save and potential social average productivity of capital, this rate of growth of investment ensures the equality between income generating effects and capacity generating effects.

The Solow Model

Solow model consists of a production function which is given by $Y=f(K,L)$

Where, K =capital and L = labor

Capital stocks include plant and machinery, bridges factories and labor represents economically active population. For the economic growth based on this model there must be an increment in the stocks of capital through investment and supply of labor through population growth. Investment, on capital stocks depends on saving and remittance can be used as substitute or to increase the domestic fund hence increase in capital funds. Furthermore, future remittance inflow can improve the creditworthiness of domestic investors, which may result into lower cost of capital in remittance receiving economics.

The Endogenous Growth Model

Endogenous growth theory emerged in the 1980s, as a conceptual framework that could challenge neo-classical growth theory. It aimed to explain how difference in wealth between developed and undeveloped countries could persist, if investment in physical capital like infrastructure is subject to diminishing return. This model assumes that the key determinants of economic growth are quality of human capital, level of technology, innovation, research and development, etc. this model is elaborate with the help of AK Model where capital and labor are taken as major factor for production in an economy, i.e.

$$Y=AK^\alpha L^\beta$$

Where,

Y= Total production

K= Capital

L= Labor

α and β are parameters

A= Total factor productivity

2.2 Review of previous studies

Dhungana (2012) analyzed the impact of worker remittance on economic growth in the case of Nepal during the study period from 1974\75 to 2010/11 using Descriptive statistics, trend analysis, correlation and other relevant statistical tools. It was based on the secondary data provide by different government institution. It showed that Nepalese economy was largely dependent on the remittance where large no of Nepalese are employed in foreign lands. Due to heavy reliance in foreign employment has shifted the Nepalese economy from agricultural based economy to remittance based economy. The main reason behind the foreign employment was due to lack of employment opportunities within the nation. The foreign employment has supported in bringing economic prosperity in rural Nepal and reducing poverty. Remittance can produce long term impact only if it was channeled into productive investment.

Ojha (2017) analyzed remittance status and contribution to Gross Domestic Product (GDP) Nepal from the time period 1994/95 to 2016/17 using the linear multiple regression model. The Beta coefficients for total remittance inflow are positive with GDP. There was a positive impact of capital formation, import, foreign aid and money

supply on GDP. The study concluded that remittance was the most significant source of GDP and per capita income in Nepal. The inflow of foreign remittance can make effective contribute to develop the financing capacities of the financial system, particularly in banking sector. Banks prefer to bought treasury bonds in spite of financing small private companies.

Dhungel (2014) investigated short and long run causality between the variable GDP and remittance. It was based on Vector Error Correlation Model. It estimated remittance elasticity using ordinary least square method. The remittance what Nepal received from its migrants was being consumed, not saved and invested in the production sector that can create gainful employment to the generation to come. The remittance contributed to GDP was found negligible. There was strong evidence on the causality running from remittance to GDP in the short run. Nepal was unable to mobilize its remittance inflow. It suggested that people should focus on saving some portion of remittance inflow for investment.

Uprety (2017) explored the casual relation among GDP per capita, remittances, consumption and investment in Nepal with the aid of a multivariate time series model in the form of Vector Autoregressive (VAR) model. It was found that remittance was negatively related to per capita GDP in the short run and there was no evidence of any impact in the long run using Johansen method of co-integration and error correlation mechanism. It was recommended that there must be dynamic policies and plans to tap and utilize remittance sent by migrant workers in the investment sector. It was suggested that hundreds of Nepali workers have been laid off in countries like Saudi Arabia and many of them are waiting for their wages. Nepal has to explore new destination countries to shift for foreign employment from these countries.

Kaphle (2018) analyzed the relationship between remittances and economic growth using annual time series data from 1976 to 2017 from Nepal. To this study GDP was used as proxy of economic growth. There was a long run association between remittance, trade and economic growth. The relation between remittance and economic growth was not significant in the short run. The policy maker should implement appropriate policy to invest in infrastructure frameworks to accommodate the expected outcome. It was recommended to include time varying covariates (EX: FDI, industrialization, etc.) to improve the model present here for further study.

Ahmed and Uddin (2009) investigated the casual nexus between export, import, remittance and GDP growth for Bangladesh using annual data from 1976- 2005 using time series econometrics tools. It found limited support favor of export- led growth hypotheses for Bangladesh as exports, imports and remittance cause GDP growth only in the short run. The causal nexus was unidirectional. It was suggested that above test of co-integration rank was contingent upon the presence or absence of deterministic components in the dynamic tool.

Chaudhary and Srivastav (2007) examined the direct impact of remittances on three development indicators viz. GDP, GNP and PCI of the nation. It was carried out with linear and log-linear models under multiple regressions. The impact of remittance was seen most remarkable in the GDP and GNP both in nominal and real terms. It also showed positive impact on PCI but it was comparatively low. The growth rate of individual variables (Rm, K, L and X) was also tested in the same model to found the effects on the dependent variable. The findings was positive expect for labor force, but they are marginal which show that remittance was not used effectively so as to increase the real growth rates of the economy.

Azam and Khan (2011) analyzed the impacts of workers remittances on economic growth of Azerbaijan and Armenia's economies. The statistical analysis has been made through simple log linear regression model and the method of least square has been used. The study concluded that worker remittances are significant and have positive impacts on economic growth and development. The findings suggested that the relevant authorities of both the countries need to formulated appropriate policies in order to encourage worker remittances and such remittances must be utilized more efficiently.

Shera and Meyer (2013) analyzed the impact of remittances on various macroeconomic and developmental aspects for the country. It aimed to observe the impact of remittances on economic growth using a panel data set of 21 developing countries during the period of 1992 to 2012. These countries have experienced a major increase in remittance inflows, and at this time account for the bulk of total remittance receipts compared with other regions. It reviewed the theoretical as well empirical literature devoted to remittances, in order first to select the arguments that

can be applied to the countries and second to identify empirically if there was significant relationship between remittance and GDP per capita in these countries.

Oshoto and Badejo (2015) investigated the relationship between remittances and economic growth in Nigeria, using an error correction modeling approach for the period 1981 to 2011. It was revealed that remittances positively impact on the economic growth of Nigeria. It was found that a 1 percent increase in remittances would lead to a 0.19 percent increase in the RGDP in the long run. However, remittances showed a significant negative relationship with output in the short run. Also, while foreign aid as external sources of capital can have both short and long term significant influence on economic growth in Nigeria, its counterpart FDI can only exert positive impact on RGDP in the short run. Our result also affirmed the significant positive role of trade in promoting economic growth, suggesting that the more open the economy.

Hassan and Shakur (2017) examined the impact of inward remittances flows on per capita GDP growth in Bangladesh using three alternate: OLS, Instrumental Variable-two stage least square and IV-GMM estimators. It was found that growth effect of remittances was negative at first but becomes positive at a later stage, evidence of a non-linear relationship. Migrant families in Bangladesh, after basic consumption needs have been met, the residual remittance income was mostly used to repay loans and then to accumulate saving. It was suggested that the effect of remittance in growth become positive when remittances was interacted with financial development. That was, the growth effect of remittances was more pronounced for a financially less developed country.

Olayungbu and Quadri (2019) investigated the relationship among remittances financial development and economic growth over the period of 2000 to 2015 using Pooled Mean Group and Mean Group/ARDL estimations with panel unit root and cointegrator tests. It was found that there was a positive effect on economic growth in the both short and the long run. It also found that unidirectional causalities to run from GDP to remittances and from financial development to GDP. However, no causality existed between remittances and financial development in the Sub-Saharan African (SSA) countries. It was recommended that improved financial services, financial

instruments and the payment system were necessary for economic growth in SSA countries.

Das and Chowdhury (2014) examined the long run relationship between remittances and GDP taking II Top remittances, receipt countries. It used recently developed economic technique i.e. panel co-integration and pooled Mean Group Approach. It suggested that there exist long run co-integrating relationship among variables in our dataset. If remittance was used to increase consumption in the recipient countries, the long run remittances GDP coefficient can be small in size. It was implied that developing countries should formulate policies to divert this external resources into more productive sectors.

Hussian and Anjum (2014) analyzed worker's remittances and GDP growth in Pakistan using the generalized method of moments. It showed that Worker's remittances are positive as well as significant with GDP growth and also playing an active role in Pakistan economy. It was suggested that financial sector to be improved for smooth and horizontal transection of remittances and also this sector performed productive investment. It was recommended to established facilitation center in Saudi Arabia and U.A.E to solve the problems and also to encourage them to save money and transaction via financial institutions and issue the remittance cards to every migrant Pakistan.

Ajilore and Khide (2013) examined the assumption that size matters' in the empirical controversy of the relationship between migrant's remittances and economic growth (real GDP) using ARDL model in five countries. It was found that there was no significant departure from the existing in conclaves on empirical literature on the relationship. It was found that there is positive and significant effects of migrants' remittances on growth performance in Cape Verde and Nigeria, but negative, and slightly significant at 13% t-value for Lesotho. It was suggested that the poor African countries in the sample were growing at a slower pace than the rich economies during the sample period. It was recommended to improve the country-level policies for the efficiency of remittances inflows and promoted the use of remittances for development purposes.

Dhungel (2018) examined the relationship between remittances and growth using Autoregressive Distributed lag (ARDL) Model. It suggested that Variables are co-integrated and had long run relationship. Wald test proved that remittance cause per capita GDP in the short run. But in the long run, remittance and per capita GDP has positive relationship. It was revealed that 1% increase in remittance increase the GDP by 0.36% in the long run. It was also implied that 1% increase in capital, labor and trade openness increase the per capita GDP by 0.82%, 0.46% and 0.30% in the long run respectively.

Rahman (2009) re-examined the effects of exports, FDI and expatriates remittances on real GDP of Bangladesh, India, Pakistan and Srilanka using ARDL model for the time period of 1976 to 2006. It revealed the close similarities of long run and short run dynamics of the variables between Bangladesh and India. The same applied to Pakistan and Srilanka in term of short run dynamics. It was suggested that the short run net effects of exports on real GDP of Bangladesh are more visible than those of FDI and remittance. The same applied to India as well with some minor exceptions for relatively stronger short run effects. It was recommended to Bangladesh and India emphasized on exports of products and Srilanka and Pakistan should rely more on exports of people than those of products.

Paul and Das (2011) analyzed the relationship between remittances and GDP in the liberalized Regime of Bangladesh using Johansen approach to co-integration along with VEL model for the time period of 1979 to 2009. It was found that other emerging nation in that GDP growth is capital of attracting further remittances arguably through increasing investment demand and initiating institutional forms in the economy. The study has recommended a policy implication for other developing nations in that output growth was addressed first to attract more remittance and to undertake institutional reforms and exploring investment opportunities was further boost for remittance growth.

Ahmed, Hayat and Farhat (2013) investigated the impact of foreign remittances on economic growth of Pakistan using multiple regression analysis for time period of 1978 to 2011. It indicated that foreign remittances positive and significant relationship with GDP while inflation and exchange rate have negative effect on economic growth. It was suggested that the stability of our model was free from

hetroskedasticity and autocorrelation with satisfactory functional form. It was recommended to enhance foreign capital inflow to boost investment and economic growth.

Datta and Sarkar (2014) analyzed the impact of remittances on economic growth in Bangladesh, time series econometric techniques, specially the ARDL framework. It was found that there was a possibility of a long run relationship between remittances and GDP, but there was no predictive causal relationship, neither in the short run nor in long run. It was suggested that even though the ARDL frame work does not require pretesting variables, the unit root test could inform us whether or not the ARDL model should be used.

Zafar, Siddique, Ahmed and Khan (2016) examined the wallop of remittance on economic growth (GDP) of Pakistan using Ordinary Least Square (OLS) method. It was obtained that remittances had positive effect on GDP in Pakistan. It was showed only 1% increase in remittance then 6.68% increase in GDP. It was recommend considering the remittance as the key tools with traditional growth engine same as exports and FDI in improving long run economic growth and success of the country.

Afrin and Islam (2018) examined the impact of remittance on economic growth using Vector Autoregressive Regression framework for the span of 1981-2015 in case of Bangladesh, India and Pakistan. It found a bi-directional significant link between remittance and economic growth in India. Remittance played a significant role in the promotion of economic growth in Bangladesh. However, the result of Pakistan was inconclusive. It was concluded that the countries benefit from remittances was closely related to the strength of domestic institutions and macroeconomic environment.

Sarkar (2018) explored the relationship between remittance and GDP in Bangladesh using Pearson's correlation coefficient for the time period of 1995-2016. It was found that an average remittance of Bangladesh was increased by 10.85% from 1995 to 2016 which was higher than the average growth of the country's GDP. It was revealed that there was a positive relationship of remittance with GDP, gross capital formation, domestic savings and household final consumption expenditure. It was recommended that Bangladesh should took proper initiatives for maintaining an increasing trend of

remittances in coming year which would be useful for the socio-economic developmental of the country.

Azam (2013) examined the macro economic impact of migrant workers remittance on economic growth in four developing countries namely: Bangladesh, India, Pakistan and Srilanka using OLS method. It revealed the existence of a significant positive relationship between remittances and economic growth (GDP). It was concluded that migrant workers remittance are source of economic growth. It was suggested to devise a right policy through which remittances can be made to be more productive. It was recommended to break the long period (1976-2012) and fit the trend line accordingly while investigating the impact of migrant works remittance on GDP.

Possion (2018) analyzed the relationship between remittance inflows and GDP in India using empirical regression analysis. It was found that the effect of remittance is multi-faced. On one side of the coin, there was a short term benefit to families because they're able to use these funds for consumption spending; presumably for non-durable goods. Their spending serves of course to augment the country's GDP in that year. It showed that remittance inflow have a positive and significant effect on the level of India's GDP and a positive but insignificant effect on GDP growth. It was recommended to incentivize the investment inflows into different categories.

2.3 Research gap

From the review of literature it is found that many studies are taken on the remittances and GDP of Nepalese economy and international economies. These studies were concerned with the structure and trend of remittance inflows, study of trend of per capita real GDP and remittance impact on per capita real GDP. In Nepal there are very few studies were done for statistical test for the significance of remittance on per capita real GDP in Nepal. It takes 29 years data for analysis of relationship between remittance and per capita real GDP in Nepal.

CHAPTER III

METHODOLOGY

The justification on the present study cannot be obtained without help of proper research methodology. For the purpose of achieving the objectives of the study, the applied methodology was used. The research methodology has primarily evaluated the relationship between remittance and per capita real GDP in Nepal. The research methodology adopted in this chapter follows some limited but crucial steps aimed to achieve the objectives of the research.

3.1 Research Design

This research is aimed to study the relationship between workers' remittance and per capita real GDP. It followed descriptive research design for research study. It has also analyzed the flow of remittance, trend of selecting per capita real GDP of Nepal.

3.2 Population and Sample

Population refers to the entire group of people, event or things of interest that the researcher wishes to investigate. The researcher used only 29 years i.e.1990/91 to 2018/19 data of remittance and per capita real GDP of Nepal as the sample of the research to fit the trend line accordingly while investigating the relationship between workers' remittance and per capita real GDP. The sample period was started from 1990/91 as the liberalization, privatization and globalization policy was implemented in 1990s.

3.3 Sources of data

The source of data indicates the place from where the information is gathering. The data for the study are remittance on per capita real GDP of Nepal. On the basis technique of its collection secondary sources was used rather than primary sources in the research program.

3.4 Data collection and processing procedures

The data for the study are remittance and per capita real GDP of Nepal. Only secondary data of remittance and real GDP were used for the study. The secondary data of last 29 years used i.e. (1990/91 to 2018/19). The data are abstracted from economic survey, NRB, MOF, etc.

3.5 Data analysis tools and techniques

Statistical tools specially focused for data presentation and analysis. The research objective practicable, the year wise increase of remittance was studied. The share of remittance to per capita real GDP was also analyzed and to find accurate result different statistical tools is used. The difference statistical tools in the process of analysis are:

a) Correlation coefficient(r)

Correlation analysis is the statistical tools that will be used to describe the degree to which one variable is linearly related to another. The correlation coefficient measure the degree of relationship between two set of figure. Correlation coefficient is most widely used in practice correlation can neither be positive or it can be negative. It is denoted by r. its value lies between -1 to +1 where r= -1 it means there is perfectly negative relation between the variables and r= +1 it means there is perfectly positive relation between the variables. However in practice such value of r is +1, -1 and 0 are rare. In practical life, possibility of obtaining either perfectly positive or perfectly negative correlation is very remote. Gupta (2000)

$$r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

b) Regression analysis

Regression analysis is the development of the statistical model that can be used to predict the value of dependent variable based upon the value of at least one independent variable. Regression analysis helps us to know the relative movement in the variables.

(i) Simple regression analysis:

The simple regression equation of Y on X, will used to describe the variation in the value of Y of given changed in the value of X.

$$Y = a + bX$$

Where,

Y= dependent variable

X= independent variable

a= regression constant

b= regression coefficient

CHAPTER IV

RESULTS

This chapter deals with presentation, analysis and interpretation of relevant data of remittance and per capita real GDP in order to fulfill the objectives of this study. For obtaining the best result, the data have been analyzed according to the research methodology as mention in third chapter. The purpose of this chapter is to introduce the mechanism of data analysis and interpretation.

4.1 Data Presentation and Analysis

4.1.1 The Trend of Workers' Remittance Income in Nepal

Remittance is an important source of foreign income for developing countries like Nepal increasing dramatically in size over recent decades. It is a private income that is regularly or periodically transferred from international migrants to family members in their country of origin. It helps to develop the poverty elimination as well as economic development. The increasing volume of remittance has also increase the household consumption so that the aggregate demand in the economic.

Among the countries, Nepal is one of the major remittances receiving country in the world based on per capita real GDP. In 2015/16 A.D. Nepal is third largest country in terms of receiving the remittances with the remittances income Rs. 665.1 billion (The Himalayan Times). With the increase of volume remittance, the share of remittances to per capita real GDP has also been increased. But the growth rate of per capita real GDP is not as much as the growth rate of remittances so the share of remittances to per capita real GDP has been increasing every year rapidly. The following chart shows the flow of remittance nearly 3 decade.

Table 4.1: year wise flow of remittance (in Rs. Millions)

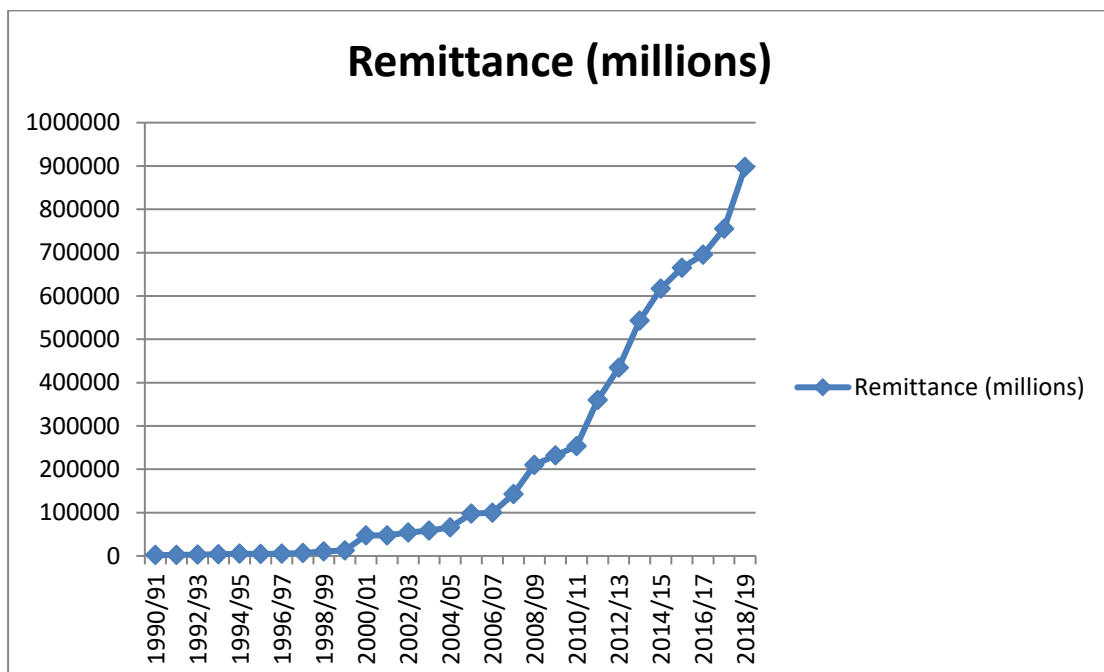
Fiscal year	Remittance (millions)	Increase in % of remittance
1990/91	2128.3	-
1991/92	2316.4	8.84
1992/93	2994.3	29.26
1993/94	3469.1	15.86
1994/95	5063.6	45.95
1995/96	4283.6	-15.40
1996/97	5595	30.81
1997/98	6987.8	24.82
1998/99	10314.6	47.64
1999/2000	12662.3	22.67
2000/01	47216.1	272.98
2001/02	47536.3	0.68
2002/03	54203.3	14.01
2003/04	58587.6	8.12
2004/05	65541.2	11.77
2005/06	97688.5	49.16
2006/07	100145	2.45
2007/08	142683	42.56
2008/09	209699	46.95
2009/10	231725	10.51
2010/11	253552	9.44
2011/12	359550	41.8
2012/13	434582	20.9
2013/14	543293	25.01
2014/15	617281	13.62
2015/16	665062	7.74
2016/17	695453	4.6
2017/18	755100	8.6
2018/19	897300	18.8

Source: Appendix I & II

Table 4.1 shows that flow of remittance income was increasing every year. In 1990/91 remittance income was Rs. 2128.3 million and in 1991/92 remittance was Rs. 2316.4 million, which is increased by 8.84 percent than previous year. In 1995/96 remittance income decreased by 15.40 percent than previous year. In 2000/01, remittance increased by 272.98 percent than previous year which is highest percentage increased in remittance income. The next year 0.68 percent remittances increased in 2001/02. The remittance increasing trend was fluctuating every year but it is in increasing trend. In 2017/18 remittance income was Rs. 755100 million which was increased by 8.6 percent than previous year. More recent in 2018/19 remittance got by the country was Rs. 897300 million which increased by 18.8 percent than previous year.

It is concluded that, Nepal has been experiencing continuous fluctuation growth in remittance inflow last few decades. The flow of remittance income amount has increased every year. This showed that the income of remittance has contributed well for economy; it helps to reduce poverty reduction, increased living standard, consumption pattern of individual, etc.

Figure 4.1 line graphs showing the remittance income trend of Nepal



To clarify the trend of remittance inflow trend line was drawn. From the figure 4.1 shows that remittance inflow is in increasing trends.

4.1.2 The Trend of per capita real GDP in Nepal

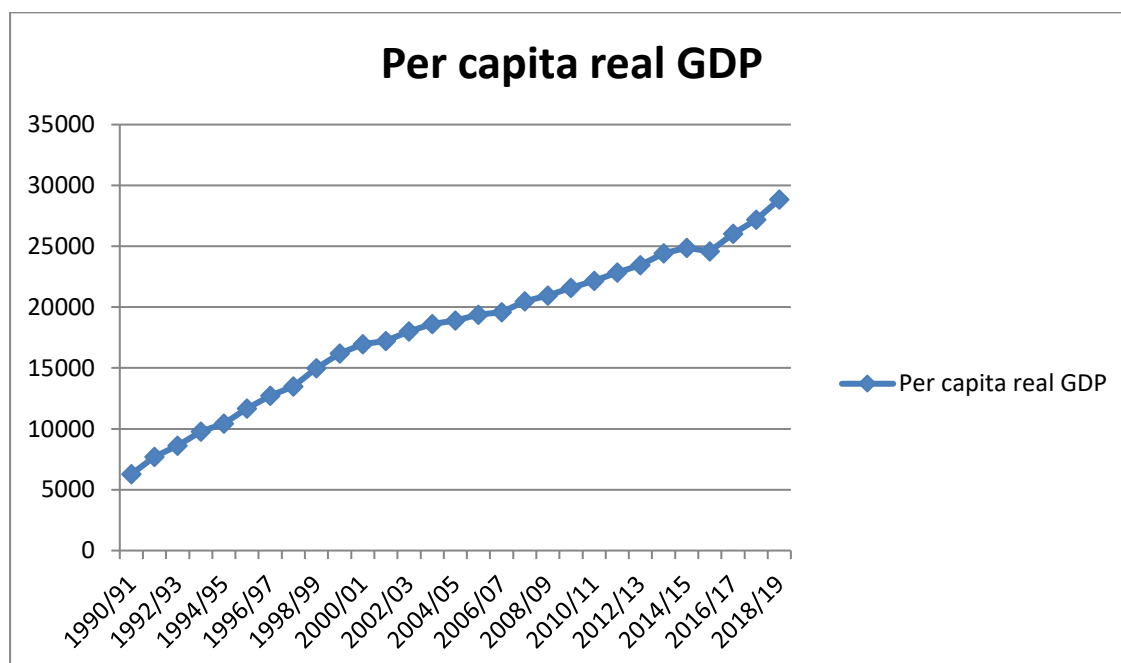
Table 4.2 Year wise per capita real GDP (in Rs.)

Fiscal Year	Per capita real GDP	Increase in % of per capita real GDP
1990/91	6277.13	-
1991/92	7709.20	22.81
1992/93	8611.98	11.71
1993/94	9775.31	13.51
1994/95	10446.57	6.87
1995/96	11677.46	11.78
1996/97	12715.57	8.89
1997/98	13478.98	6.01
1998/99	14973.59	11.09
1999/2000	16205.80	8.23
2000/01	16964.05	4.68
2001/02	17212	1.46
2002/03	18003.24	4.60
2003/04	18616.34	3.41
2004/05	18904.69	1.55
2005/06	19372.38	2.47
2006/07	19589.32	1.12
2007/08	20486.78	4.58
2008/09	20951.81	2.27
2009/10	21593.85	3.06
2010/11	22171.09	2.67
2011/12	22848.96	3.06
2012/13	23447.46	2.62
2013/14	24428.51	4.18
2014/15	24884.19	1.87
2015/16	24582.61	-1.21
2016/17	26031.60	5.89
2017/18	27187.08	4.44
2018/19	28851.66	6.12

Source: Appendix I & II

Table 4.2 shows that per capita real GDP was increased from starting period to ending period of the study i.e. per capita real GDP with Rs. 6277.13 in 1990/91 to Rs. 28851.66 in 2018/19. The highest increase in per capita real GDP was 22.81% in the year 1991/92. From the time period of 1992/93 to 1999/2000 the increase in per capita real GDP was 6% to 13% every year. But after that it reduces to 1% to 4%. From the starting period 1990/91 to 2014/15 it was increasing smoothly. But in 2015/16 it was decreased by 1.21% than previous year. After that it started to increase again with the 5.89%, 4.44 % and 6.12% of per capita real GDP in the year 2016 /17, 2017/18 and 2018/19 respectively. So, the trend of per capita real GDP in Nepal is growing at satisfactory level.

Figure 4.2 line graph showing the flow per capita real GDP in Nepal



Source: Appendix I

Figure 4.2 shows that per capita real GDP is in increasing trend.

4.1.3 The trend of workers' remittance and per capita real GDP

During the period of 29 years, volume of remittance increased 421.6 times from Rs. 2128.3 million in 1990/91 to Rs. 897300 million in 2018/19. But the per capita real GDP of the country increases only 4.6 times from Rs. 6277.13 in 1990/91 to Rs. 28851.66 in 2018/19. This implies that the increasing rate of remittance exceeded the increasing rate of per capita real GDP. Thus, the share of remittance in per capita real

GDP is also increasing. During the age of 3 decade, there has been fluctuation of inflow of both in amount and percentage.

Table 4.3 year wise growth rate of remittance and per capita real GDP

Fiscal year	Growth rate of remittance (in %)	Growth rate of per capita real GDP (in %)
1990/91	-	-
1991/92	8.84	22.81
1992/93	29.26	11.71
1993/94	15.86	13.51
1994/95	45.95	6.87
1995/96	-15.40	11.78
1996/97	30.81	8.89
1997/98	24.82	6.01
1998/99	47.64	11.09
1999/2000	22.67	8.23
2000/01	272.98	4.68
2001/02	0.68	1.46
2002/03	14.01	4.60
2003/04	8.12	3.41
2004/05	11.77	1.55
2005/06	49.16	2.47
2006/07	2.45	1.12
2007/08	42.56	4.58
2008/09	46.95	2.27
2009/10	10.51	3.06
2010/11	9.44	2.67
2011/12	41.8	3.06
2012/13	20.9	2.62
2013/14	25.01	4.18
2014/15	13.62	1.87
2015/16	7.74	-1.21
2016/17	4.6	5.89
2017/18	8.6	4.44
2018/19	18.8	6.12

Source: Appendix II

Table 4.3 shows that the growth rate of workers' remittance and per capita real GDP from the time period of 1991/92 to 2018/19. The growth of remittance and per capita real GDP were 8.84% and 22.81% respectively.

Then the growth of remittance inflow was 29.26%, 15.86% and 45.95%, whereas the growth of per capita real GDP was 11.71%, 13.51% and 6.87% during the time period of 1992/93, 1993/94 and 1995/96 respectively. After that the growth of remittance was decreased by 15.40%, whereas the growth of per capita real GDP was increased by 11.78% which implies that the per capita real GDP was impact by other variables too.

In 2000/01, the remittance income of Nepalese economy jumped very highly and increased by 272.99% but the growth of per capita real GDP was increased by only 4.68% which was 58.33 times less than growth of remittance. This confirms the literature that the remittance inflow was used more in household consumption, buying luxurious items, repayment of loans, etc. rather than investment in financial sector. Onwards, till the year 2014/15 both the growth of remittance and per capita real GDP was in increasing trend. Whereas, in 2015/16 the growth rate of per capita real GDP decreased by 1.21% despite of increase in growth of remittance by 7.74%.

During the period 2016/17, 2017/18 and 2018/19, both the growth of remittance and per capita real GDP are 4.6%, 8.6% and 18.8%, 5.89%, 4.44% and 6.12% respectively. From the table 4.3 we can conclude that there is a positive relationship between workers remittance and per capita real GDP. Remittance plays an important role in the growth of per capita real GDP. Remittance is one of the essential factors of per capita real GDP but remittance is not only the determinant of per capita real GDP as the growth of per capita real GDP was positive even when the growth of remittance was negative.

Figure 4.3 line graph showing growth rate of remittance and per capita real GDP of Nepal

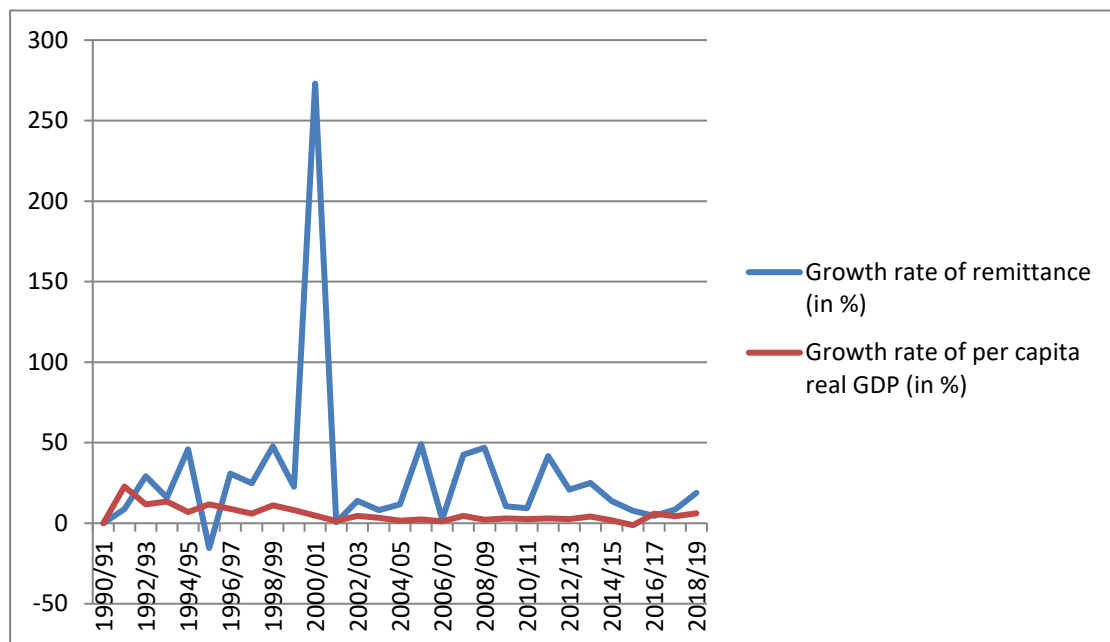


Figure 4.3 shows the line graph of relationship between remittance and per capita real GDP through growth rate. As indicate in the figure, the growth trend of remittance fell sharply in 1995/96, while per capita real GDP increased during the same period. And on the another side, the growth rate of per capita real GDP fell in 2015/16, while remittance inflow increased during the same period of time. The growth rate of remittance reached at the highest point in the year 2008/09 but the growth rate of per capita is very low in the same period. There is a high fluctuation the trend of remittance and per capita real GDP, it might be due to the use of remittance in household consumption rather than investment on assets.

4.1.4 Descriptive Statistics

Descriptive statistics are brief descriptive coefficients that summarize a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability (spread). Measures of central tendency include the mean, median, and mode, while measures of variability include the standard deviation, variance, and the minimum and maximum variables. Presentation of Minimum value, Maximum Value, mean, Standard Deviation and Coefficient of Variation of the

selected indicators of stock market development and economic growth are presented on table 4.4.

Table 4.4 Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard Deviation
Remittance	29	2128.30	897300	218345.27	275844.65
Per capita real GDP	29	6277.13	28851.66	18206.66	6153.12

Source: Appendix II

Table 4.4 shows the clear picture of the statistics of the workers' remittance and per capita real GDP. The data include the period from 1990/91 to 2018/19 of Nepal. The table shows that minimum per capita real GDP and remittance are 6277.13 and 2128.30 respectively and the maximum of per capita real GDP and remittance are 28851.66 and 897300 respectively. The Arithmetic mean of per capita real GDP is 18206.18 and remittance is 218345.27. All the data are presented in rupees. The Standard Deviation of per capita real GDP and workers' remittance are 6153.12 and 275844.65 respectively, which is also used for further analysis.

4.1.5 Correlation Analysis

Correlation coefficients between remittance and per capita real GDP are computed to determine any kind of association. The dependent variable is per capita real GDP and independent variables workers' remittance for the period of 29 years from 1990/91 to 2018/19. Table 4.3 shows correlation coefficients between the various variables of the study. The coefficients give estimates of the intercepts and the slope coefficients. The standard error column gives the standard error (the standard deviation) of the estimated regression coefficients. The correlation results are presented in the matrix form in Table 4.5.

Table 4.5 Correlation Matrix

		Remittance	Per capita real GDP
Remittance	Correlation	1	.843**
	Sig (2-tailed)		.000
	N	29	29
Per capita real GDP	Correlation	.843**	1
	Sig (2-tailed)	.000	
	N	29	29

** Correlation is significant at the 0.01 level (2- tailed).

Source: Appendix II

Table 4.5 shows the correlation coefficient between remittance and per capita real GDP is 0.843. There is highly positive correlated and significant between remittance and per capita real GDP.

4.1.6 Analysis of the Regression results

Regression results are found through the Ordinary Least Square (OLS) technique. Results presented regression analysis of remittance and per capita real GDP in Nepal.

Table 4.6 Regression coefficient

Model	Coefficient	Standard Error	T-stat	P-value
Constant	14100.15	803.64	17.55	0.000
Remittance	0.02	0.002	8.14	0.000

Source: Appendix II

The regression model can be written mathematically as:

$$\text{Per capita real GDP} = 14100.15 + 0.02X$$

Table 4.6 shows that the per capita real GDP is the positive function of remittance. It shows that coefficient $a=14100.125$ which is positive, any increase in remittance increase the per capita real GDP. This also implies that autonomous increment in per capita real GDP by 14100.15 million in every year. Since the coefficient of remittance is positive and equal to $b=0.02$. It also tells that the increase in remittance by one million at a period of time implies 0.02 million increase in the per capita real GDP for

the same time period. It also shows that the calculated t- statistics is 8.14 which were greater than the table value of 1% level of significance. This implies that there is a positive relationship between workers remittance and per capita real GDP.

Table 4.7 Significance of the regression model

Model	R	R ²	Adjusted R square	Standard error of the estimate
1	0.843	0.71	0.70	3370.22

Source: Appendix II

Table 4.7 shows that R² =0.71 implies that 71% of the total valuation in dependent variable (per capita real GDP) is explained by the independent variable (remittance).

Table 4.8 ANOVA

Model	Sum of Squares	Df	Mean Squares	F	Sig.
Regression	753429060.824	1	753429060.824	66.333	.000 ^b
Residual	306675933.510	27	11358367.908		
Total	1060104994.335	28			

Source: Appendix IV

ANOVA (analysis of variance) is used to report quantities related to the overall explanatory power and significance of the regression model. Since P-value is less than 0.01 it is concluded that there is significant relationship between workers' remittance and per capita real GDP.

Table 4.8 shows F-value of 66.333, with a corresponding P-value of 0.000, which means that overall fitness of the model is well justified. This means that the model using workers' remittance to measure per capita real GDP can be relied on to explain the variability in per capita real GDP. In general, the regression analysis results revealed that the workers remittance has relation with per capita real GDP.

4.2 Major Findings

The following findings are drawn from the research work.

- i) The remittances inflow of Nepal is highest in the year 2018/19 with Rs. 897300 million and lowest in the year 1990/91 with Rs. 2128.3 million, it leads to average of Rs. 218345.27 million. The results also indicate that

total remittance inflow of our country is in increasing trend from 1990/91 to 2018/19.

- ii) The average per capita real GDP has been revealed to be Rs. 18206.18 million. The per capita real GDP is highest in the year 2018/19 Rs. 2885166 and lowest in the year 1990/91 with Rs. 6277.13. It shows that the per capita real GDP of Nepal is in increasing trend from 1990/91 to 2018/19.
- iii) The correlation coefficient analysis of per capita real GDP to remittance is 0.843. This shows that there is positive correlated and significance relationship between remittance and per capita real GDP.
- iv) Per capita real GDP is the positive function of remittance. It is showed that coefficient $a=14100.15$ which is positive, any increase in remittances increases the per capita real GDP. This also implies the autonomous increment in per capita real GDP by Rs. 14100.15 in every year. Since the coefficient of remittance is positive and equal $b=0.019$. It also tells that the increase in remittance by 1 million at a period of time period t implies 0.019 million increase in the per capita real GDP.
- v) The calculated t-statistics 8.144 which is greater than the table value of t at 1% level of significance and 29 degree of freedom. This implies that there is significant relationship between remittance and per capita real GDP.
- vi) The regression coefficient is positive for total remittance inflow and per capita real GDP. The regression coefficient for total remittance inflow is positive and significant. Thus, the result indicates that higher the remittance inflow, higher would be the per capita real GDP. This shows that per capita real GDP is dependable.
- vii) The research also showed that the rate of growth of per capita real GDP is very low whereas growth rate of remittance is very high which implies that huge amount of remittance is used in household consumption.

CHAPTER V

CONCLUSION

This chapter deals with the discussion, conclusion and implication of the study.

5.1 Discussion

The study aimed to determine the relationship between workers' remittance and per capita real GDP in Nepal as measured by the per capita real GDP. Out of economic variable, the selected variable is workers' remittance is used for the study. To carry out the study descriptive and correlation research design has been employed. Only secondary data are used for the study as a period of 1990/91 to 2018/19. The study was carried out using the regression analysis techniques.

The estimated coefficient of worker remittance on per capita real GDP has positive sign. The casual relation tells us that, with the increase in the remittance in flow the per capita real GDP also increases. This result supported by the study of (Azam, 2013, Ojha 2017, Dhungana 2012) which showed us that workers remittance has positive relationship with economic growth (real GDP).

The estimated growth rate of per capita real GDP and remittance has positive and insignificant science. The casual relation tells that with the higher increase in workers remittance growth rate, there is a very low increase in per capita real GDP. This result supported by study of (Dhungel 2014, Das and chaudhury 2014), which showed us that the workers remittance is mostly used in basic consumption.

Hence, the increasing volume of workers remittance has showed that remittance is the significant determinant of the economic growth of Nepal. The result shows that Nepal is highly dependent on remittance.

5.2 Conclusion

The study concluded that there is a positive and significant relationship between workers remittance and per capita real GDP in Nepal. The flow of remittance income is increasing every year the finding above reveals huge prospective that the workers remittance play a significant role in the growth of per capita real GDP. Thus, a nation should encourage a tradition of saving among its citizen as a result improving investment, as savings are directly proportional to investment. Despite that industrial

and infrastructure sector is superior among the income generations; the results from this research highlight the role played by the performance of the workers remittance in the growth of per capita real GDP.

5.3 Implications

On the basis of above analysis and findings of the study, following implication can be drawn out.

- i) Nepal needs to further formulate policies that increase the level of saving in financial assets in the country rather than using them in household consumption.
- ii) The study has considered only one variable i.e. per capita real GDP. Further research can be conducted considering more variable like real GDP, Consumption, saving, investment, etc.
- iii) This study is concentrated only in Nepal; further research can be conducted considering different country.
- iv) The government and policy maker must understand that this does not work for the country in long run. While, in the short run the remittance they send might seem beneficial for the country and their families, it cannot be a long term solution.
- v) This study is based only on secondary data. Thus, the further study can make some such comprehensive by using primary source such as survey, questionnaire, special group discussion, etc. The quantitative phenomena can be considered for the research in future.

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APPENDIX I

(in Rs.)

Fiscal Year	Remittance (millions)	Real GDP (millions)	Population (millions)	Per Capita Real GDP
1990/91	2128.3	116127	18.5	6277.13
1991/92	2316.4	144933	18.8	7709.20
1992/93	2994.3	165350	19.2	8611.98
1993/94	3469.1	191596	19.6	9775.31
1994/95	5063.6	209976	20.1	10446.57
1995/96	4283.6	239388	20.5	11677.46
1996/97	5595	269570	21.2	12715.57
1997/98	6987.8	289798	21.5	13478.98
1998/99	10314.6	330018	22.04	14973.59
1999/2000	12662.3	366251	22.6	16205.80
2000/01	47216.1	393566	23.2	16964.05
2001/02	47536.3	404482	23.5	17212
2002/03	54203.3	428477	23.8	18003.24
2003/04	58587.6	448654	24.1	18616.34
2004/05	65541.2	463165	24.5	18904.69
2005/06	97688.5	480435	24.8	19372.38
2006/07	100145	493651	25.2	19589.32
2007/08	142683	522260	25.5	20486.78
2008/09	209699	542652	25.9	20951.81
2009/10	231725	565759	26.2	21593.85
2010/11	253552	587534	26.5	22171.09
2011/12	359550	614637	26.9	22848.96
2012/13	434582	637771	27.2	23447.46
2013/14	543293	674227	27.6	24428.51
2014/15	617281	694269	27.9	24884.19
2015/16	665062	695688	28.2	24582.61
2016/17	695453	747107	28.7	26031.60
2017/18	755100	791144	29.1	27187.08
2018/19	897300	851124	29.5	28851.66

Source: Economic Survey (1990/91 to 2018/19)

APPENDIX II

(in Rs.)

Fiscal year	Increase in % of remittance	Increase in % of per capita real GDP
1990/91	-	-
1991/92	8.84	22.81
1992/93	29.26	11.71
1993/94	15.86	13.51
1994/95	45.95	6.87
1995/96	-15.40	11.78
1996/97	30.81	8.89
1997/98	24.82	6.01
1998/99	47.64	11.09
1999/2000	22.67	8.23
2000/01	272.98	4.68
2001/02	0.68	1.46
2002/03	14.01	4.60
2003/04	8.12	3.41
2004/05	11.77	1.55
2005/06	49.16	2.47
2006/07	2.45	1.12
2007/08	42.56	4.58
2008/09	46.95	2.27
2009/10	10.51	3.06
2010/11	9.44	2.67
2011/12	41.8	3.06
2012/13	20.9	2.62
2013/14	25.01	4.18
2014/15	13.62	1.87
2015/16	7.74	-1.21
2016/17	4.6	5.89
2017/18	8.6	4.44
2018/19	18.8	6.12

Source: calculation from appendix I

APPENDIX III

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Remittance	29	2128.30	897300.00	218345.2759	275844.64896
Per_capita_real_GDP	29	6277.13	28851.66	18206.1772	6153.12056
Valid N (listwise)	29				

Correlations

		Remittance	Per_capita_real_GDP
Remittance	Pearson Correlation	1	.843**
	Sig. (2-tailed)		.000
	N	29	29
Per_capita_real_GDP	Pearson Correlation	.843**	1
	Sig. (2-tailed)	.000	
	N	29	29

** . Correlation is significant at the 0.01 level (2-tailed).

Regression Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	14100.154	803.637		17.545	.000
	Remittance	.019	.002	.843	8.144	.000

a. Dependent Variable: Per_capita_real_GDP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.843 ^a	.711	.700	3370.21778

a. Predictors: (Constant), Remittance

APPENDIX IV**ANOVA^a**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	753429060.824	1	753429060.824	66.333	.000 ^b
	Residual	306675933.510	27	11358367.908		
	Total	1060104994.33	28			
			5			

a. Dependent Variable: Per_capita_real_GDP

b. Predictors: (Constant), Remittance