

# **Impact of Remittance on Household Income, Consumption and Poverty Reduction of Nepal**

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## **ABSTRACT**

*The study aims to identify the impact of remittance income on household per capita income, consumption, poverty headcount ratio and poverty gap by using simple linear and log linear regression model furthermore it focused on to identify the gap of income and consumption level of upper and poor quintile population and compare the income and consumption level of different development region of Nepal by using data of Nepal living standard survey III. It was found that, remittance income has statistically significant positive impact on household per capita income and consumption. There is significant negative relationship between remittance income and proportion of poor quintile population and significant positive relationship between remittance income and richest quintile population. It indicates that due to remittance income lower quintile population was decreased significantly and richest quintile population was increased significantly. Furthermore there is inverse relationship between remittance and poverty head count ratio and poverty gap, which indicates increment on average per capita remittance income reduce the poverty headcount ratio and poverty gap.*

**Key Words:** Remittance, Poverty, Impact of Remittance, Inequality

## **1. INTRODUCTION**

Migrant economic remittances are an important and growing source of foreign funds for several developing countries. At present, these flows are more than double the official aid received by developing countries. According to the World Bank and the IMF, if remittances sent through informal channels are included, total remittances could be as much as 50 percent higher than the official record (World Bank 2010, IMF 2009). In 2010, officially recorded remittances to developing countries reached \$334 billion (Ratha, 2012, cited from World Bank 2010).

For many developing countries, remittances constitute a large source of foreign income relative to other financial flows. In 2009, in some countries economic remittances have “become as large as foreign direct investment” and, in a large group of developing countries, remittances represent a resource inflow that often exceeds a variety of other balance of payments flows (Ratha, 2012, cited from IMF 2009).

Although remittances are accounted for as a component of PCF—unlike FDI and PI, which tend to be highly volatile—remittances are much more stable and even countercyclical in the face of

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external economic shocks (Ratha, 2012, cited from Mohapatra et al. 2010, UNESCAP 2007, Grabel 2008).

Moreover, since remittances are largely personal transactions from migrants to their friends and families, they tend to be well targeted to the needs of their recipients. Their ability to reduce poverty and to promote human development is well documented and often reported as beneficial to overall development: "Remittances directly augment the income of recipient households. In addition to providing financial resources for poor households, they affect poverty and welfare through indirect multiplier effects and also macroeconomic effects" (Ratha 2012).

Nepalese international migrants reached three million in 2010, where there were only ten thousand in the early 1990s (Department of Foreign Employment [DOFE] , 2011). Remittance has increased rapidly in the last fifteen years. Officially recorded remittance stood at \$2.7 billion in 2009, that is, 22% of the total GDP. If the unrecorded amount from India to Nepal is added, then the contribution of remittances could be as high as 30 percent of GDP (World Bank, 2009). Remittance can contribute in the capital formation, hydro electricity production, banking sector, government revenue and microfinance.

Nepalese rupee has been continuously depreciating against US dollar since October 2011. As a result remittance inflow and inflation is increasing but banks are lowering interest rates in deposits and lendings. In 2010, remittance receiving households reached 55.8 percent, whereas it was only 23.4 percent in 1995. Nominal average remittances per household also jumped to 80,436 NRS (Nepalese Rupee) in 2010, while it was 15,160 NRS in 1995 (CBS, 2011). The large-scale migration and remittance inflow over the last two decades have shown Nepal to be "a remittance economy", presenting challenges for policy makers. Over the last fifteen years, the poverty head count decreased appreciably in Nepal, from 42 percent in 1995 to 31 percent in 2004 and to 25 percent in 2010. On the other hand, inequality increased from 35 to 44 percent between 1995 and 2004, before decreasing to 33 percent in 2010 (Devkota, Jeevnath. (2014), cited from CBS, 2011). In this paper we have specially addressed five research questions: What is the impact of the remittance on upper and lower quintile population? Is the poor population equally distributed in all geographical regions of Nepal? Is the impact of remittance on income and consumption similar to the lower and upper quintile population? Is there any reduction in income inequalities after 2004? What is the impact of remittances on the poverty gap and poverty head count ratio of Nepal?

### **Literature Review**

Bhadra, (2007) carried out a research on "International Labour Migration Of Nepalese Women: The Impact of Their Remittances on Poverty Reduction." and concluded that Poverty incidence in urban areas has been assessed to have declined by more than half (from 22 per cent in 1995/96 to 10 per cent in 2003/04), which is by almost 7 per cent annually. The decrease in rural poverty was modest, from 43 per cent in 1995/96 to about 35 per cent in 2003/04, or 2.5 per cent each year during the eight years between the surveys.

Pant (2008) carried out a research on "Remittance Inflows to Nepal: Economic Impact and Policy Options." The objectives of the study was to find the impact and uses of remittance to reduce poverty and create economic security for the household and community and found out that remittances do have a significant impact on poverty reduction through increasing income, smoothing consumption and easing capital constraints of the poor, they have only a marginal impact on growth operating through domestic investment and human capital development.

Sharma, and Gurung, (2009). carried out the research on " Impact of Global Economic Slowdown on Remittance Inflows and Poverty Reduction in Nepal." concluded that the incidence of poverty has declined from 42% in 1995-96 to 31% in 2003- 04, a decline of almost 11 percentage points. During 1995-96, percentage of urban population below poverty line was 21.6% which fell relatively sharply to 9.6% by 2003-04. The population below poverty line in rural areas decreased to 34.4% from 43.3%.

Banga, and Sahu,(2010).investigated on "Impact of Remittances on Poverty in Developing Countries." The results of the study showed that remittances significantly reduce poverty in recipient countries but the results are more reliable for countries with remittances greater than 5% of GDP.

Acharya, Chakra. Leon-Gonzalez, Roberto (2012) investigated on "The Impact of Remittance on Poverty and Inequality: A Micro-Simulation Study for Nepal" came to conclude that , 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. Although overall remittance increases inequality, this is less so in the second round of the survey.

Devkota (2014) carried out an investigation on "Impact of Migrants' Remittances on Poverty and Inequality in Nepal" and came up with the result that, the probability of receiving remittances is higher in richer households than poorer households. Remittances contribute twenty percentages of total poverty headcount ratio reduction in Nepal. The role of international remittance is greater than that of internal remittance in decreasing the poverty headcount, the poverty gap and the squared poverty gap. However, remittances widen inequality in Nepal.

Some theoretical overview is essential, therefore suggested to include some theories.

## 2. DATA AND METHOD

Literature review predict that remittance income contribute to lower the poverty and income inequality of the developing countries. This study intend to explore the impact of the remittance income on household per capita income and consumption, transformation of the lower quintile population and upper quintile population, poverty head count ratio and poverty gap.

**Data:** Data for this analysis come from Nepal Living Standard Survey (NLSS III).The national representation of the data lends validity to the results derived, with the power to accurately capture the temporal trend in society. (Which series of NLSS data set were used for the proposed paper)

**Data analysis:** In descriptive analysis comparative study of per capita income, consumption and poverty level of NLSS II and NLSS III data.

In inferential part the following log linear and simple linear regression model have been applied.

$$\log_{10}(PI) = \beta_0 + \beta_1 \log_{10}(PR)+E \quad \dots\dots\dots(1)$$

$$\log_{10}(HC) = \beta_0+ \beta_1\log_{10}(AARH) +E \quad \dots\dots\dots(2)$$

$$PPPQ= \beta_0 + \beta_1SRI+E \quad \dots\dots\dots(3)$$

$$PPRQ = \beta_0 + \beta_1SRI+E \quad \dots\dots\dots . (4)$$

$$PCPQ = \beta_0 + \beta_1 SRI+E \quad \dots\dots\dots (5)$$

$$PCRQ = \beta_0 + \beta_1SRI+E \quad \dots\dots\dots (6)$$

$$PHCR = \beta_0 + \beta_1APCRR+E \quad \dots\dots\dots (7)$$

$$PG = \beta_0 + \beta_1 APCRR+E \quad \dots\dots\dots (8)$$

Where,

$\beta_0$  = Constant

$\beta_1$  = Regression Coefficient

E = Error term

PI = Per Capita Income

PR = Per Capita Remittance

HC = Household Consumption

AARH = Average amount of remittance among household

PPPQ = Proportion of the population in Poorest quintile

SRI = Share of remittance on income

PPRQ = Proportion of the population in richest quintile

PCPQ = Per capita consumption of poorest quintile

PCRQ = Per capita consumption richest quintile

PHCR = Poverty head count rate

PG = Poverty gap

APCRR = Average Per capita remittance received

Before using linear regression model, normality assumption, linearity assumption and homoscedasticity assumption are examined by using residual analysis. In some cases regression assumptions are violated so that log linear regression model was applied in place of simple linear regression model.

### 3. RESULT AND DISCUSSION

#### Descriptive Findings

In fiscal year 2010/11 nominal per capita consumption of Nepalese is Rs. 34829 which is more than double the nominal per capita consumption of 2003/04. Nominal per capita consumption of poorest 20% has increased to Rs.13, 162 in 2010/11 from Rs.4, 913 in 2003/04. Gap of per capita consumption between the quintile and poorest quintile has decreased by 10% during 2004 to 2011. It indicates that gap between poorest and richest has been decreased during 2003/04 to 2010/11.

**Table 1 : State of Consumption in Nepal**

Description	Nepal Living Standards Survey		
	1995/96	2003/04	2010/11*
<b>Nominal per capita consumption (in NRs.)</b>			
All Nepal	6,802	15,848	34,829
Poorest 20% of population	2,571	4,913	13,168
Richest 20% of population	15,243	42,236	78,504
<i>Gap (Difference)</i>	<i>12,672</i>	<i>37,323</i>	<i>65,336</i>
<b>Share of nominal per capita consumption</b>			
Poorest 20% of population	7.6	6.2	7.6
Richest 20% of population	44.9	53.3	45.1
<i>Gap(Difference)</i>	<i>37.3</i>	<i>47.1</i>	<i>37.5</i>

\*Unlike in previous two surveys, the consumption in 2010/11 has been calculated on the basis of the last seven days consumption of the household.

Source: CBS, NLSSIII2010/2011

Average per capita income of Nepalese is increased to RS. 41659 in 2010/11 from Rs. 15, 162 in 2003/04, it is approximately three fold more than the income of 2003/04. Nominal per capita income of poorest quintile is increased to 15,888 in 2010/11 from Rs.4, 003 in 2003/04; it is more than threefold than the income of 2003/04. Average per capita income of richest 20% population is 10 times more than the average per capita income of poorest 20% population in 2003/04 but it is six times more in 2010/11. This difference indicates that gap between poorest and richest has been decreased gradually.

**Table 2: Nominal Income, 1995/96 – 2010/11**

Description	Nepal Living Standards Survey		
	1995/96	2003/04	2010/11
Nominal average household income (NRs.)	43,732	80,111	202,374
Nominal average per capita income (NRs.)			
All Nepal	7,690	15,162	41,659
Poorest 20% of population	2,020	4,003	15,888
Richest 20% of population	19,325	40,486	94,149
Difference	17305	36483	78,261

Source: CBS, NLSC III

On the basis of per capita consumption more than 80% of the Kathmandu urban population and more than 50% of other urban area population lies in the upper quintile. More than 37% of the far western population belongs to the poor quintile where only 0.5% of the Kathmandu valley population belongs to poor quintile. In the ecological zone approximately equal population (19%) of hill and Tarai belong to lower quintile but 24.3% of the mountain population belong to lower quintile. 28% of the population of Mid and Far western Tarai population belong to first quintile. 39% of the population of Mid-western and Far western hills belong to poorest quintile. On the basis of the per capita consumption rural-mid & far western hills, higher share of their population lies in lower quintile where Kathmandu valley and urban population higher share of their population in upper quintile.

### Inferential Findings

**Table 3: Results of Regression Models**

Model	Standar d error	R <sup>2</sup>	R <sup>2</sup> (adj)	F-ratio	P-value
$\log_{10}(\text{PI}) = 2.081 + 0.6433 \log_{10}(\text{PR})$	0.0868	64.8%	63.1%	36.87	0.000***
$\log_{10}(\text{HC}) = 2.190 + 0.6200 \log_{10}(\text{AARH})$	0.068	73.9%	72.6%	56.52	0.000***
$\text{PPPQ} = 74.39 - 1.754 \text{SRI}$	6.4	44.1%	41.3%	15.78	0.001***
$\text{PPRQ} = -85.92 + 3.459 \text{SRI}$	8.53	63.4%	61.5%	34.58	0.000***
$\text{PCPQ} = 82.67 - 2.027$	7.42	44%	41.2%	15.72	0.001***
$\text{PCRQ} = -116.9 + 4.466 \text{SRI}$	12.05	59.1%	57.1%	28.92	0.000***
$\text{PHCR} = 43.84 - 0.001935 \text{APCRR}$	6.78	53%	50.6%	22.51	0.00***
$\text{PG} = 10.22 - 0.00049 \text{APCRR}$	1.998	45.1%	42.4%	16.44	0.001***

\*\*\* Model is significant at 1 percent level of significance.

Data Source: Central Bureau of Statistics Nepal, NLSCIII

Model 1 is Regression model of per capita income versus per capita remittance. It indicates that if remittance is increased by 1% per capita income of Nepalese is increased by 0.6433% where 63% variation on the per capita income is determined by per capita remittance entered in Nepal. There is significant positive relationship between per capita remittance and per capita income.

Model 2 is regression model of household consumption versus average amount of remittance among household which indicates that if average amount of remittance among household is increased by 1% household consumption is increased by 0.62% where 72.6% variation on household consumption is explained by average amount of remittance.

Model 3 is regression model of Proportion of the population in poorest quintile versus Share of remittance on income .Above output show that if share of remittance on income is increased by 1 rupee, the population of poorest quintile is decrease by 1.75% and dependency proportion is 41.3%. It indicates that population of poorest quintile transfer towards upper quintile if the remittance income is increased. There is significant negative relationship between share on remittance on income and proportion of the population in poorest quintile.

Model 4 is Regression model of Proportion of richest quintile versus Share of remittance on income which shows that if share of the remittance on income is increased by Rs. 1 then proportion of the population of richest quintile is increased by 3.459% where 61% variation on proportion of the population of richest quintile is determined by share of remittance on income.

Model 5 is regression model of per capita consumption poorest quintile versus Share of remittance on income .The model indicates that if the share of remittance on income is increased by Rs.1 then population of per capita consumption of poorest quintile is decreased by 2.027%. i.e approximately 2% consumer population who are belong to poorest quintile shifted towards upper quintile if share of remittance on income is increased by one rupees

Model 6 is regression model of per capita consumption richest quintile versus Share of remittance on income .The model show that if share of remittance on income is increased by one rupee then population of per capita consumption of richest quintile is increased by 4.466%. It indicates that population of lower quintile is shifted towards upper quintile if share of remittance income is increased by one rupees.

Model 7 is regression model of poverty head count rate versus Average per capita remittance received.It indicates that if average per capita remittance received is increased by one rupee then poverty head count rate is decreased by 0.001935%. 53% variation on poverty headcount rate is determined by average per capita remittance received.

Model 8 is regression model of poverty gap and average per capita remittance received.

The model show that if average per capita remittance received is increased by one rupee then poverty gap is reduced by 0.0005 units. 45.1% variation on the poverty gap is explained by average per capita remittance received.

#### **4. CONCLUSION**

The study mainly focused on impact of remittance on household income consumption and poverty of Nepal by using log linear, simple linear and quintile regression model. It was found that remittance income has significant positive impact on household income and consumption. It was also found that remittance income has significant impact to transform poor population toward

upper class furthermore remittance income significantly reduce the income inequality, poverty head count ratio and poverty gap of the developing country like Nepal.

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