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The Impact of the Official Development Assistance on the Economic Growth of Nepal

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Abstract

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This study investigates the role and impact of foreign aid in Nepalese economy evaluating the relationship of foreign aid with economic growth for the period 1981-2010. Theoretical and empirical analysis was employed to analyze the data. The hypothesis is that foreign aid contributes for the economic growth through the fulfillment of fiscal constraints in Nepal. The theoretical argument is that it helps to fulfill the investment saving gap and foreign exchange gap to spurs economic growth. Gross domestic product (GDP) is regressed against foreign aid

and other variables (FDI, Investment, Interest Rate and Population). The impact of official development assistance in Nepalese economy is found statistically significant and positive. During the study period foreign aid affected the economic growth and spurred it. The investment level is still low to achieve the required growth level. The conflict in Nepal between 1996 and 2006, and specially the declaration of emergency due to the insurgency after 2001 affected the economy negatively. I found that the political instability is inhibiting Nepal from achieving the expected growth rate. But foreign aid in every political condition is working well in Nepal. Foreign aid inflow in Nepal has a significant positive impact on GDP, which, in turn, induces a higher economic growth. The foreign aid is doing its work to contribute the economic development of Nepal.

Keywords: Foreign Aid, GDP, Economic Growth, Nepal

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Abbreviations

ADB	Asian Development Bank
CBS	Central Bureau of Statistics
DFID	Department For International Development
FDI	Foreign Direct Investment
GoN	Government of Nepal
GDP	Gross Domestic Product
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
MoF	Ministry of Finance
NTA	Non Technical Assistance
ODA	Official Development Assistance
SAARC	South Asian Association for Regional Cooperation
TA	Technical Assistance
USAID	U.S. Agency for International Development
UN	Unites Nations
UNDP	United Nations Development Program
WB	The World Bank

Chapter 1: Introduction

1.1 Background of the Research

Organization for Economic Cooperation and Development (OECD) defines foreign aid as official development assistance; consisting of the grants or loans that one government or multilateral organization provide to a developing country to promote economic development and welfare (Jhingan, M.L. 2004,:P1). Foreign aid is the main part to fulfill budget deficit in developing countries to address the excess demands of people.

Developing countries need this type of aid for the mobilization and utilization of internal resources. It plays a significant role for both donor and receiver because "the poverty anywhere is a threat to prosperity everywhere" (Jhingan, M.L. 2004,:P1).

Foreign aid has been the principal source of development finance for the majority of the developing countries (Bhattarai B P, 2007). After joining in the Colombo plan[1], Nepal started to receive the foreign aid since 1952 and in the decade of 1950 many Nepalese had got scholarship in different countries to study. But the first foreign aid financed projects in Nepal were the

[1] Colombo Plan (also called Colombo Plan for Cooperative Economic Development in South and Southeast Asia) is a framework of foreign aid and technical assistance in South and Southeast Asia for economic and social development.

Sundarijal and Pharping Hydropower Projects assisted by the British government (Bhattarai B, 2007). Now foreign aid has a significant presence in the annual budget in Nepal. In 2010 818.36 million US dollars was received as foreign assistance which was 13.37% of the gross capital formation and 32.80% of the total government expenditure[2]. Foreign aid is mostly focused in agriculture, transportation, energy, education, health, drinking water and other development activities. The World Bank, The Asian Development Bank, Unites Nations, USAID, EU, DFID JAICA and KOICA are the main donors in Nepal.

Table 1: GDP Growth Rate of The study Period

Year	GDP Growth Rate				
	Total GDP	Agriculture	Manufacturing	Industry	Services
1981	8.3	10.5	3.8	11.8	2.8
1985	6.1	2.2	24.1	28.4	2.8
1990	4.6	5.8	9.8	2.8	3.4
1995	3.5	-0.3	2.0	4.0	5.6
2000	6.2	5.0	7.2	8.2	6.1
2001	4.8	4.3	3.6	3.6	6.0
2002	0.1	3.1	-5.3	0.9	-2.6
2003	3.9	3.3	0.0	3.1	4.4
2004	4.7	4.8	2.2	1.4	5.3

[2] Source: World Bank.

2005	3.5	3.5	2.6	3.0	3.1
2006	3.4	1.8	2.0	4.5	5.2
2007	3.4	1.0	2.6	3.9	3.8
2008	6.1	5.8	-0.9	1.7	7.4
2009	4.5	3.0	-1.0	-0.6	6.3
2010	4.8	2.0	3.0	4.0	6.1
Average of Study Period	4.6	3.5	6.5	6.2	4.9
Average (2001-2010)	3.9	3.3	0.9	2.6	4.5
Average During Emergency	2.84	3.17	0.52	2.00	2.70

Source: World Bank

Although it is very common that the people often blame to the ten years old Maoist insurgency in Nepal for the failure of the development process of the country because most of the macroeconomic indicators had become worse in the period of insurgency. The poor quality of the governments and their politicized administrative structure characterized by economic mismanagement should be responsible for the ineffective utilization of resources (Adhikari B, 2005).

1.2 Statement of the Problem

Nepal is a landlocked country between two neighboring economic powers India and China having high rate of economic growth. But Nepal is facing the

low about average 4% economic growth rate in recent years[3]. Nepalese economy is suffered by high population growth rate, low GDP growth, low per capita income and low rate of capital formation. Rice, Wheat and Maize are the main food crops and Black Cardamom, Tea, Coffee, Jute are main cash crops of Nepal. It's 29.71 percent of the total area is cultivable, 25.36 percent is forest, most of the rest are hills and mountainous[4]. Nepal suffered by a decade long insurgency from 1996 to 2006 which destroyed many physical infrastructures and collapsed economic infrastructures too.

After starting the transaction of the foreign aid there has been a continuous study and debate whether it is significant for economic growth or not. The effectiveness of the aid can be judged on the base of its impact in investment and economic growth. Several developed countries have contributed a lot to the overall development of Nepal. (Bhattarai B, 2005) But after looking at the economic growth in Nepal, everyone can have a question, "is aid effective?" Theoretically it is argued that the foreign aid helps to fuel the national economy. And the foreign aid is very important for the development of a country. It can contribute significantly in the economic and social development by lifting up the living standard and other development indicators of developing countries. So, it is anticipated that the aid increases the economic growth rate with the rising of capital and investment.

[3] Source: Economic Survey, Ministry of Finance, government of Nepal.

[4] Source: World Bank.

Foreign aid has occupied a large portion in the capital expenditure/ development expenditure of government of Nepal, in recent years and it is being increasing. The disbursement of foreign aid has been increasing steadily resulting an increment in public expenditure. 28 percent of the total government expenditure is expected to be occupied by foreign aid in this fiscal year 2013/14[5]. In spite of the large contribution of the foreign aid in annual budget; the economic growth rate is very low comparing to other SAARC[6] countries. The following table shows the economic growth rate of Nepal and its neighboring countries in south Asia.

Table 2: Growth Rates of the SAARC Countries

Country	Year					Average
	2006	2007	2008	2009	2010	
Afghanistan	6	14	4	21	8	10.6
Bangladesh	7	6	6	6	6	6.2
Bhutan	7	18	5	7	12	9.8
India	9	10	4	8	11	8.4
Maldives	20	11	12	-4	7	9.2

[5] Estimates of Expenditures for Fiscal Year 2013/14, government of Nepal

[6] South Asian Association for Regional Cooperation is an organization of 8 south Asian countries established in 1985 for the promotion of economic and social progress, cultural development within the South Asia region and also for friendship and co-operation with other developing countries

Nepal	**3**	**3**	**6**	**5**	**5**	**4.4**
Pakistan	6	6	2	4	4	4.4
Sri Lanka	8	7	6	4	8	6.6

Source: Econommic survey 2010-11, MoF

It is well known that the foreign capital has been playing a vital role for the economic development of developing country like Nepal. It is very hard to deny the importance of foreign capital in Nepal. Now this is a challenge to have a higher rate of economic growth in the context of the country's average growth rate of 4.4 percent in the past second half decade. The foreign aid has not been able to contribute in the development and uplifting the agricultural development of the country as expected.

But the main problem is that besides the increasing foreign aid Nepal is not making socio-economic development as expected. Almost always the government has failed to achieve the targeted economic growth. Badri P. Bhattarai says "despite the constant flow of foreign aid, and decades of aid-financed development efforts, Nepal remains one of the poorest countries in the world" (Bhattarai BP, 2002).

Thus through the proper utilization of the foreign aid, these sorts of problems have to be eradicated. For the effective utilization of the foreign aid it is necessary to study about the foreign aids, why foreign assistance is being

increased in Nepal, what type of trend, pattern and volume of aid exists in Nepal, what is the contribution of aid in the economic development of Nepal?

1.3 Purpose of the Research

The main purpose of this study is to identify the role of foreign aid in Nepalese economy and analyze the impact on economic growth during the period of 1981 to 2010. This study will seek the size and direction of the impact of foreign aid in Nepalese economy and will examine and analyze the importance and effect of foreign aid in Nepalese economy, especially in economic growth. Hence, this research work will be useful to those who are interested in this field of economic growth in Nepal. I am interested to study and analyze the foreign aid in the context of economic growth in Nepal.

1.4 Objective of the Research

The increasing flow of foreign aid and decades of aid-financed development efforts, Nepal remains very poor in the South Asia. Until the mid 1960s, almost all development projects in Nepal were financed by foreign aid. Aid as a percentage of GDP is still over 6 per cent, and aid still finances over 50 per cent of development expenditure in Nepal (Bhattarai BP, 2007). Yet very slow economic growth is achieved and almost 23 per cent of the population lives in absolute poverty. Serious doubts about the effectiveness of aid in Nepal have therefore arisen. Someone could easily make the conclusion that

foreign aid to Nepal has not been effective; however, they would not be able to say what would have happened in the absence of aid. So, the general objective of the study is to analyze the contribution of aid in the development of Nepal. However the specified objectives are as follows:

- To review the history and to examine the trend and the structure of foreign aid to Nepal.
- To find the impact of foreign aid in the economy of Nepal.
- To provide the suggestions and policy recommendations for the improvement in economic growth of Nepal.

1.5 Structure of the Research

The structure of the paper is organized as follows. Chapter1 covers the background of the research and the statement of the problem. Chapter 2 deals with the literature review. Chapter 3 describes about the research methodology. Purpose of the research, research questions, hypothesis and objective of the study, variables, research design all are included in this chapter. Chapter 4 describes about the economy and foreign aid about Nepal. Chapter 5 provides the regression result and discussion. Chapter 6 includes conclusion and recommendation.

Chapter 2: Literature Review

There have been voluminous studies in assessing the impact of foreign aid inflow in the economic development of developing countries. We can find many literatures about foreign aid and economic growth in both theoretical and empirical studies. There is conflict among the empirical literatures is weather foreign aid helps to raise economic growth or not. The result varies along with the study period, method, data resources and variables. We can find three types of empirical literatures having strong positive, strong negative and statistically insignificant impact of foreign aid on economic growth.

2.1 Theoretical Literature Reviews

Rosenstein-Rodan(1943), one of the development economist as well as a very famous writer of economics, has given in his book "Notes on the Theory of Big push" that a large effort is needed to overcome from the vicious cycle of the poverty. Poor countries are facing a scarcity of the investment to mobilize and utilize the resources. There is a large gap between needs, potentiality and investments. To fulfill this gap the foreign aid is needed which can give a big push and accelerate the economic growth. After making a huge investment, the economy becomes able to catch the way of economic development smoothly and automatically. The theory states that proceeding bit by bit is not appropriate to lead the economy in the development path. Rather than this a minimum amount of investment is needed and it is the necessary condition

through which we can establish technically interdependence industries simultaneously (Jhingan, 1997: P175).

Hansen and Trap (2000) described the the Harrod-Domar growth model as the theoretical workhorse of earlier studies of aid-saving-investment-growth empirical work (Hansen and Tarp, 2000). According to the model there is a linear relationship between output and capital stock. Capital or investment comes from the savings. If there is not enough savings then the gap can be fulfilled by foreign aid. More capital stock would give a faster economic growth.

From the beginning, the Harrod-Domar model was used to calculate the volume of finance needed to fill the gap between the available savings and the required level that must be channeled to investment to bring about the targeted growth rate (Easterly, 1998). To attain a target growth rate, a government must increase the level of savings or raise the productivity of capital. Normally savings in less developed countries are too low to pull off a target growth rate. Foreign aid can alleviate the savings constraint, raise investment and leading to a greater growth (McGillivray et al., 2005).

The two-gap model was initially explained by Bruno and Chenery (1962) and then described further more by Chenery and Strout (1966). “The Gap Model popularized by Chenery and Strout (1966) ages ago is still in use in projecting the macroeconomic impact of foreign aid” (Lawrence McMillan P.159). Actually the model is an expansion of the Harrod-Domar growth model.

Savings Gap and Foreign Exchange Gap are two separate and independent barriers for the expected growth in least developed countries (Jhingan, 1997: P472). Foreign aid can fulfill these two gaps to achieve the target growth in the economy. If the domestic saving rate is less than the required investment to get the expected growth, it is the "Saving Gaps". And if the inflows of foreign exchanges are very low to cover imports of capital goods in less developed countries, this is a "Foreign Exchange Gap". The model suggests that the both kinds of gaps can be fulfilled by the foreign aid. "With this model, analysts are able to determine the necessary level of investment to achieve a desired level of economic growth" (Lawrence McMillan, 2011: P159)

There are two components in this model. One is the relation of investment and growth and another is the relation of saving and investment. Growth is dependent to the investment and saving is the critical factor to enhance the investment. There is a gap if the investment is bellow the desired level. If a country cannot fulfill this gap through international resources (imports, exports, production) then it can be fulfilled by foreign aid inflows or foreign capital inflows so that the country can have more rapid growth. So, foreign capital inflows are the ultimate ways to lift the economy upwards.

The two gaps are explained as follows in terms of the national income accounting identities;

$$E-Y \equiv I-S \equiv M-X \equiv F$$

Where;

E= National Expenditure,

Y = National Income,

I = Investment,

S= Saving,

M= Imports,

X= Exports and

F= Net Capital Inflow.

Here I-S is the domestic savings gap and M-X is the foreign exchange gap.

There are also widespread criticisms and limitations about these two models mentioned above. The main weak point of Harrod-Domar model is its limitation in the assumption of the model. It ignores the effects of government programs[7] in economic growth and assumes the interest rate is constant which is irrelevant. The marginal propensity to consume and capital output ratios are also assumed as constants, but it can be changed along the time. (Jhingan, 1997: P 226).

The two gap model is limited on only the availability of saving and foreign exchange and does not pay attention on the importance of efficient use of

[7] The model has an assumption that "there is the absence of government interference". But in reality it is not true in developing countries where government formulates and implements various types of plans and policies to have a better growth.

these resources. Thus it assumes a 1 to 1 relation between aid inflow and investment.

Easterly (1998) found a sluggish relation between investment and growth. Only 1 country passed the test out of 138 countries. So, the unfined analysis of early theories does not sufficiently address the real analysis of the role and impact of foreign aid on investment and economic growth. Domar himself says, "*My model was intended to comment on esoteric debate on business cycle, not to derive an empirically meaningful rate of growth*" (Easterly, 1998).

From the mid-1980s, the neoclassical growth model came at the center of the discussion amongst developmental economists looking at the crucial problem of growth (Snowdon, 2009). As the contrary to the Harod-Domar model, the neoclassical growth model permits the factor input substitution and diminishing marginal returns. The basic neo-classical growth model emphasized the capital formation is an essential component for economic growth. The model also explains that total saving is the determinant of the increment of investment, which obviously spurs economic growth.

According to Snowdon (2009), long run economic growth is stimulated by exogenous factor like technological advancement, if there are diminishing returns. Technological innovation is regarded as exogenous, which can lead to the enhancement of labor productivity. In this model, the rate of investment and population growth determines the growth rate of per capita output (Jones,

2002). In the long run, technological enhancement which is exogenous by assumption, decides the growth economy (Schmidt-Hebbel et al., 1996). Accordingly, the emphasis was shifted from the link aid-saving to linkages between investment, foreign aid and growth.

The latest theory about growth is the endogenous growth theory. Romer (1994) says "endogenous growth emphasizes that economic growth is an endogenous outcome of an economic system, not the result of forces that impinge from outside". The endogenous growth model is different from the neoclassical growth model because

In these models, aid is treated as a part of total saving. However, the Solow model argues that aid is most productive when the country is poorest (Lane, 2002). Both growth models didn't dodge from criticism likewise. As Snowdon (2009) argued a considerable problem with formal growth model is that they in fact neglect other determinant of growth including the impact of history, reliance and several economic and political constraints to growth. This paper uses endogenous growth model primary because it incorporate human capital as a significant factor in determining growth rate of output possibly because it is direct input in to research or its positive externality (Rivera-Batiz and Romer 1990) .

Throughout the underlying premise is that whether aid is effective or not is an empirical question. This is not to say that theory, ranging from the early Harrod-Domar to the new growth models, has been without influence in

shaping the reduced form specification of empirical relations estimated." aid leads to an increase in total savings, although not by as much as the aid flow. Given the underlying Harrod-Domar model, the implication is that aid spurs growth. (Hansan and trap,2000 p. 3)

2.2 Empirical Literature Reviews

Kargbo (2012), examined the impact of foreign aid in Sierra Leone and found a significant relationship in promoting economic growth, after analyzing the data between 1970 and 2007 with autoregressive distributed log bunds test approach and Johansen Maximum Likelihood approach. "The evidence in the case of Sierra Leone has provided support only for the supplemental theories that foreign aid is vital in the promotion of a country's economic development. Donor intervention in Sierra Leone does not seem to have been in vain, but has proved to be largely useful instead." Writer says that this is the fact that the aid being generally effective in economic development the donors should be encouraged to continue their efforts. (Kargbo 2012: p 30-31)

The empirical model used in the study is;

$$RGDP_T = \beta_0 + \beta_a Aid_t + \beta_i PI + \beta_P Policy_t + \beta_{iq} IQl_t + \mu_t.$$

Where,

RGDP = Real GDP,

Aid = Foreign Aid, which is net ODA as a share of GDP.

PI = Private Investment as a share of GDP.

Policy = Microeconomic Policy Index,

IQl = Property Right Score.

Durbarry R, Gemmel and Greenaway (1998), Studied about the impact of foreign aid on economic growth; using Ficher-Easterly type model, with data between 1970 and 1993. They concluded that the impact of the foreign aid on economic growth is strongly positive. However the result varied according to the income level, allocation of aid and geographical location. They had taken 68 sample countries for the study and further 10 countries were excluded due to the non availability of the data. They concluded that "the greater foreign aid inflows has a beneficial effect on the growth of the least developed countries, conditional on a stable macroeconomic policy environment in those countries.

Castrillo (20011) made a study of 19 Latin American and Caribbean countries analyzing foreign aid, economic growth and institutional quality and controlled the variables like government expenditure, inflation, population growth and others. The finding failed to show a significant relationship among foreign aid, economic growth and institutional quality.

Hooker (2011) used panel data of 55 low income countries between 1995 and 2008 to study about the relationship between foreign aid and economic growth in those countries. The 7 categories of the official development assistance categorized by OECD are used as independent variables and used the regression model to find the relationship.

Pandey (2011), in her paper "International Institutions, Aid Effectiveness and Peace Building in Nepal", has described the foreign aid in Nepal in the context of ongoing peace building process after a decade long conflict. The paper explains strengths, challenges and opportunities for the effectiveness of the foreign aid. As she suggests capable and well trained human resources are needed for the effectiveness of foreign aid.

Bhattarai (2007), made an empirical analysis in foreign aid and the government's fiscal behavior in Nepal. He examined the revenue and the expenditure of the government in the period of 1975-2002. The main findings are that the foreign aid affects positively to the both development and non development expenditure of the government in long run. We have found that per capita aid, per capita revenue and per capita development and non-development expenditure are all cointegrated. He used cointegration test for the analysis.

Bista (2006) concluded that the government of Nepal is not so efficient and that makes the foreign aid inefficient. He says, “Donors are perplexed, as aid has been unable to reinforce growth in many underdeveloped countries.” The diversity of religion and language and corrupt government are the barriers of the national unity and a national effort could not be made to achieve the growth. He argues that the donors should work in the projects directly with the coordination among NGOs and local government. The central government is underestimated in his paper. Because politics is the mother of other policies

and it affects all of other sectors. It is also will not be effective to bias the central government because there is a close relationship between these two governments in Nepal. He further argues that the donors should conduct more country-specific research on problems and attributes before the disbursement of any aid.

McMillan (2011), has reviewed literatures that correlate foreign aid and economic development. This review focuses on the research studies with foreign aid and microeconomic development in the poor countries. That study concluded that there is yet no conclusive evidence that these two are positively or negatively correlated. Some literatures had concluded these two had positive and significant relation and some had founded no significant relation between them. "The basic fault in the studies, I believe, is the attempt to generalize the effect of aid on growth across all countries. Because each country has varying features, and growth is affected by other variables, which the models cannot possibly incorporate, most studies, both under the anti-aid and the pro aid literature, have been found lacking in merit." (McMillan, 2011: P164)

Easterly (2003), found that the aid can perform well in a good policy environment. He emphasizes on the varieties of institutions, cultures and histories and other non economic aspects with poor countries, which can affect the economic growth. He suggested that it is better to set more modest objective than try to buy growth by foreign aid. His idea is different from

others. Ignoring other unique, social and cultural characteristics we cannot get expected growth in poor countries.

Chatterjee and Turnovsky (2005), told that Economic growth and welfare depends on the mechanism through which a particular aid program. They concluded that the link between foreign aid, economic growth and welfare depends crucially on the mechanism through which the aid is utilized. They focused the study along with the labor forces and the types of aid as tied or untied. So, foreign aid itself is not sufficient to have economic growth in developing countries. The lack of institutions in recipient country may also inhibit the effect of foreign aid in economic growth. They further suggest that when donors decide on whether a particular aid program should be tied to an investment activity, careful attention should be paid to the recipient's opportunities for substitution in production, the elasticity of labor supply, and production externalities.

Hatemi and Irandoust (2005), Analyzed the Swedish foreign aid and the economic growth of 6 developing countries (Botswana, Ethiopia, India, Kenya, Sri Lanka and Tanzania) over the period 1974-1996. They investigate the long run elasticity relationship between foreign aid and real economic growth. Tests for panel unit roots and panel cointegration are conducted. They found the relation between these two is highly elastic and said that the foreign capital flows could have a favorable effect on real income by supplementing domestic savings.

Kurt and Cosempl (2007), analyzed the effectiveness of aid considering donor fragmentation with 95 sample countries after dividing the foreign aid in two categories as: technical assistance (TA) and non technical assistance (NTA). The major findings are non technical assistance has no significant impact and technical assistance has significant and positive impact in economic growth. Even though in those countries, where aid is highly fragmented, the technical assistance does not have such impact. They also concluded that when the level of fragmentation is high - above 73%, the partial impact of TA on growth is zero or even negative, depending on the estimation procedure.

Ekarayake and Chatrna (1996) studied about the effects of foreign aid on economic growth in developing countries in Asian, African, Latin American and Caribbean countries. They used panel data from 1980 to 2007 and found the mixed effect of foreign aid in those countries with positive and negative impacts as well. They have used real GDP per capita as a dependent and aid, population growth, investment and inflation as independent variables.

CATO Institute (2003), mentioned that country's progress depends upon its own policies and institutions. Other factors like foreign aid are not much important for development of a nation. It concludes that the economic freedom is more important to have prosperity. But it does not mentioned clearly that what type of policies and institutions should be there for development in poor countries and what the effective way is to improve them.

Chapter 3: Conceptual Framework

3.1 Research Questions

I want find out the answer of two questions through this study. The first question is, "What is the size and direction of impacts of foreign aid on the economic growth of Nepal?" And the second question is, "If the role of aid is insignificant on economic growth, how can we minimize the weaknesses to have efficiency in mobilization and utilization of foreign aid?"

This study will be performed through the analysis of economic growth rate and foreign aid in Nepal since 1981 to 2010. Gross domestic product (GDP) and foreign aid, in every forms (grants, loan, bilateral, multilateral, tied, untied) will be analyzed to search the answers of those research questions.

3.2 Hypothesis of the Research

According to the theories and models of economic development, investment is the key factor to enhance the economic growth. Based on available literatures I suppose, "Foreign aid improves the economic growth through the contribution in investment and helps the government to finance for capital which promotes the growth."

"Significant aid flows are channeled directly to beneficiaries outside the national budget in Nepal. The first national aid policy was adopted in 2002,

prior to the Paris Declaration on aid effectiveness." [8] Nepal has being participating in international initiations on the aid effectiveness. Nepal is the original signatory of Paris Declaration[9] on Aid Effectiveness, in 2005.

3.3 Definition of Variables

a. NGDP: GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.

b. CGDP (GDP per capita): is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated

[8] Development cooperation Report, Fiscal Year 2010-11, GoN, MoF.

[9] Paris Declaration sets a number of targets and objectives for both recipient and donor countries for improvement of development effectiveness of aid.

without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.

c. ODA (Net Official Development Assistance): It consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent). Net official aid refers to aid flows (net of repayments) from official donors to countries and territories in part II of the DAC list of recipients: more advanced countries of Central and Eastern Europe, the countries of the former Soviet Union, and certain advanced developing countries and territories. Official aid is provided under terms and conditions similar to those for ODA. Part II of the DAC List was abolished in 2005. The collection of data on official aid and other resource flows to Part II countries ended with 2004 data. Data are in current U.S. dollars[10]

d. FDI (Foreign direct investment): The net inflows of investment to acquire a lasting management interest (10 percent or more of voting

[10] World Bank

stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.

e. INV: The total investment made in the country in a fiscal year. Government and privet both investments are included.

f. INT: Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator.

g. POP: Population growth (annual %) is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage.

h. EME: This is a dummy variable that denotes the declaration of emergency due to the Maoist insurgency between 2001 and 2006.

3.4 Research Methodology

3.4.1 Methods of Data Collection

This study will be based on secondary data collected and published by The World Bank and The Government of Nepal, Nepal Rastra Bank (The Central Bank of Nepal), Central Bureau of Statistics and various donor agencies such as, Asian Development Bank (ADB), United Nations Development Program

(UNDP) and others. Foreign aid and foreign direct invest will be taken as the percentage of gross domestic product.

3.4.2 Research Design

Descriptive research design will be adopted for the study. The descriptive, quantitative and analytical research tools will be also used for the study. This research will have a null hypothesis as; "the foreign aid has not a significant effect in the economic growth of Nepal."

Regression equations will be analyzed and calculated which provides value of dependent variable (Nominal GDP, and GDP Per Capita in this study) for given values of independent variables (Flow of Foreign Aid, Foreign Direct Investment, Total Investment, Interest Rate and Population Growth in this study). The primary objective of the regression analysis is to show the relationship between foreign aid and GDP. For instance, after deriving regression equation one can able to find out the effect of foreign aid on GDP. For the analysis the regression models are determined as follows.

Regression equation of Gross Domestic Product (GDP) on Official Development Assistance (ODA) can be expressed as:

$$NGDP_t = \alpha + \beta_1 ODA_t + \varepsilon$$

Where,

$NGDP_t$ = (log) Nominal GDP in current US$ in time period "t"

ODA_t = (log) Total official development assistance and official aid received in current US$ in time period "t"

α, β_1 and ε are regression parameters.

Economic growth can be affected by many factors. From the literature review, main factors affecting the economic growth of Nepal are foreign direct investment, interest rate, population growth rate and investment along with foreign aid. Economic growth rate is not satisfactory in spite of the favorable changes in most of those factors. I want to include the main factors affecting economic growth in Nepal. Based on the literature review, foreign direct investment, total investment, Interest rate and population growth rate also can have a significant impact in economic growth. The political condition of a country also determines the economic growth through investment and other economic activities. Conflict is a barrier from achieving the target of economic growth. There was the Maoist insurgency in Nepal from 1996 to 2006. In 90s the movement had not widespread much. There had a dialogue between the Maoist and the government in 2000. After the dialogue had not been successful, the Maoist insurgency spread much widely because of the power accumulation made by the Maoists during the dialogue period. Government declared emergency in 2001. So I think there may be a significant effect of the emergency on GDP. So, if a dummy variable is included for that period of emergency the model finally becomes as follows.

So the nominal GDP equation can be modeled as;

$$NGDP_t = \alpha + \beta_1 ODA_t + \beta_2 FDI_t + \beta_3 INV_t + \beta_4 INT_t + \beta_5 POP_t + \beta_6 EME_t + \varepsilon \ldots 1$$

Where,

$NGDP_t$ = (log) Nominal GDP in current US$ in time period "t"

ODA_t = (log) Total official development assistance and official aid received in current US$ in time period "t"

FDI_t= (log) Foreign Direct Investment, Net Inflow in current US$ in time period "t".

INV_t = (log) Total Investment in time period “t”.

INT_t= Interest rate in time period "t".

POP_t =Population growth rate in time period "t".

Where,

α, β_1, β_2, β_3, β_4, β_5, β_6 and ε are regression parameters

The gross domestic product itself is the value of the production within a geographical region. It concerns more about the geographical boundary and location. Nominal GDP is not absolutely comparable among regions (countries). Another important indicator is the GDP Per Capita which shows the average production of people. It is comparable among countries and we can have more precise idea about the economic condition of the people of specific country. So, if we take Per Capita GDP as a dependent variable, we can have another model as;

$$CGDP_t = \alpha + \beta_1 ODA_t + \beta_2 FDI_t + \beta_3 INV_t + \beta_4 INT_t + \beta_5 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots 2$$

MAR is a dummy variable for the period 1996 to 2006 = 1, 0 otherwise.

Where,

$CGDP_t$ = (log) GDP Per Capita in current US$ in time period "t"

3.4.3 Data Processing and Analysis

In the process of data analysis, the available required data from various sources will be collected, classified and tabulated to fulfill the requirements of the study. Data will be presented in percentage when it is required. Tables, graphs, diagrams, pie charts etc will be used according to situation and requirement of the study. The aid will be calculated in different forms such as loans, grants and technical assistance and will be compared with total aid inflow in Nepal.

3.4.4 Limitation of the Study

This study will cover the period from 1981 to 2010. The Study includes the variables which are seen important from literature review to have an impact on GDP. As long as the data are available, it is tried to include more control variables to get the exact impact of the independent variables. This study excludes net remittance inflow due to unavailability of data which may have an influence on economic growth of Nepal. It is tried to retrieve the data mainly from two sources, The World Bank and The Government of Nepal.

But it is the compulsion that, for some variables, data should have to take from third source. The other main limitations of the study are:

- This study is based on the data and information available from the secondary sources.
- Sometimes data varies according to the sources as their definition and methods of collection and calculation are not identical.
- This study will be concentrated on limited scope as data and information related to the study is acquired from the secondary source.
- This study is conducted within the given short time period.

Chapter 4: Overview of Nepalese Economy

4.1 Introduction of Nepal

Nepal, officially The Federal Democratic Republic of Nepal is a landlocked country of south Asia located between two economic powers China and India. It is a mountainous country with area 141,181 square kilometer. Nepal has main three geographical regions, Mountains, Hills and Tarai, almost parallel to each other from east to west. Tarai is situated in the southern where Lumbini, the birth place of the Lord Buddha is located, and Mountains in the northern part. The middle part from east to west is occupied by Hills. The altitude varies from 60 meter to 8848 meter from the sea level. The Himalayan range in Nepal has the Mount Everest; the tallest mountain in the world and several other mountains higher than 8000 meters.

Population of Nepal is approximately 26.6 million[11] and the he average population growth rate was 1.58 percent in the first decade of 21st century[12]. The major religion is the Hindu in Nepal. There are Hindus (81.3 percent), Buddhist (9 percent), Islam (4.4 percent), Kirat (3.1 percent), Christian (1.4

[11] Source: Central Bureau of Statistics, GoN. According to the population census of 2011 the total population of Nepal is 26,494,504.

[12] World Bank data.

percent) and rest are others. The country includes 125 ethnic groups and 123 languages are spoken[13]. The official language is Nepali.

It was a Kingdom before The Constitutional Assembly declared Federal Democratic Republic of Nepal in 2008. Regarding the political system there is a multi party parliamentary system. The country is divided in 5 development regions and 75 administrative districts. A decade-long conflict ended in the country, when key stakeholders signed the Comprehensive Peace Accord in late 2006, and successfully held the Constituent Assembly election in 2008[14]. The country has since been making efforts to establish inclusive and accountable governance structures. The country is now in the process of drafting a new constitution. The politics of Nepal function within the framework of a republic with a multi-party system. Currently, the executive power is exercised by the Prime Minister and the cabinet, while legislative power is vested in the Constituent Assembly. (MoF, 2012) But the Constitutional Assembly could not give a new and complete constitution in the predetermined period and another election is scheduled for 19th November 2013.

[13] Source: Central Bureau of Statistics, Government of Nepal.

[14] There was the Maoist insurgency from 1996 to 2006 in Nepal. During this period around 15,000 people were killed and many infrastructures were destroyed.

4.2 Nepalese Economy:

Nepal lies between two economic power houses, China and India. It's economy is dependent on agriculture which has 35.8% contribution in the GDP, 25.16% people live below the absolute poverty line and 76.3% of the total households are engaged in agriculture. The unemployment rate is 2.2 percent, inactive population rate is 19.9percent and fully employed population is 70 percent.[15]

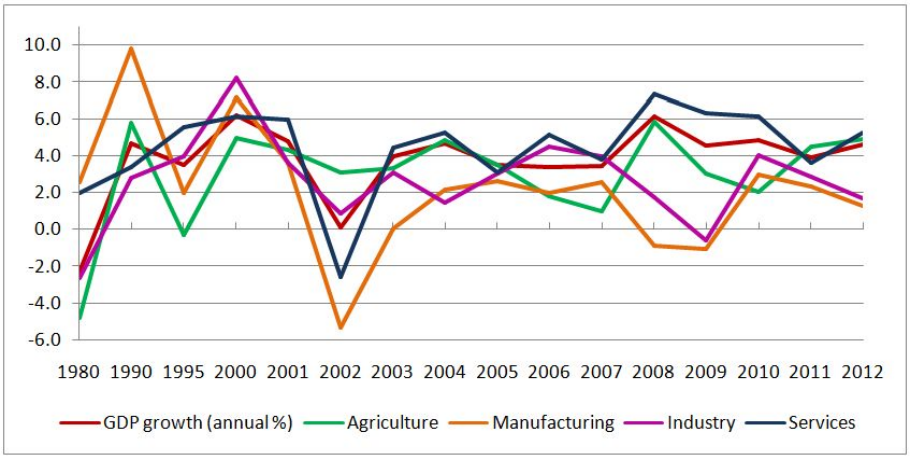
Nepal has a serial of periodic plan experience of more than 55 years and still going on. Nepal's planed economy was started in 1956 with the first five year plan. In early 90's, with eighth five year plan free market oriented liberal economic policies were introduced. Nepal started to liberalize its economy since mid 1980's through economic stabilization program (IMF). The central bank (Nepal Rastra bank) gained autonomy from the Ministry of Finance only in 2002 (Risav Bista P.117). At that time IMF conditionality was targeted for market oriented economy through the reforms like devaluation of currency, deregulating financial sector, liberalizing trade, reducing budget deficit by curtailing public expenditures and removing various subsidies (ADB/DFID/ILO, 2009). However, the unilateral economic liberalization began not before 1992. (Subedi N., 2013)

[15] Economic Survey 2012-13

Nepal became the member of World Trade Organization 2004 as the 147th member nation. It is also active in regional cooperation initiatives like SAFTA and BIMSTEC and other bilateral treaties.

In Nepal the government expenditure has three main parts, the recurrent expenditure, capital expenditure and payment of principals. Government expenditure is financed by revenue, foreign grants and loans. The portion of foreign aid is around 19 percent of total expenditure and 45 percent of the capital expenditure.

Figure 1: Economic Growth Rate (Sectorwise)



Data Source: World Bank

Government expenditure in Nepal is shown in the table 3. We can see in the table that the portion of development expenditure is continuously decreasing as regular expenditure is increasing. The structure of government expenditure

was 67 percent development and 33 percent current expenditure in the fiscal year 1980/81. But the structure has a huge change, almost opposite in the fiscal year 2009/10 with 37 percent development and 57 percent regular. In recent years the portion of development expenditure in annual budget is decreasing.

Table 3: Government Expenditure in the Study Period (NPR. In ten million)

Year	Total Expenditure	Capital Expenditure		Regular expenditure		Principal Payment	
		Amount	Percent	Amount	Percent	Amount	Percent
80-81	409.23	273.11	66.74	136.12	33.26	-	-
90-91	2354.98	1597.95	67.85	757.03	32.15	-	-
00-01	7983.51	2830.72	35.46	4583.73	57.41	569.06	7.13
05-06	11088.92	2960.66	26.70	6701.78	60.44	1426.48	12.86
06-07	13360.46	3972.99	29.74	7712.24	57.72	1675.23	12.54
07-08	16134.99	5351.61	33.17	9144.69	56.68	1638.69	10.16
08-09	21966.20	7308.90	33.27	12773.89	58.15	1883.41	8.57
09-10	25968.91	9023.77	34.75	15101.91	58.15	1843.23	7.10
10-11	29536.34	10784.75	36.51	17029.54	57.66	1722.05	5.83

Source: Economic Survey (2011-12), MoF

Since 1990 onwards, indicators of the social dimension have shown considerable improvement amidst political instability. The country's poverty

level has dropped to 25.2 percent (World Bank, 2011). Hopefully Nepal is going to achieve most of Millennium Development Goals (MDGs) by the stipulated time i.e. 2015. Nepal's total population is around 26.6 million with the annual growth rate of 1.4 percent1. It ranks 157th among 187 countries in Human Development Report 2011. Life expectancy at birth is 68.8. Revenue comprises of 15.3 percent of GDP. Remittances are estimated to be equivalent to 25 to 30 percent of GDP (Netra Subedi, 2013). The country ranks 157 out of 186 countries with human development index 0.463[16].

Nepal is a predominantly agrarian economy characterized by low productivity. Its Gross Domestic Product was US$ 19.4 billion and the GDP per capita at current prices stands at US$ 706.65 for the year 2012[17]. Industrial activities and service sectors are also gradually getting momentum. Nepal has considerable scope for harnessing its potential in hydropower, with an estimated 42,000 MW of commercially feasible capacity. Similarly, there is a huge potential of tourism. The Government's development strategy as outlined in the Three Year Plan has two major objectives: poverty alleviation and the establishment of sustainable peace through employment-centric, inclusive and equitable economic growth. (MoF, 2012)

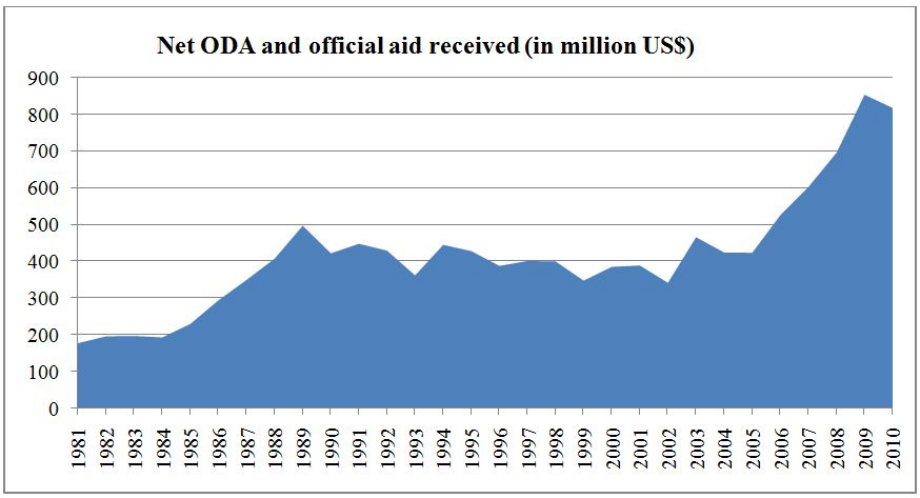
4.3 Foreign Aid in Nepal

[16] Human Development Report 2013, (UNDP)

[17] Source World Bank.

Since the first five year development plan the foreign aid has been a very important part of the public financing. The Ministry of Finance is mandated for the overall coordination including allocation with national priorities of foreign aid in Nepal[18].

Figure 2: Net ODA and Official Aid Received (in million US$)



Source: World Bank

Nepal received 178.22 million US dollars in 1981 which gradually increased to 818.36 million US dollars in 2010. Since the late 1970s, Nepal has been receiving foreign aid mostly from "Nepal Aid Group, consisting bilateral and multilateral donors (Bhattarai B, 2005). Official development assistance to Nepal increased rapidly in 80's and reached at 497.88 million dollars in 1979. But since 1990 it did not increased so rapidly but decreased for some years and country had to wait until 2006 to cross the record of aid amount of 1989.

[18] Source: Development Cooperation Report, 2010-11, Ministry of Finance, 2012

After 2005 foreign aid increased so rapidly and almost doubled in 2010 to meet 818 million dollars.

As the amount of the foreign aid increases its percentage in GDP has also increased. In the decade of 1960s the foreign aid was around 2 percent of the GDP (Bhattarai B. P. 2007). It has been increased considerably now to 5.76 percent in the first decade of this century. It is shown in the table 4 below in brief. It was more than 14 percent of GDP in 1990 and after that started to decrease gradually and came to near 5 percent of the GDP in 2010.

Table 4: Foreign aid in percentage of GDP (in million US dollar)

Period	1981-85	1986-90	1991-95	1996-00	2000-05	2005-10
Foreign Aid (current US$)	997.43	1974.38	2116.18	1925.59	2047.98	3499.07
GDP (current US$)	12319.31	16447.83	19450.61	24824.42	33792.61	60725.32
Foreign Aid (Percent of GDP	8.10	12.00	10.88	7.76	6.06	5.76

Source: World Bank[19]

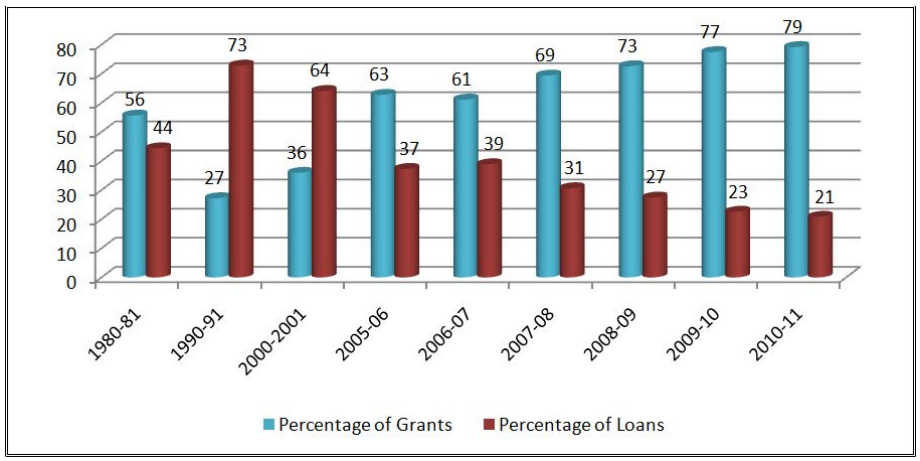
The main sectors receiving external support are education, local development, health, roads followed by drinking water, energy, agriculture, and peace and rehabilitation. Nepal receives official development assistance from over 40 donors, including 35 resident agencies. Foreign aid to Nepal is provided by

[19] Own calculation based on World Bank data.

OECD-DAC donors, International Financial Institutions (IFIs), United Nations agencies and others. These donors reported total disbursements amounting to US$ 1.08 billion in fiscal year 2010-11. Approximately 58 percent of these resources came from multilateral donors, while 36 percent came from OECD-DAC bilateral donors[20].

At the starting period of the acquisition of foreign aid grants occupied larger portion then loan. We can see in the figure 3, in 1990s foreign loan increased, comparing with grants. But now there is large change in this structure and in the fiscal year 2010/11 grants occupied 79 percent of the total foreign aid.

Figure 3: Contribution of Grants and Loans in Foreign Aid (Percentage)



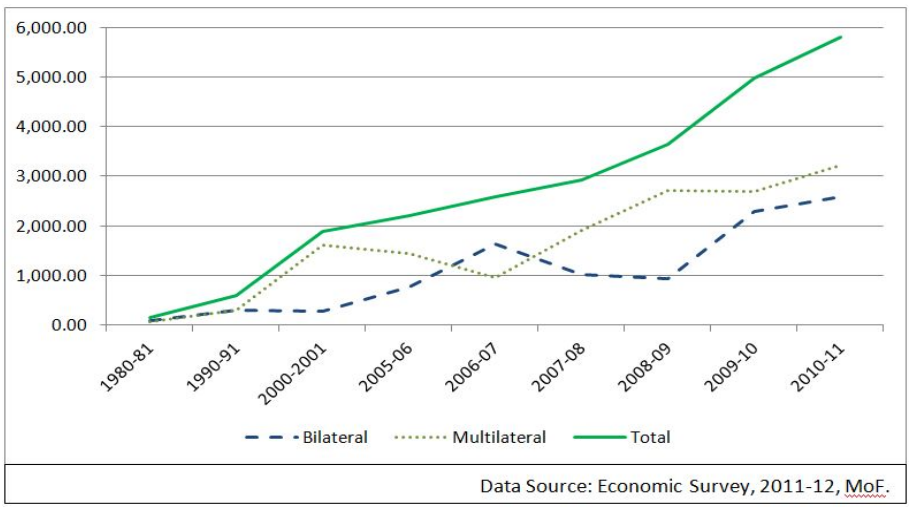
Data Source: Economic Survey, 2011-12, MoF (NPR in ten millions)

[20] Source: Development cooperation Report, 2010-11, Ministry of Finance

Aid received from both bilateral and multilateral both sources have been increased. 54 percent of total official aid was received from bilateral source in the fiscal year 1980/81. In F/Y 2000/01 it declined to 15 percent as we can see some fluctuation in the structure of source of aid. However the total aid is increasing rapidly. In the fiscal year 2010/11 Nepal received 45 percent and 55 percent of total ODA from bilateral and multilateral sources respectively.

We can see in the figure 4 that the foreign aid disbursement is increasing steadily along with the both sources bilateral and multilateral. It is relative to the political situation of Nepal. After the fiscal year 2006-07 Nepal was declared as Federal Republic eradicating the 240 years long dynasty. And in 2008 the election of the Constitutional Assembly was successfully held to formulate a new constitution of Federal Republic of Nepal. These two points of times affected the aid disbursement positively, as we can see in the figures 2 and 4.

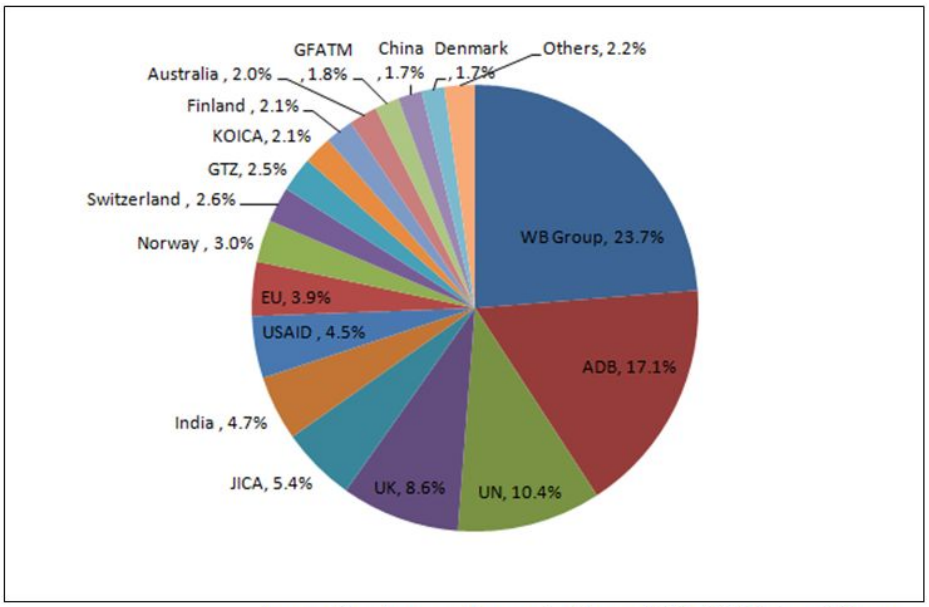
Figure 4: Foreign Aid Disbursement by Source (NPR. in ten millions.)



Still Nepal receives almost 6 percent of the GDP as the official development assistance. In the period 1986 – 90 it was the highest, 12 percent of the total GDP. Serious doubts about the effectiveness of aid in Nepal have therefore arisen. Casual observers of these facts could easily draw the conclusion that aid to Nepal has not been effective. However, they would not be able to say what would have happened in the absence of aid (Bhattarai B, 2007)

Nepal receives more than half of the official aid from three major donors, The World Bank Group, Asian Development Bank and The United Nations. Accordingly United Kingdom, Japan, India, USA, European Union, Norway, Switzerland, Germany and Korea are the main donors for economic and social development of Nepal.

Figure 5: Contribution of Donors in Foreign Aid



Source: Development Cooperation Report, 2010-11, Ministry of Finance

In many developing countries, foreign aid receipts are an important source of revenue and thus a key element in fiscal policy. Aid may be an indispensable source of financing, in particular, for expenditures in areas such as health, education, and public investment that are essential to raise the living standards of poor people in developing countries (Ale and Timothy, 2002)[21]. Foreign aid plays a major role in government expenditure in Nepal. Until mid of 1960s almost all development programs in Nepal were financed by foreign aid (Bhattarai B. P. 2007). At the starting of the periodic plan the first five year plan (1965-1960) was fully relied in foreign aid. Accordingly foreign aid has become a large portion of government expenditure in Nepal. It is almost more than 50 percent of the development expenditure is financed by foreign aid. The portion of foreign aid in total government expenditure and development expenditure was 32.8 percent and 47.9 percent in the period 1981 to 1985. The portion in total government expenditure of ODA has been decreasing after 1990s but the portion in development expenditure remains almost same and it occupies almost half of that.

Table 5: Portion of foreign aid in government expenditure

Period	Portion of Foreign Aid in Development expenditure	Portion of Foreign Aid in Total expenditure
1981-85	47.9	32.8
1986-90	59.7	39.5

[21] International Monetary Fund.

1991-95	54.3	32.8
1996-00	57.3	28.5
2000-05	51.5	20.1
2005-10	45.3	18.8

Furthermore as shown in the table 7 the annual budget has a huge deficit. The average total budget and average revenue are the 19 percent and 11percent of the GDP in the period 1981 to 2010. The contribution of revenue in total expenditure was 47 percent in 1981 to 1985 which shifted to 67 percent in the period 2006 to 2010. So we can say that the revenue collection in Nepal is being improved.

Table 6: Total Revenue, Expenditure and Deficit Financing, (NPR in 10 Millions)

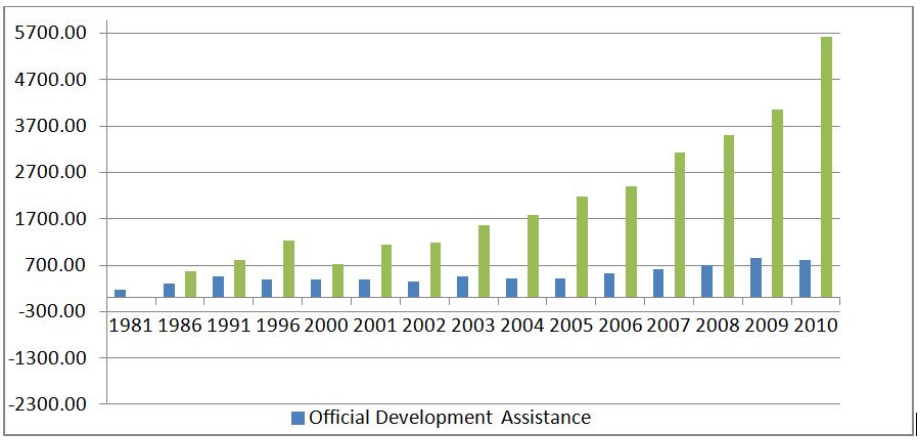
Period	Expenditure		Receipts			Deficit		Financing Deficit		Balance
	Amount	% of GDP	Revenue	% of GDP	Grants	With Grants	Without Grants	Foreign Loan	Internal Loan	
80/81-84/85	3226	19	1527	9	475	-1225	-1700	583	513	-712
85/86-89/90	7309	20	3503	9	819	-2986	-3806	2065	766	-2221
90/91-94/95	15352	19	8355	10	1393	-5604	-6998	3647	1197	-4407
95/96-99/00	27924	19	17135	11	2626	-8162	-10789	5323	1881	-6281

00/01-04/05	43592	18	28802	12	5045	-9744	-14789	4118	3843	-5901
05/06-09/10	88519	21	59104	14	11488	-17928	-29416	4844	9855	-8073

Data Source: Economic Survey (20011-12), Ministry of Finance.

The improvement in revenue collection can be realized from the figure 6 given bellow. The gap between the ODA and the total investment has been increased. It can be seen in the figure that the level investment is increasing faster than the ODA. So, the domestic capital formation is being well.

Figure 6: Foreign aid and Total investment (dollar in millions)

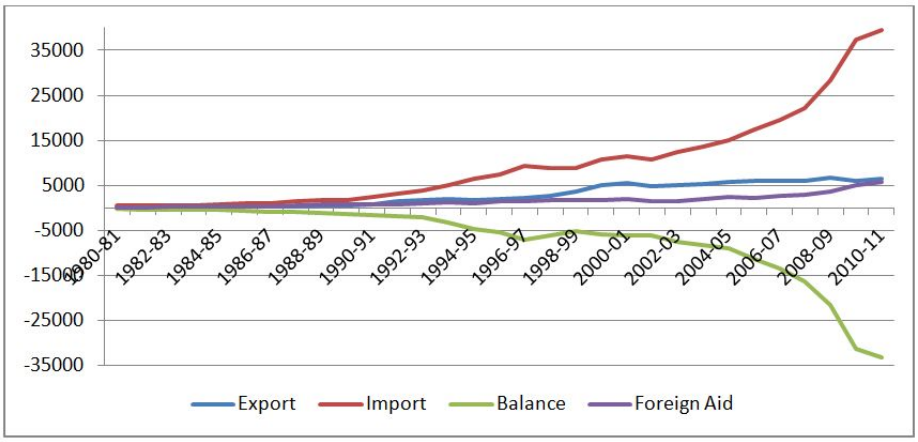


Source :World Bank

The structure of export and import shows a situation of dejection. The gap between export and import is being widened continuously. We can see a consecutive increment in the import that makes foreign exchange negative. After 2001 import went up steadily and it could not be recovered with the

export because export has not been increased significantly as seen in the figure.

Figure 7: Foreign Aid and Foreign Exchange



Source: Economic Survey 2011-12 (NPR in 10 Million)

Table 7: Foreign Aid and Foreign Exchange

Year	Export		Import		Balance	
	Amount	% of GDP	Amount	% of GDP	Amount	% of GDP
1980-81	160.87	6.790916	442.82	18.69306	-281.95	11.90215
1982-83	113.2	3.577297	631.4	19.95323	-518.2	16.37593
1984-85	274.06	6.166828	774.21	17.42108	-500.15	11.25425
1986-87	301.14	4.925417	1090.52	17.83644	-789.38	12.91102
1988-89	419.53	4.887861	1626.37	18.94852	-1206.84	14.06065
1990-91	738.75	6.36157	2322.65	20.00095	-1583.9	13.63938
1992-93	1726.65	10.44239	3920.56	23.71067	-2193.91	13.26828

1994-95	1763.92	8.400659	6367.95	30.32733	-4604.03	21.92667
1996-97	2263.65	8.397262	9355.34	34.70468	-7091.69	26.30742
1998-99	3567.63	10.81041	8752.53	26.52137	-5184.9	15.71096
2000-01	5565.41	13.08111	11568.72	27.19147	-6003.31	14.11036
2002-03	4993.06	10.544	12435.21	26.25983	-7442.15	15.71582
2004-05	5870.57	10.36143	14947.36	26.38178	-9076.79	16.02034
2005-06	6023.41	9.555963	17378.03	27.56973	-11354.6	18.01377
2006-07	5938.31	8.515366	19469.46	27.91865	-13531.2	19.40328
2007-08	5926.65	7.603709	22193.77	28.47392	-16267.1	20.87021
2008-09	6769.75	7.210376	28446.96	30.2985	-21677.2	23.08813
2010-11	6433.85	4.993221	39617.55	30.74663	-33183.7	25.7534
Source: Economic Survey 2011-12(NPR in 10 Million)						

Chapter 5: Model Specification, Estimation Equations and Results

5.1 Specification of the Models

The nominal GDP equation is modeled as following,

$$NGDP_t = \alpha + \beta_1 ODA_t + \beta_2 FDI_t + \beta_3 INV_t + \beta_4 INT_t + \beta_5 POP_t + \beta_6 EME_t + \varepsilon \ldots 1$$

MAR is a dummy variable for the period 1996 to 2006 = 1, 0 otherwise.

The GDP Per Capita equation is modeled as following,

$$CGDP_t = \alpha + \beta_1 ODA_t + \beta_2 FDI_t + \beta_3 INV_t + \beta_4 INT_t + \beta_5 EME_t + \varepsilon \quad 2$$

MAR is a dummy variable for the period 1996 to 2006 = 1, 0 otherwise.

Where,

$NGDP_t$ = (log) GDP in current US$ in time period "t"

$CGDP_t$ = (log) GDP per capita in current US$ in time period "t"

FDI_t= (log) Foreign Direct Investment, Net Inflow in current US$ in time period "t".

INV_t = (log) Total Investment in time period “t”.

INT_t= Interest rate in time period "t".

POP_t =Population growth rate in time period "t".

MAR_t is the dummy variable for the period 2001 to 2006 1, 0 otherwise.

5.2 Expected Sign of Variables.

1.2.1 Foreign Aid: The independent variable Foreign Aid (ODA_t)is the total official assistance and expected to fill the gap of economy to spur the economic growth. Since studies about the official development assistance have not reached to consensus on the impact on economic growth, it is hard to predict the sign of the variable. But my expectation is the foreign aid is likely to have a positive sign in both models.

1.2.2 Foreign Direct Investment: The variable foreign direct investment (FDI) is expected to have a positive sign in both models. There is a widespread belief among policymakers that foreign direct investment (FDI) enhances the productivity of host countries and promotes economic development. This belief stems from the fact that FDI not only provides direct capital financing but also creates positive externalities via the adoption of foreign technology.

1.2.3 Investment: In Harrod Domar and the conventional neoclassical growth model advocates the role of capital formation on growth and show that the investment is the core variable. The expected sign of the independent variable investment (INV_t) in both models is positive.

1.2.4 Interest Rate: INT denotes the Real interest rate, which is the lending interest rate adjusted for inflation as measured by the GDP deflator. A. Das, A. K. Shrivastava and H. Joshi (2013) concluded that lower real interest rates can stimulate growth and investment[22]. I expect that the variable INT will have a negative sign.

1.2.5 Population: There is no consensus about the impact of population in economic growth. But it is likely to increase the total output but may decrease the per capita GDP when the population increases and so here the sign of the variable POP is expected to have a positive sign in model 1 and negative sign in model 2.

1.2.6 Emergency: There was a Maoist insurgency in Nepal between 1996 and 2006 which ended in 2006 with a comprehensive peace accord among major political parties and Maoist. Since 2001 the government declared an emergency in the country due to the insurgency. The variable EME is a dummy variable to examine the impact of emergency on economic growth. It is expected that the variable EME has a negative sign in both models.

A regression is run with dependent and explanatory variables for both models using SAS 9.3. All the explanatory variables are regressed against nominal

[22] http://rbidocs.rbi.org.in/rdocs/publications/PDFs/IDGSR08082013.pdf

GDP and per capita GDP. The result from SAS is displayed as follows in table 8.

5.3 Results of Empirical Analysis

Table 8: Regression result for Model 1

Number of Observations Used	30

Variable	Parameter Estimate	Standard Error	t Value
ODA_t	0.35251***	0.08071	4.37
FDI_t	0.06895**	0.02830	2.44
INV_t	0.04924*	0.02721	1.81
INT_t	-0.03248***	0.00435	-7.47
POP_t	-0.09344***	0.02586	-3.61
EME_t	-0.06437**	0.02648	-2.43

R^2: 0.9796 Adjusted R^2: 0.9742 F Value : 183.67 Durbin-Watson Statistic: 2.138	Significance codes: ***: significant at 1% level ** : significant at 5% level *: significant at 10% level

In the model 1, The Adjusted R^2 Value is 0.9742 which can be considered as a very high. So the dependent variable is well explained by the explanatory variables.

Foreign aid has a statistically significant relation with the gross domestic product. As expected it has a very high positive relationship with GDP with an estimated coefficient of 0.35 at 1% level of significant.

Foreign direct investment is also has a significant relation to GDP with an estimated coefficient 0.06, at 5% significance level.

Total investment also has the positive and significant relationship with gross domestic product, with 10% significance level and estimated coefficient 0.04.

Interest rate is also associated with GDP and has a significant relation. As expected it has negative relation with estimated coefficient -0.09 with 1% significance level. Population growth rate has negative and significant relation with GDP at 1% level of significant and -0.09 estimated coefficient.

EME is a dummy variable included to see whether it has any association of the declaration of emergency with GDP or not during the period of declaration. And it has statistically significant and negative relation with GDP as expected.

In the model 2, here we can see in the table 9 the Adjusted R^2 is 0.8911 which implies that the there is no doubt that the model is good. ODA has

significantly contributed on GDP per capita and it has coefficient 0.27 at the 10% level of significant.

FDI and investment have insignificant impact on per capita GDP. But interest rate has a very highly significant relation with per capita GDP with a coefficient -0.03 at the 1% significance level.

The emergency period was bad for per capita GDP too. So, the declaration of emergency has affected per capita GDP negatively during the study period.

Table 9: Regression result for Model 2

Number of Observations Used	30

Variable	**Parameter Estimate**	**Standard Error**	**t Value**
ODA_t	0.27128*	0.11076	2.45
FDI_t	0.04868	0.03885	1.25
INV_t	0.01964	0.03736	0.53
INT_t	-0.02818***	0.00456	-6.18
EME_t	-0.08135*	0.03577	-2.27
R^2: 0.9098 Adjusted R^2: 0.8911 F Value : 48.44 Durbin-Watson Statistic: 2.300		Significance codes: ***: significant at 1% level ** : significant at 5% level *: significant at 10% level	

5.4 Discussion of the Result

From the expectation the result is not much far deviated. Official Development Assistance (ODA) has a highly significant and positive impact to all both nominal per capita GDP. So the null hypothesis is rejected. Regarding to the research questions, the answer of the first question is positive. That means the ODA has a high and positive relation with both GDP.

Interest rate has negative significant impact in both models. If the interest rate increases the investor hesitate to invest ant that directly affects the GDP.

Foreign Direct Investment (FDI) and total investment have a positive and significant impact on nominal GDP but insignificant on per capita GDP. That is as expected in model but the magnitude of the effect seems smaller. So improvement is needed to attract more foreign capital inflow. Investors always concerns with the return of their investment. Both of them are insignificant in the second model. That means FDI and investment cannot influence per capita GDP. It is associated with the population growth which has direct negative relation with GDP per capita. That means either the investment and FDI are still insufficient or the population growth is still high. The average population growth rate was 2.1 in the study period which can be considered as a very high growth rate.

So, the existing size of the investment could not affect the Per Capita GDP. On the other hand the increasing demand of automobiles, gold and housing in the study period affected the impact of investment. The increasing portion of investment in those sectors is comparatively unproductive, because it contributes less to create employments.

The population growth has same impact as interest rates on GDP. Per Capita GDP is calculated by dividing the total GDP by midyear population. So, higher population lowers the GDP Per Capita. The nominal GDP is also decreased as population grows. Population grows in can have two causes. (i) Either the fertility rate is increased or the mortality rate is decreased, (ii) the life expectancy became higher. In both cases the economically inactive population is increased.

Among the economically active population there is a large portion of people who go abroad for foreign employment. The total number of workers gone for foreign employment during the period between FY 1994/95 and FY 2011/12 has reached 2,437,111. Of the total number of 2,437,111 foreign employment bound Nepalese workers in FY 2011/12, Malaysia is the first destination with 773,940 workers followed by Qatar with 690,395, Saudi Arabia with 492,896 and United Arab Emirates with 313,461 workers.[23] The contribution of the young and energetic people is made outside the country. This may happens due to the lack of the

[23] Economic Survey 2012-13, MoF.

opportunity of employment inside national boundary. The opportunity of employment is directly related to the level and structure of the investment and the ability and education of people.

As expected the political situation of Nepal has a high negative influence in the economic growth. The emergency due to the insurgency affected Nepalese economy badly. We can see in table 1 that after the peace accord in 2006 the economic growth rate has improved. But the economic crisis of 2008 affected the manufacturing sectors growth negatively and made it negative in 2008 and 1009. We can see in the figure 2 that the ODA has been increased rapidly and steadily after the comprehensive peace accord, eradication of the King's regime and election of constitutional Assembly.

Chapter 6: Conclusion and Recommendation

The impact of official development assistance in nominal and per capita gross domestic product is examined. It is found that the foreign aid has a close association with significant high positive relation with both gross domestic products. But the level of investment is still low and is not able to improve per capita GDP. So, it is concluded that the foreign aid is doing its work to contribute the economic development of Nepal. There is no any problem in foreign aid which lowers the economic growth. Improvements are needed in other sectors to have better result in growth.

FDI and Investment have insignificant impact on per capita GDP. Per capita GDP is directly related with population. So the population growth was high in the study period and the existing investment could not have statistically significant effect on per capita GDP. The investment should be higher or the population growth should be lower to have a positive impact on per capita GDP. Another important way of solution is, the structure of the investment should be transformed to have more investment in comparatively productive sector which can generate more employment.

Another important fact is proved that the Maoist insurgency in Nepal had badly affected per capita GDP and nominal GDP in Nepalese economy during the period of emergency. Now it is being recovered when this insurgency is ended with a peace agreement. Nepal would enhance the growth more speedily after having new constitution and stability.

Nepal is now in the process of peace building and formulating new constitution. It is very important that how the process will be accomplished, for the further progress in economic development. “International institutions in Nepal currently struggle to effectively tackle the underlying structural, political and security obstacles to ensure aid effectively supports peace and development. There are relatively few initiatives seeking to address the political framework conditions required for the effective implementation of peace and development. One of the most serious consequences of the weak political framework is that there is considerable political party interference in the distribution of state resources, development budgets and delivery of basic services such as security and justice” (Pandey, N., 2011).

Population affected the growth of Nepal negatively. So, we need to control the population growth. The outflow of manpower is unfavorable for the development. The opportunities of employment should be created inside the country. Vocational professional education as well as training will transfer the structure of manpower to productive. Investment has insignificant effect on growth means the investment is taking place in unproductive sector. It is necessary to have a transform in the structure of the investment so that it can generate more employments. Again that matter goes to the political condition. Sound political condition with stability can do the positive change on those all.

The improvements are needed in other sectors too, such as governance, corruption and institutions. “In spite of the continuous inflow of foreign aid,

there has not been a significant reduction of poverty because Nepal's aid absorptive capacity remains extremely low" (Adhikari B., 2005). So efforts should be made to improve the productivity and skill of the people. The government has been changed 22 times in the last two decades. That reflects the political instability of Nepal. "Further, if aid's impact on the country's growth is to be maintained or its magnitude even to be improved, it is recommended that efforts towards a politically stable state and the promotion of democratization be pursued" (Philip M.K. 2012). So it is the precondition for development to have a stable government.

Here, in this study, it is seen that the investment is low and the political condition is also affecting the economic growth negatively. One reason of this is; the political situation which is lowering the investment. Stable and strong government with sound governance capacity is needed for the investment friendly environment. Ultimately everything about development is attached with politics. Without a stable government, peace and security other efforts of development cannot achieve the desired and targeted goal.

References

Adhikari, B P (2005), A History of Japanese Official Development Assistance to Nepal, ….. p73-96.

Alfaro, L., Chanda, A., Sebnem, K-O., Sayek, S. (2006), How does foreign direct investment promote economic growth? *National Bureau of Economic Research, Cambridge.*

Azeta C. and Swinnen F.M. (2003), The Impact of Aid on Economic Growth in Transition Economy: An Empirical Study, *Research Group on Food Policy, Transition & Development (PRG-Leuven.*

Bhattarai, B P (2007), Foreign Aid and Government's Fiscal Behaviour in Nepal : An Empirical analysis, *Economic Analysis & Policy*, Vol.37 No.1, March 2007, PP 41-60.

Bista, R., (2006), Foreign Aid Policy and Its Growth Effect in Nepal, *EconoQuantum, Economics and Business Journal* (Vol-3, No.1, PP 109-141.)

Boone,P. (1995), Politics and the Effectiveness of Foreign Aid, *Centre for Economic Performance. Paper no.*

Castrillo, Anna (2011), Foreign Aid's Impact on Economic Growth: Condition on Accountable Institutions*? Louisiana State University and Agricultural and Mechanical College.*

CATO Handbook for Congress (2003), CATO Institute of Washington DC USA.

Chatterjee, s., & Turnovsky, S. J., (2005) "Foreign Aid and Economic Growth: The Role of Flexible Labor Supply." Revised Version.

Chenery, H. B. & Strout, A. M. (1966). Foreign assistance and economic development. *Department of State Agency for International Development*, Washington, D. C.

Citizen Survey 2013: Nepal in Transition (2013), Nepal Democracy Survey Round III, *International Institute for Democracy and Electoral Assistance*

DAC Statistical Reporting Directives (2010), Organization for Economic Co-operation and Development,

Dollar, D. & Kraay, A.(2002), Growth Is Good for the Poor, *Forthcoming: Journal of Economic Growth*, Development Research Group, The World Bank.

Durbarry, R., Gemmell N and Greenaway D. (1998), New Evidence on the Impact of Foreign Aid on Economic Growth, *Centre for Research in Economic Development and International Trade*, University of Nottingham.

Easterly W. (2003), Can Foreign Aid Buy Growth?, *Journal of Economic Perspectives* (Vol-17,Number-3) PP 23-28

Easterly, W. (2002). Growth in Ethiopia: retrospect and prospect. *V Washington DC: Center for Global Development Institute for International Economics*.

Easterly, W. (1999). The ghost of financing gap: testing the growth model used in the international financial institutions. *Journal of Development Economics,* 60, pp. 423-438

Easterly, W. (1998). The quest for growth. *How we wandered the tropics trying to figure out how to make poor countries rich. The World Bank.*

Economic Survey (Different volumes and Numbers), *MoF, Government of Nepal*.

Ekarayake, E M and Chatrna, D, The Effect of Foreign Aid on Economic Growth in Developing Countries, *Journal of International Business and Cultural Studies,*

Estimates of Expenditures for Fiscal Year 2013/14, *government of Nepal*

Hansan, H. & Tarp, F. (2000), Aid and Growth Regressions, *Centre for Research in Economic Development and International Trade, University of Nottingham*

Hatmi-J, Abdulnasser and Inandoust, Manuchehr (2005), Foreign Aid and Economic Growth: New evidences from panel co-integration, Journal of Economic Development, Volume 30, number 1, Revised Version 2005.

Hansen, H. & Tarp, F. (2000). Policy Arena Aid Effectiveness Disputed. *Journal of International Development*, 12, pp. 375-398

Human Development Report 2013, *United Nations Development Programme* (UNDP)

Jhingan, M L, The Economics of Development and Planning, 37th Edition 2004.

Jones, C. (2002). introduction To Economic Growth 2nd Edition.

Kargbo, P.M. (2012), Impact of Foreign Aid on Economic Growth in Sierra Leone, *World Institute of Development Economics Research*, Unites Nations University.

Kurt, A. and Kosempel, S. (2007), Foreign Aid, Donor Fragmentation, and Economic Growth,

Lane, T. D. (2002). Aid and Fiscal Management. *IMF Working Papers*.

McMillan, L. (2011), Foreign Aid and Economic Development, *School of Doctoral Studies (European Union) Journal*, PP 158-165

McGillivray, M., Feeny, S., Hermes, N. & Lensink, R. (2005), Controversies over the impact of development aid: it works; it doesn't; it can, but that depends …, *World InstituteforDevelopment Economics Research.*

Moreira, S. B. (2005), Evaluating the Impact of Foreign Aid in Economic Growth: A Cross-Country Study, *Journal of Economic Development*.

Pandey, N. (2011) Insights: International Institutions, Aid Effectiveness and Peace Building in Nepal, *International Alert.*

Policy Development and Review Department, (207), Aid Inflows—The Role of the Fund and Operational Issues for Program Design2007, *International Monetary Fund.*

Radelet, S., Clemens, M. & Bhavnani, R. (2004), Aid and Growth: The Current Debate and Some New Evidence, *Center for Global Development.*

Rivera-Batiz, L. A. & Romer, P. M. (1990). Economic integration and endogenous growth. *National Bureau of Economic Research.*

Rodan, R (1957) "Notes on the Theory of Big Push", *Center for International Studies, Massachusetts Institute of Technology*

ROMER, P. M. (1994). The origins of endogenous growth. *The Journal of Economic Perspectives,* 8, pp. 3-22.

Schmidt-Hebbel, K., Serven, L. & Solimano, A. (1996). Saving and investment: paradigms, puzzles, policies. *The World Bank Research Observer,* 11, pp. 87-117.

Snowdon, B. (2009). The Solow model, poverty traps, and the foreign aid debate. *History of Political Economy,* 41, pp. 241-262.

Subedi, N., (2013), Do Twin Deficits Exist in Nepal? (An Empirical analysis by Using of VECM), Graduate School of International Studies, Ajou University, Korea.

Upadhyaya H P (2013), The Effect of Gender Quota on Female Participation in Civil Service: A Study on the Inclusion Policy of Nepal, *GMPA, GSPA,Seoul National University*.

Websites and links

www.cbs.gov.np (Central Bureau of statistics, Government of Nepal)

www.mof.gov.np (Ministry of Finance, Government of Nepal)

www.nrb.org.np (Nepal Rasta Bank, The Central Bank of Nepal)

http://rbidocs.rbi.org.in/rdocs/publications/PDFs/IDGSR08082013.pdf

http://www.oecd.org/

국문초록

공적개발원조가 네팔의 경제성장에 미치는 영향

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본 연구는 네팔의 경제 발전에 있어 대외원조의 역할과 그 영향을 탐색해보고자 1981년부터 2010년까지 경제성장과 대외원조의 관계를 평가하였다. 자료분석을 위해 이론적 검토와 실증분석을 실시하였다. 연구가설은 대외원조가 재정 제약을 완화함으로써 경제성장에 기여한다는 것이다. 이론적인 주장에 따르면 대외원조가 저축과 투자의 부족분을 채우고 외화 환율의 차이를 줄여서 경제성장을 촉진한다는 것이다. 분석을 위해서 국내총생산을 종속변수로 하고 대외원조를 독립변수로 설정하였으며 그 외 다른 변수들, 예를 들어 투자, 이자율, 인구 등을 통제변수로 하여 회귀분석을 실시하였다. 대외원조가 네팔의 경제성장에 미친 영향은 통계적으로 유의한 수준에서 긍정적인 것으로 나타났다. 다시 말해, 지난 20여 년 동안 대외원조가 네팔의 경제성장에 기여한 것이라 볼 수 있다. 그러나 목표로 하는 경제성장 수준에 도달하기에는 여전히 투자수준이 낮다. 네팔에서 1996년에서 2006년 사이 내전이 끊이지 않았으며 2001년의 반란으로 인한 긴급사태 등이 발생했는데 이러한 사건들은 경제에 부정적인 영향을 미쳤다. 정치적 불안정성이 네팔의 경제성장을 가로막는 장애요인이라고 할 수 있다. 그러나 정치적 조건에도 불구하고 대외원조는 네팔에서 제대로

작동하고 있는 것으로 보인다. 대외원조 유입이 국내총생산에 유의미한 수준에서 긍정적인 영향을 미쳤으며 이는 나아가 더 높은 경제성장을 유인하였다. 따라서 네팔의 경제발전에 대외원조가 기여했다는 결론을 도출하였다.

주요어: 대외원조, 국내총생산, 경제성장, 네팔

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