

# Mekong Institute

Research Working Paper Series 2014



The Impact of Official Development Assistance  
on Economic Growth in Lao PDR

Vilaylack SOUVANNALETH



PAPER NO. 6 / 2014

**Mekong Institute**  
Research Working Paper Series 2014

# **The Impact of Official Development Assistance on Economic Growth in Lao PDR**

**Vilaylack SOUVANNALETH**

December, 2014

**Vilaylack SOUVANNALETH** – received a scholarship to pursue her master’s degree in International Economics in 2012 at the Faculty of Economics and Business Management, National University of Laos (NUoL), Lao PDR. She is currently working as an academic official at the Inspection Department, Ministry of Foreign Affairs of Lao PDR.

This publication of Working Paper Series is part of the Mekong Institute – New Zealand Ambassador’s Scholarship (MINZAS) program. The project and the papers published under this series are part of a capacity-building program to enhance the research skills of young researchers in the GMS countries.

The findings, interpretations, and conclusions expressed in this report are entirely those of the authors and do not necessarily reflect the views of Mekong Institute or its donors/sponsors. Mekong Institute does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequences of their use.

For more information, please contact the Communications and Knowledge Management Department of Mekong Institute, Khon Kaen, Thailand.

Telephone: +66 43 202411-2

Fax: + 66 43 343131

Email: [library@mekonginstitute.org](mailto:library@mekonginstitute.org)

**Technical Editors:** Dr. Alay PHONVIXAY, Lecturer, Faculty of Economics and Business Management, National University of Laos, Lao PDR  
Dr. Nittana SOUTHISENG, Program Specialist, Mekong Institute

**Language Editor:** Dr. Vilailuk Tiranutti

**MINZAS Program Coordinator:** Mr. Seang Sopheak, Project Coordinator, Mekong Institute

**Comments on this paper should be sent to the author**

**Vilaylack SOUVANNALETH:** National University of Laos (NUoL), Dongdok Campus, Xaythany District, Vientiane Capital, Lao PDR. Tel: + 856-20-29284949, E-mail: [vilaylack.svnl@gmail.com](mailto:vilaylack.svnl@gmail.com)

**or**

**Communications and Knowledge Management Department, Mekong Institute**

## Table of Contents

<b>List of Abbreviations</b>	<b>v</b>
<b>List of Figures</b>	<b>vi</b>
<b>List of Tables</b>	<b>vii</b>
<b>Acknowledgements</b>	<b>viii</b>
<b>Abstract</b>	<b>ix</b>
<b>1. Introduction</b>	<b>1</b>
1.1. Overview of Official Development Assistance	1
1.2. Characteristics of Lao Economy and National Development	3
1.3. Significance of Issues	5
1.4. Research Objectives	8
1.5. Research Questions	8
1.6. Scope of the Study	8
1.7. Significance of the Study	8
1.8. Limitations	9
1.9. Definition of Key Terms	9
<b>2. Review of Literature</b>	<b>10</b>
2.1. Theoretical Reviews	10
2.2. Empirical Reviews	12
<b>3. Research Methodology</b>	<b>15</b>
3.1. Methodology	15
3.2. Data Sources	18
<b>4. Results and Discussion</b>	<b>19</b>
4.1. Official Development Assistance in Lao PDR	19
4.2. Official Development Assistance's Shares by Sectors in Lao PDR	20
4.3. Official Development Assistances' Donors to Lao PDR	21
4.4. Impact of Official Development Assistance on Economic Growth in Lao PDR	23

<b>5. Conclusion and Recommendations</b>	<b>28</b>
5.1. Summary of Findings	28
5.2. Recommendations	28
<b>References</b>	<b>30</b>
<b>Appendix</b>	<b>32</b>
<b>About MINZAS</b>	<b>37</b>
<b>The Mekong Institute</b>	<b>38</b>

## List of Abbreviations

ADB	:	Asia Development Bank
DAC	:	Development Assistance Committee
EU	:	European Union
GLF	:	Labor Force
GR	:	Economic Growth Rate
GT	:	Government Revenue
IDA	:	World Bank's International Development Agency
IMF	:	International Monetary Fund
INF	:	Inflation Rate
MDGs	:	Millennium Development Goals
NGOs	:	Non-Government Organizations
NSEDP	:	National Social-Economic Development Plan
OECD	:	Organization of Economic and Cooperation Development
ODA	:	Official Development Assistance
POP	:	Population Growth

## List of Figures

Figure 1:	Relationship between the Development Compact, Economic Growth and Poverty Reduction	7
Figure 2:	Official Development Assistance to the Lao PDR in 1999-2012	19
Figure 3:	Official Development Assistance to Lao PDR by sector in 2000-2008	20
Figure 4:	Official Development Assistances' Donor to Lao PDR in 1999-2012	22

## List of Tables

Table 1:	Net ODA and Population of ODA recipient countries by region in 2011	2
Table 2:	Variables that are used in the models	17
Table 3:	The Unit Root Test by Augmented Dickey-Fuller (ADF)	24
Table 4:	Growth Regression using Time Series data of ODA commitment on Growth Rate in Lao PDR	25
Table 5:	Growth Regression Using Time Series Data of ODA disbursement on Growth rate in Lao PDR	27



## Acknowledgements

First of all, I would like to express our gratitude and respect to all the teachers at the Department of Economics, Faculty of Economics and Business Management, who all provide valuable lessons and knowledge throughout the process of the master course at the National University of Laos (NUoL).

Especially, I would like to express my deeply felt gratitude to my both supervisors Dr. Alay PHONVIXAY and Dr. Nittana SOUTTHISENG for their assistance, concrete advice and comments while I was carrying out this research. It could be accomplished successfully, because I was given a great deal of support and encouragement by them.

Essentially, I would also like to express my sincere thanks to the Mekong Institute (MI) which provided me with a grant and great opportunities, particularly by offering a training program at MI for a month. Its training program was very meaningful and important to me, because it offered me the good opportunity to acquire deep and broad input that enhanced my research, my academic knowledge of economics, and professional skills in general. Without this support, I would not have been able to complete this study.

Finally, I would like to express my deep thanks to all the members of my family, especially my parents and siblings whose understanding and support were always there for me through the long and tough educational journey at the NUoL.

## Abstract

Lao PDR is a resource-rich country, with many natural resources, including forestry, agricultural land, hydropower and minerals. After a robust economic upward trend with an average 8 percent growth which was experienced over the past decade, Lao's economy is still expanding. Lao's economy has greatly benefited from high-profile capital flows to the country in terms of foreign direct investments, public and private investments among others. In addition, during the fiscal year of 2012, the total official development assistance (ODA) increased from USD 392.48 million in the year 2011 to USD 408.92 million in the following year 2012 (*Official Development Assistant Data*, 2012).

Essentially, the issues affecting the economic development, especially in Lao PDR, which is still one of the least developed countries, are characterized by being a small economy with a high poverty rate and had small budgets to support and build up the areas of economic and social development. Thus, the official development assistance has played an important role in the socio-economic development of Lao PDR, especially in the sectors depending on public investment. Official statements acknowledge that sound official development assistance has played a crucial role in fostering the government's goals of high economic growth rates of the country. In fact, many least developed countries have not achieved sustainable economic growth, despite the fact that they attracted more of both internal and external sources for supporting economic development progress. In this context, the question still remains whether financial assistance, especially external sources in terms of ODA, do always promote economic growth in Lao PDR or not. Quite a number of studies have discussed the relationship between foreign assistance and economic growth, and the majority of those studies have focused on the link between Official Development Assistance on Economic growth in Lao PDR. This study has examined the impact of foreign assistance in the form of official development assistance on economic growth in Lao PDR by using time series data over the period 1985-2012.

This study showed that the official development assistance has a positive effect on economic growth in Lao PDR. Thus, it can be concluded that ODA has contributed to economic growth in Lao PDR.



## **1. Introduction**

### **1.1. Overview of Official Development Assistance**

#### **1.1.1. The definition of Official Development Assistance**

Generally, Official Development Assistance (ODA) has a very specific definition. It is “official” funding, which is provided by the governments of 23 countries that are members of the Organization for Economic Cooperation and Development’s (OECD) Development Assistance Committee (DAC) plus the European Union (EU). This group is known for bringing together donor countries and is often referred to as “DAC”. The DAC has strict funding criteria which focused on two key principles: the welfare and economic development of developing countries. Moreover, the assistance must be concessional through the provision of grants or soft loans. ODA does not include aid from governments which are not members of the DAC, but it does include the money or aid given by non-government organization (NGOs).

#### **▪ Types of Official Development Assistant**

As mentioned above, ODA is classified by the two types of money flowing to the OECD Creditor Reporting System as ODA grants and ODA loans.

- **Grants** are transfers in cash or in kind for which no legal debt is incurred by the recipient. For DAC/CRS reporting purposes, it also includes debt forgiveness, which does not entail new transfers, support to non-governmental organizations and certain costs incurred in the implementation of aid programs.
- **Loans** are transfers for which the recipient incurs a legal debt and repayment is required in convertible currencies or in kind. This includes any loans repayable in the borrower’s currency where the lender intends to repatriate the repayment or to use them in borrowing country for the lender’s benefit. Only loans with a grant element above 25 percent are ODA eligible. In addition, an ODA loan has to be concessional in character. This means that its interest rate must be below the prevailing market rate.

According to the statistics, Net Official Development Assistance grew by 63% (almost US\$ 50 billion) over the last decade, by reaching US\$ 128.5 billion in 2010 and fell by 2.7% in 2011 with a total sum of US\$ 125.1 billion (Initiatives, 2012). Currently, the least developed countries (LDCs) received 45% of ODAs, and the ODA provided to this group grew at a rate twice as high as the growth rate of the total ODA handed out during the last decade. Table 1.1 shows the net ODA of recipient countries by regions in total amounts in 2011. Africa receives more ODA than any other region with volumes reaching US\$ 51,261 million of net bilateral ODA, followed by Asia, America, Europe and Oceania.

Table 1: Net ODA and Population of ODA recipient countries by region in 2011

<b>Regions</b>	<b>Net ODA (US\$ million)</b>	<b>Population (Million)</b>
<b>Africa</b>	51,261	1,044
<b>Asia</b>	37,566	3,869
<b>America</b>	11,582	589
<b>Europe</b>	5,352	151
<b>Oceania</b>	2,201	9
<b>Aid unspecific by region</b>	28,475	-
<b>All ODA recipients</b>	136,437	5,663

Source: OECD, Development Assistant Committee

The categories of ODA can be divided into a variety of sectors, for example social development and economic production, aid to governance and etc. ODA focuses in particular on supporting good governance and a wider empowering environment in the public sector of developing countries, which accounted for 15% of the total ODA during 2008-2010, support for developing the health and infrastructure sectors, which each represent over 10% of the total global ODA. ODA for those sectors has doubled in volume over the last decade (Initiatives, 2012).

### **1.1.2. Sources of ODA and ODA Differences by Sector**

Regarding the definition above, ODA is an aid provided by the 23 countries that are members of the Organization for Economic Cooperation and Development's (OECD) Development Assistance Committee (DAC) and the European Union (EU). The largest donors among them are the member of the G7 (15 countries)<sup>1</sup> which accounted for over 60% of ODA globally provided between 2009-2011 (Initiatives, 2012). In addition, the donors are also from organizations, agencies, which disburse funds on a multilateral and bilateral level to developing countries, such as the World Bank International Development Association (IDA), the Asian Development Bank (ADB), the International Monetary Fund (IMF) and etc.

The Official Development Assistance (ODA) is delivered through numerous ways to the final beneficiary for fostering sustainable development. ODA also supports research that looks at to development-related issues in various sectors. Most ODA consists of concessional grants and soft loans (with the lowest interest possible). According to this logic, ODA focuses on donor countries direct ODA provision to LDCs and other developing countries, which amounts to 76% of ODA; ODA geographically unspecified accounts for 17% and ODA allocated to other regions (e.g. Asia, Africa... etc.) by 7% of all ODA donors in the world (Initiatives, 2012).

## **1.2. Characteristics of Lao Economy and National Development**

Lao People's Democratic Republic is the only landlocked country in the Southeast Asia region. Lao PDR gained its full independence and was officially established on December, 2, 1975. The government of Lao PDR launched a New Economic Mechanism (NEM) policy and introduced a market oriented system in 1986 in order to induce more and better social-economic development in the country. The NEM represented open-door reform policies of the government in regard to a transformation of the country from a centrally-planned to a market-oriented economy. In 1996, the government of Lao PDR announced the national vision of disappearing from the list of least developed countries by the year 2020. Later in early 2000s, the government of Lao introduced several strategies to support this 2020 vision

---

<sup>1</sup>15 countries: USA, Germany, England, French, Japan, Netherland, Spain, Canada, Sweden, Norway, Australia, Italy, Denmark, Belgium, and Switzerland.

for the country by including industrialization and modernization strategy, and a national growth and poverty reduction strategy.

In order to ensure the implementation of those strategies, annual and five years National Social-Economic Development Plans (NSEDP) have been put in place as planning, implementing, adjusting and evaluating policy tools. The first period of social economic development started from an extremely low base and with growth on average of 6% per year for the period of 1988-2008, which was only interrupted by the short-lived drop caused by the Asian financial crisis that began in 1997. Laos' growth exceeded 7% per year during the 2008-2012 period. Despite this high growth rate, Laos remains a country with an underdeveloped infrastructure, particularly in rural areas. Economic growth has reduced the official poverty rate from 46% in 1992 to 26% in 2010 (*The 7th National Social Economic Development Plan* 2011). The economy also has benefited from high-profile capital flowing to the country in terms of foreign direct investments, public and private investments among others.

According to the National Social-Economic plans with its four key mile-stones of the 9<sup>th</sup> Lao PDR Party Congress, the government set up main factors which are at the core of a - proactive, stable and sustainable development. In that context, social development and environmental protection are key elements within the economic development strategies. The Lao government continues to strengthen the structure for the implementation of changes in the economy and the labor-markets, for the expansion of international development cooperation with foreign partners, and for enhancing the capacity of the country's competitiveness at the international and regional level.

### **1.2.1. External Assistance in Lao PDR**

Since the mid-1990s, ODA flowing to Lao PDR has increased as a result of the government's open-door policy. The average annual ODA inflow to Lao PDR for the fiscal year 1999-2000 reached the amount of US\$ 331.45 million and continues to increase further, for instance at the fiscal year 2007-2008 the ODA accounted for US\$ 413.44 million (*Official Development Assistant Data*, 2012). A large amount of ODA went to the communication and transport sectors. According to available statistics, on average the communication and transport sector accounted for approximately 20 percent of total ODA (with a value of US\$ 112.70 million)

for the period from 2007-2008, followed by the agricultural & forestry, education, and health sectors. In the previous five years, ODA inflows showed a significant increase reaching US\$ 460 million per annum (*Official Development Assistant Data, 2012*). The government of Lao PDR expects to receive a total ODA of US\$ 750-800 million per year during the 5 years period of 2011-2015 for the 7<sup>th</sup> National Social-Economic Development Plan (NSEDP). This amount is needed to ensure that the target of Gross Domestic Product (GDP) growth at 8,3 % in the period 2012-2013 (*The 7th National Social Economic Development Plan 2011*) is being achieved

### **1.3. Significance of Issues**

The theoretical reasoning of ODA emerged from the work of economists such as Arthur Rostow, Harrod & Domar and mathematical models based on their theories. According to these theories, developing countries were caught in a low-level equilibrium trap with low rates of domestic savings and investments. In order to achieve a self-sustaining growth or take-off, it is necessary to raise the level of investment and capital formation. According to the theory, this would have a multiplier effect on incomes and growth. Foreign savings in the form of aid were consistent with this emphasis on capital formation as a key to foster economic transformation. In subsequent modifications, aid could have a direct effect on investments through the foreign exchange constraints. Within this aid-financed investment paradigm, it is assumed that there is a one-to-one equivalence between investment and growth. The development theory, based on these concepts, therefore postulated a critical role to be played by ODA to enable undeveloped countries to break out of the vicious circle of poverty and low-level equilibrium in order to achieve higher rates of growth.

Moreover, the issues affecting the economic development, especially developing countries have been on the agenda of international cooperation for a long time. The developing countries are well-known as depending heavily on external resources to expand the productive capacity of their economies, but they have no adequate budget to support the buildup of their productive capacity. In response to this, developed countries (donors) have provided financial support in the hope that it would enable the developing countries (recipients) to improve their development and also enhance the capacity for the creation of a self-sustaining economic growth. Foreign aid or ODA is further criticized for focusing and stimulating the growth of modern sectors, thereby increasing the gap in living standards



between the rich and the poor in developing countries. Some critics on the left would even assert that foreign aid has been a force for antidevelopment in the sense that it both retards growth through reduced saving and worsens income inequalities.

In the case of Lao PDR, which is still one of the least developed countries characterized by a small economy with a high poverty incidence, the government has small budgets available to support the sectors of economic and social development. So the official development assistance has played a role in socio-economic development of Lao PDR, especially in the public investment sector. Its statement indicated that high official development assistance has played a crucial role in attempts of the Lao government to achieve high growth rates in the country. However, there remains a dispute as to whether one factor is sufficient to promote sustainable economic growth. In fact, many least developed countries have not achieved sustainable economic growth, despite the fact that they tapped into both internal and external financial sources<sup>2</sup> in order to foster economic development progress. In this context, the question still remains whether external financial sources (ODA) might always promote economic growth in Lao PDR or not. This question is the primary concern of that study. Given the importance of Official Development Assistant (ODA), it is crucial to understand its contribution to economic growth of the country.

In the previous year, however, there have been several foreign studies on ODA, which raised interesting questions and strongly emphasize the significance of ODA for supporting development. Those studies look at the question how economic growth is created in a country including the least developed and other developing countries using a large amount of global for their research. However, in the case of Lao PDR this issue has been scientifically neglected. In regard to that issue, this paper analyzes the effects of ODA on economic growth in Lao PDR. The content will focus on getting a better understanding of the effect of aid on growth. In so doing, an examination of the interaction between aid and growth is required. In this context, the study mainly examines the question whether ODA has a significant impact on economic growth, and if the answer is yes, how ODA can contribute to socio-economic growth, and thereby will also assist recipient governments (GOL) in addressing the issue of making ODA a more effective tool.

---

<sup>2</sup>Internal Source is defined as private investment (domestic & foreign), with the objective of making profits.  
External Source is defined as public investment (domestic & foreign), with the objective of development in sector and region. ODA in form grants and loans are main components.

### 1.3.1. Conceptual Framework

Instead of seeking an understanding of the question of aid effectiveness, the concept of the Development Compact enables us to focus on the core issues of establishing the economic and institutional preconditions for growth. Within this framework, a range of possible options can be considered of which the three components of economic growth include:

- Capital accumulation, including all new investments and human resources through improvements in health, education, and job skills;
- Growth in population, and hence eventual growth in labor force;
- Technological progress (new ways of accomplishing tasks).

A schematic of the appropriate relationship between the Development Compact, economic growth and poverty reductions is given in Fig. 1.1. This chart enables us to see that, while the study focuses on official development assistance, the three components of growth must promote high level of economic growth, complementary efforts to reduce initial inequalities of income and wealth, and some measures that may have directly poverty reducing effects could also be relevant in certain circumstances.

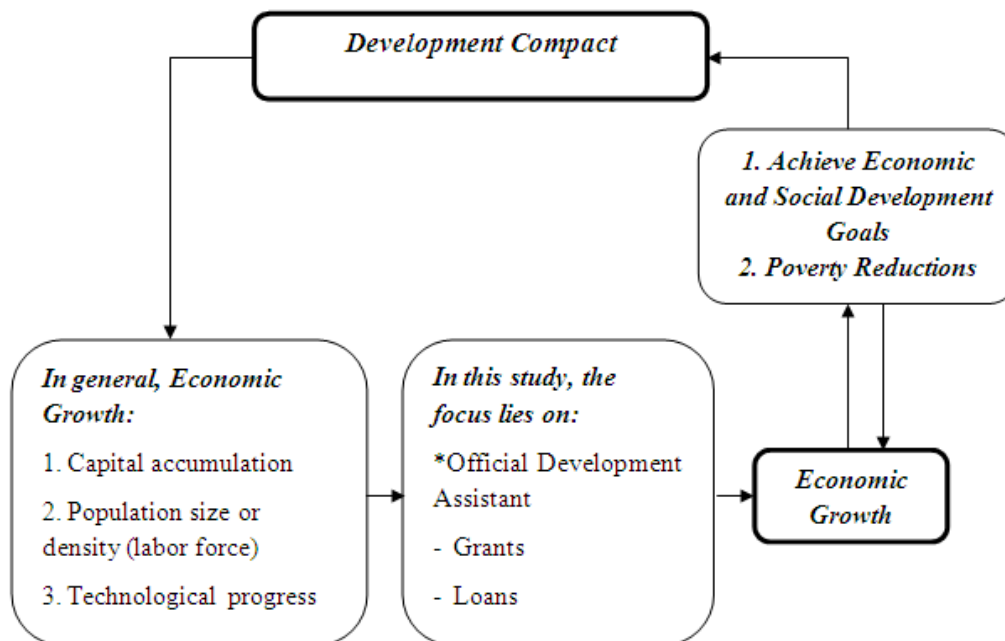


Figure 1: Relationship between the Development Compact, Economic Growth and Poverty Reduction

#### **1.4. Research Objectives**

The objective of the research includes 2 points, which are:

1. To determine the ODA's trend in Lao PDR;
2. To analyze the effects of Official Development Assistant (ODA) on economic growth in Lao PDR;

#### **1.5. Research Questions**

The study aims to answer the following research questions:

- What is the ODA's trend in Lao PDR?
- Does ODA have any impact on economic growth in Lao PDR?

#### **1.6. Scope of the Study**

There are numerous factors that affect the economic growth in Lao PDR. This study focuses on the estimation of Official Development Assistant (ODA) on economic growth in Lao PDR. In addition, it also studies the progress of the ODA's implementation in Lao PDR during the time period of 1985-2012.

#### **1.7. Significance of the Study**

The presented research of "Official Development Assistance" (ODA) on economic growth in Lao PDR" is significant for a reader to understand the purposes of the study, which are:

- To guide other researchers in acquiring detailed knowledge and information on the efficiency of ODA in Lao PDR;
- To assist the ODA recipients, especially the government of Lao PDR, in addressing the question of how to make ODA more effective;
- To inform future research with broader understanding of the issues discussed.

## **1.8. Limitations**

There are a few limitations of the present study, which are:

- The limited availability of data and data sources, in particular in regard to more specific data, which are only made available as secondary data-sets.
- Some data are not in the public domain and most of the data needed were obtained from government databases.

## **1.9. Definition of Key Terms**

**Impact:** The outcome, result, or consequence of.

**Official Development Assistance (ODA):** Also referred to as international aid or overseas aid, which may be provided to communities or countries in the event of economic activities or to achieve socioeconomic objectives. ODA aims to create long-term sustainable economic growth.

**Economic Growth:** is the increase in value of goods and services produced by an economy. Generally, it is measured as the percent rate of the increase in real gross domestic product (RGDP).

**Economic Development:** It is the development of the economic wealth of countries or regions for the well-being of their inhabitants.

**ODA commitment:** are provided resources of a specified amount under certain financial terms and conditions and for clear purposes of benefiting a recipient country or a multilateral agency.

**ODA disbursement:** is the real value of official development assistance from donor countries to recipients' countries.

## **2. Review of Literature**

### **2.1. Theoretical Reviews**

Theorists of the 1950s and 1960s viewed the process of development as a series of successive stages of economic growth through which all countries must pass. It was primarily an economic theory of development, in which the right quantity and mixture of savings, investments, and foreign aid were all that necessary to enable developing nations to proceed along an economic growth path that had historically been followed by the more developed countries. Development thus becomes synonymous with rapid, aggregate economic growth.

#### **2.1.1. Rostow's Stages of Growth**

The phases of this growth model of development includes the transition from underdevelopment to development that can be described in terms of a series of stages through which all countries must proceed. According to Rostow, the economic dimensions can be divided into five categories: the traditional society, the precondition for take-off into self-sustaining growth, the take-off, the drive to maturity (higher growth), and the age of high mass consumption. According to that theory, advanced countries have passed through all those stages from the take-off phase to the phase of self-sustaining growth, but underdeveloped countries were still caught in either the phase of being a traditional society or being in the precondition stage and had only to follow a certain set of rules for development to take off and turning them into countries with self-sustaining economic growth.

One of the key strategies of development necessary for any take-off would be the mobilization of domestic and foreign savings in order to generate sufficient investments to accelerate economic growth. The economic mechanism by which more investment leads to more growth can be described in terms of the Harrod-Domar growth model.

#### **2.1.2. The Harrod and Domar Model**

This model is determined by the relationship between growth and investment, which is defined as:

$$\text{Growth}(Y) = \frac{\Delta Y}{Y}, \quad Y = \text{GDP}$$

- In order to determine this relationship, growth will be estimated as the Incremental Capital-Output Ratio (ICOR), which is measured as capital efficiency.

$$\text{ICOR} = \frac{\Delta K}{\Delta y}, \quad K = \text{Capital}$$

- A high ICOR implies a high increase in capital relative to the increase in GDP. Since capital is assumed to be the only production constraint, investment in the Harrod-Domar model is defined as the growth in capital. But investment is also equal to savings, which is equal to the average propensity to save (APS) time GDP.

$$I = \Delta K; \text{ denote: } I = S = \text{APS} * Y = s * Y$$

So,

$$\text{ICOR} = \frac{s * Y}{\Delta Y}, \quad I = S = \text{APS} = s * Y$$

**In conclusion:** 
$$\text{Growth}(Y) = \frac{\Delta Y}{Y} = \frac{s}{\text{ICOR}}$$

### 2.1.3. The Neoclassic growth theory

In Neoclassical economics, the notion of growth was classified as Solow Growth Model, which involved a series of equations that showed the relationship between capital, labor and technology. Three of these are the significant factors to develop long-term economic growth. The hypothesis of the model assumed efficiency being fostered by using especially the relationship between capital and labor.

#### ➤ Labor efficiency in Solow's Model

Generally, the production function is:  $Y = f(K, L)$

In addition, the new production function is:  $Y = f(K, L * E)$

“E” presents labor efficiency, which referred to the knowledge of labor on the production process for example, the technology improvement, the increasing of labor efficiency.

Additionally, labor efficiency was fostered when health, education or labor skills have been improved.

## **2.2. Empirical Reviews**

The role of Official Development Assistant (ODA) in the growth process of countries has been a topic of intense debate. Pervious empirical studies supported the notion of ODA being an impact-factor for economic growth; it furthered the discussion of development to many other areas.

### **2.2.1. Aid and Economic Growth**

At present, the studies on foreign aid and economic growth are using panel data series, estimating the model by OLS and etc. In order to better understand the effect of aid on growth, there are some empirical publications:

Xayavong (2002) has studied “A macro-econometric analysis of Foreign Aid in Economic Growth and Development in Least Developed Countries: A case study of the Lao PDR”; the study examined the effectiveness of aid, focusing on the potential effects of aid on economic growth through three channels. Firstly, this publication examined whether foreign aid has a significant impact on tax revenue and government spending. Secondly, it measured the impact of stable aid inflow on economic growth via the investment channel. Thirdly, it examined the potential impact of unstable aid inflow on economic growth. A macro-econometric model was used in order to analyze the equations by applying the Autoregressive Distributed Lag (ARDL) model. To test the models, the time-series data from 1978-2001 were used in this study.

Ekanayake & Chatrna (2003) have studied “The Effect of Foreign Aid on Economic Growth in Developing Counties”; their study analyzes the effects of foreign aid on the economic growth in developing countries. They attempted to verify the hypothesis that foreign aid can promote growth in developing countries. In order to test this hypothesis, they used a panel data series on a group of 85 developing countries covering Asia, Africa, and Latin America and the Caribbean for the period 1980-2007. They calculated in a model the differences of income levels by creation of three separate models for shorter time periods, namely, 1980-

1989, 1990-1999 and 2000-2007. In order to test their models, they introduced variables that have a favorable effect on growth, including the growth rate of real GDP (GGDP), the growth rate of population in the country (GPOP), investment (INV), foreign aid (AID), and inflation rate (INF). The study used the Least Square Estimation. The findings of this study indicated that foreign aid in relationship to the mentioned variables in the model has positive impacts upon economic growth in developing countries.

(Nkusu & Sayek (2004) have studied “Local Financial Development and the Aid-Growth Relationship”; this study is testing the hypothesis in regard to the claim that deeper financial markets in aid recipient countries facilitate aid flows, thereby enhancing aid effectiveness. In order to examine the role which financial market depth can play in the aid growth, they used multiple regressions in their model and run Weighted Least-Square Regressions (WLS). They used a panel data set which included 86 countries from three regions around the world: Asia, America, and Africa for the period 1970-1999. The results of the variables’ hypothesis showed that all of independent variables (Terms of Trade, Human capital, financial market, Government consumption, Institutional quality, and Aid) have positive and significant impact on the dependent variable (Initial GDP) with a degree of significance of 99% and 95%, respectively. The main conclusion of this study was that ODA can generate positive growth effects especially in least developed countries and other developing countries. Ultimately, the results suggest that ODA can help poor countries to achieve its development goals and poverty reductions.

Mercieca (2010) has studied “Aid and Economic Growth in Developing Countries”; this study has provided an analysis of scientific literature concerning aid-effectiveness with a focus upon Official Development Assistance, institutional and policy frameworks and aid harmonization. For the study, secondary data were used including scientific documents, empirical theories and studies. In order to understand the various theories of macroeconomic impact of aid, the author analyzed and explained in detail all documents and theories. The study concluded that aid may not always be successful in promoting economic growth. However, good institutional and policy frameworks enhance aid effectiveness.



### **2.2.2. Macroeconomic Policy and Economic Growth**

A stable macroeconomic policy environment is a necessary pre-condition for rapid economic growth of a country in recent years. Moreover, it also has positive impact upon aid flow effectiveness. Recently, there are some studies which have strongly stimulated and advanced macroeconomic policy on growth, such as:

Durbarry, Gemmell, & Greenaway (1998) who studied “New Evidence on the Impact of Foreign Aid on Economic Growth”; this study assess the impact of foreign aid on economic growth for a large number of samples. The authors created a model and used econometric techniques for their purposes. Both cross-section data and panel data were used which included 68 developing countries for the period of 1970-1993. The authors also introduced variables that have been used in the model, which are: a dependent variable presenting GDP growth, an independent variable presenting capital sources (domestic and foreign), and control variables including trade, financial repression (M2), and macroeconomics. This study concluded that macroeconomics has significant impact on economic growth in terms of theories and empirical results. According to that context, all independent variables were positively and significantly related. The study stated that the higher the amount of foreign aid, the greater the impact upon of economic growth in least developed countries and other developing countries.

The work of Burnside & Dollar (2000) studied “Aid, Policies and Growth”; this study examines the relationship between foreign aid, economic policy, and growth per capita GDP. Panel growth regressions for 56 developing countries for the period of 1970-1993 were carried out. In that context, economic policy represents a fiscal surplus, inflation, and trade openness. The study found that aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies.

Shirazi, Mannap, & Ali (2009) have put their focus upon “Effectiveness of Foreign Aid and Human Development”; this study focuses on the core question of how far foreign aid has affected the health, education and human development in Pakistan. The analysis in the study is based on five-annual time-series (1975-2006). They precede the analysis by employing the Vector Error Correction Model (VECM). The authors also carry out Unit Root tests, such as the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) before verifying the

VECM and the Granger causality. The results of this study showed that foreign aid has contributed to the development in all sectors (health, education and human development) in the case of Pakistan.

### **3. Research Methodology**

#### **3.1. Methodology**

##### **3.1.1. Research Instruments**

Two types of analysis were carried for this study: qualitative and quantitative research methods.

##### **A. Qualitative Analysis**

The qualitative analysis is a categorical measurement expressed not in terms of numbers, but rather by means of a natural language description. In this study, it will be used to explain the progress of ODA's implementations in Lao PDR by mapping ODA by sectors.

##### **B. Quantitative Analysis**

The quantitative analysis is a numerical measurement expressed not by means of a natural language description, but rather in terms of numbers. In this study, it will be used to analyze the effects of Official Development Assistance (ODA) on economic growth in Lao PDR by applying the multiple regression and Ordinary Least-Square regression (OLS) and conduct a model calculation for the study following the authors Nkusu and Sayek(**Nkusu & Sayek, 2004**).

Thus, the empirical model writes as follows:

$$\mathbf{GR = f(ODA, GT, POP, GLF, CON^*)}$$

\* CON: Control Variable, which was INF.

$$\mathbf{GR = f(ODA, GT, POP, GLF, INF)}$$

**Where** GR: Growth rate of GDP

ODA: Official Development Assistant

GT: Government Revenue

POP: Population growth

GLF: Effective Labor Force

INF: Inflation Rate

Generally, the trend of output growth is based on the neo-classical growth model which was modified to include the total investments in relationship to GDP and the growth rate of an effective labor force. The total investment is divided into public investments and private investments. In the two sectors, investment function is derived from the accelerator theory, which “asserts that investment spending is proportional to the change in output” (Dornbusch & Fischer, 1994). It is assumed that the investment function is dominated by domestic and foreign capital inflows. The inflow of foreign direct investment (FDI) is also used as explanatory variables because private investment in the Lao PDR is dominated by the FDI inflows.

The structure of the growth rate of effective labor force is based on the study by (Gounder & Xayavong, 2001). The effective labor force is defined as follows:

$$LE_t = SE_t \frac{LF_t}{POP_t} \quad (3.1)$$

$$GLE_t = \frac{LF_t - LF_{t-1}}{LF_{t-1}} \quad (3.2)$$

Where  $LE_t$  is the effective labor of the year  $t$ ,  $SE_t$  is the total sum of enrolments in secondary school and the tertiary level of the year  $t$ ,  $LF_t$  is labor force,  $POP_t$  is total of population of the year  $t$ , and  $GLE_t$  is the growth rate of the effective labor force of the year  $t$ .

### C. Specification Model

As the main objective of the study the effects of Official Development Assistance (ODA) on economic growth in Lao PDR were analyzed. **The growth equation is:**

$$GR = \beta_0 + \beta_1 ODA + \beta_2 GT + \beta_3 POP + \beta_4 GLF + \beta_5 INF + u_i$$

And conducted 2 Growth Model ODA on Economic Growth in Lao PDR:

➤ **Model 1:**

$$GR(\%) = \beta_0 + \beta_1 \ln ODA \text{ commitment}^3 + \beta_2 GT(\%) + \beta_3 POP(\%) + \beta_4 GLF(\%) + \beta_5 INF(\%) + u_i \dots \dots \dots (1)$$

➤ **Model 2:**

$$GR(\%) = \beta_0 + \beta_1 \ln ODA \text{ disbursement}^4 + \beta_2 GT(\%) + \beta_3 POP(\%) + \beta_4 GLF(\%) + \beta_5 INF(\%) + u_i \dots \dots \dots (2)$$

Where  $\beta_0$  is a constant coefficient,  $\beta_1, \beta_2, \beta_3, \beta_4,$  and  $\beta_5$  are the coefficients of ODA, GT, POP, GLF, INF respectively.  $u_i$  is an error term.

The details of the variables for the analysis of the effects of Official Development Assistant (ODA) on economic growth in Lao PDR are depicted in table 3.1.

Table 2: Variables that are used in the models

Variables	Empirical Construct	Symbol of Variables	Expected Sign
Dependent Variable	Economic Growth	GR	

<sup>3</sup>ODA commitment: refers to firms' written obligations by a government or an official agency backed by the appropriation or availability of the necessary funds in order to provide resources of a specified amount under certain financial terms and conditions and for clearly defined purposes supporting the benefit of a recipient country or a multilateral agency.

<sup>4</sup>ODA disbursement: the real value of official development assistance from donor countries to recipients' countries.

Independent Variables	Official Development Assistance	ODA (disbursement & commitment)	+
	Government Revenue	GT	+
	Population Growth	POP	+
	Effective Labor Force	GLF	+
Control Variables	Inflation rate	INF	+

Source: Researcher, 2014

The present study has used time series data in order to test the reliability of variables in the model, the so called Unit Root test by Augmented Dickey-Fuller (ADF). Besides the two models mentioned above, the first model (1) was calculated based on the Distributed Lag Model. In statistics and theories of econometrics, a distributed lag model is a model for time series data in which a regression equation is used to predict current values of a dependent variable based on both the current values of an explanatory variable and the lagged (past period) values of this explanatory variable. The Distributed Lag Model is classified by different types of calculations for example the Finite Distributed Lag, Infinite Distributed Lag, etc. Throughout this study, the Finite Distributed Lag is applied by adding the Lag to the independent variable (ODA commitment) over a period of 3 years. The second model (2) made estimations by using ordinary least squares (OLS). An autocorrelation; heteroskedasticity and multicollinearity were also conducted correspondingly.

### 3.2. Data Sources

In order to test the implications of the model, this study solely relied on secondary data. This study has collected a time series on ODA and Economic Growth in Lao PDR during 1985-2012. Apart from the World Bank database, the Ministry of Planning and Investment of Lao PDR and the Bank of Lao PDR have published the data needed for the analysis in the present study. The data for most of the macroeconomics variables are derived from economic indicators, which are published annually by the World Bank. Moreover, the qualitative data come from the 5 year (2011-2015) report of the 7<sup>th</sup> NSEDP; Decree of the evaluating of the 7<sup>th</sup> NSEDP and fiscal plan, No. 398/PM, 2012-2013.

## 4. Results and Discussion

### 4.1. Official Development Assistance in Lao PDR

Official Development Assistance represents an important component of the social economic development in Lao PDR, especially in the public sector. In the fiscal year 2000-2001, the ODA inflows to Lao PDR accounted for US\$ 378.48 million, of which US\$ 282.03 million consisted of grant aid and loans amounting to US\$ 96.45 million. An increase in the country's ODA inflow is considered a result of the government's open policy. ODA serves as an investment fund for the public sector in particular, which plays the most important role in fueling the country's economic growth. Since the mid-1990s, ODA has significantly flown into Lao PDR, which has supported the government in dealing with budget deficits.

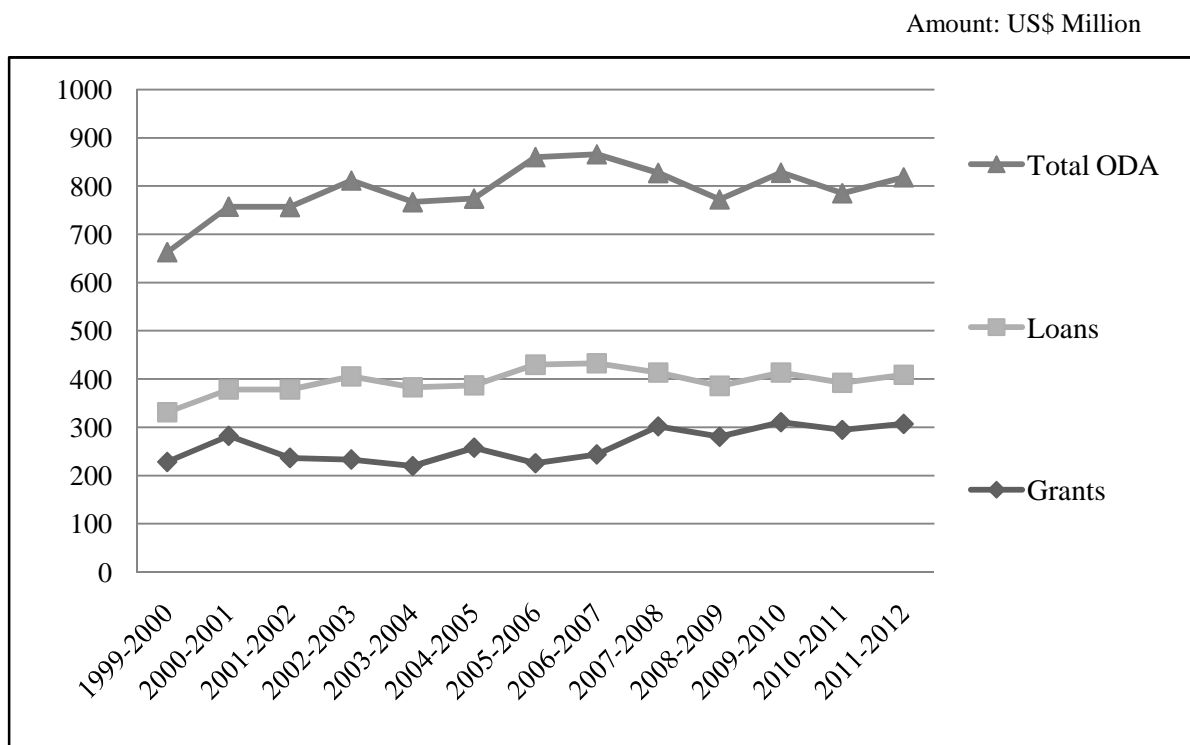


Figure 2: Official Development Assistance to the Lao PDR in 1999-2012

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

The value of official development assistance to the Lao PDR depicted in Figure 4.1 shows the average annual ODA inflows to the Lao PDR, which amounted to US\$ 395.49 million, and of which the average grant inflows accounted for US\$ 262.49 million, and the average loan

accounted US\$ 132.55 million. Moreover, the amount of ODA is increasing continually by about 24% per year. In that context, the total ODA amount has increased from US\$ 386.93 million in 2004-2005 to US\$ 429.89 million in 2005-2006. This highlights that ODA is still necessary for the improvement of Lao PDR's economic and social infrastructure.

In conclusion, in the recent ten years, ODA inflows to Lao PDR are rising every year, of which grants surpass loans. The change of patterns of ODA inflows is expected to ensure that the objectives and targets of the NSEDP are met.

#### 4.2. Official Development Assistance's Shares by Sectors in Lao PDR

As mentioned in a previous paragraph, Lao PDR has long been running fiscal deficits, which were mostly financed by external sources such as foreign direct investments, ODA (4 percent of GDP on average from the fiscal year 2000-2001 to 2008-2009).

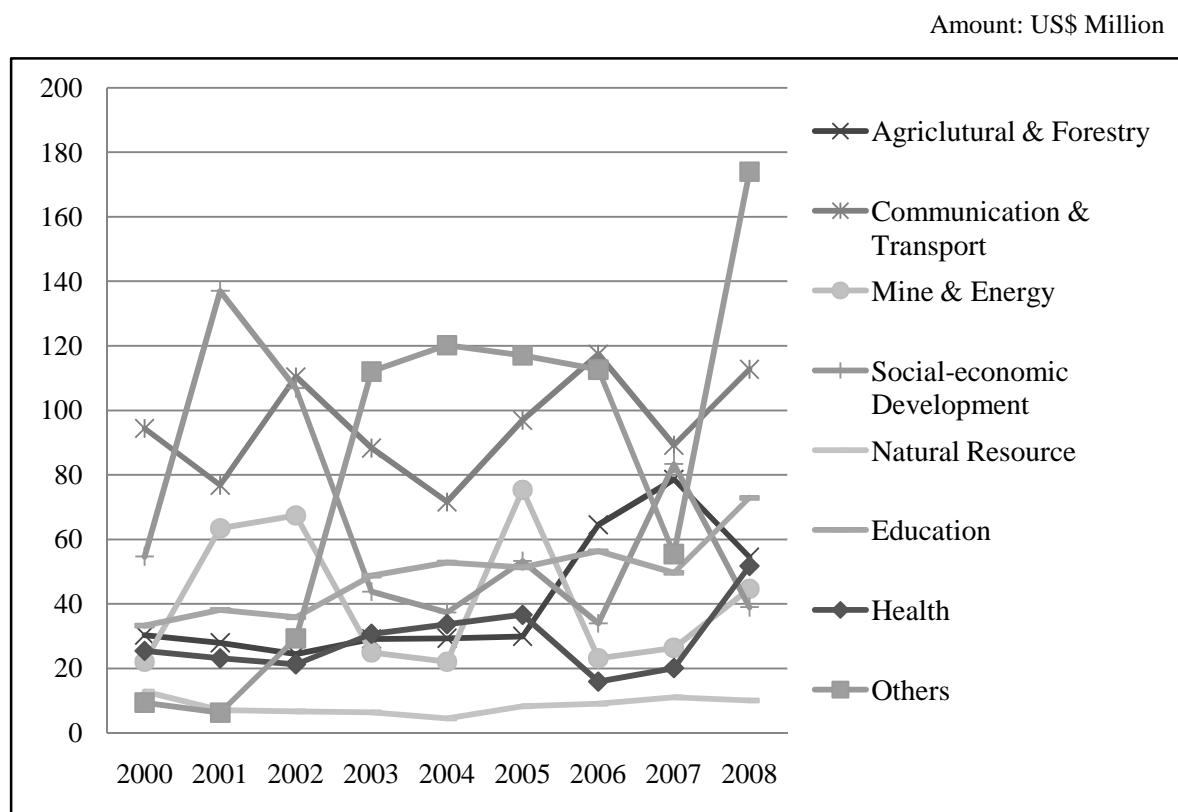


Figure 3: Official Development Assistance to Lao PDR by sector in 2000-2008

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

As the result of official development assistance provided to Lao PDR whose shares by sector are shown in the figure 4.2, a large amount of ODA went to the communication and transport sectors. According to available statistics, on average the communication and transport sectors accounted for US\$ 95.30 million per year. The average annual ODA inflows destined to support the social-economic development sector was about US\$ 65.41 million, the education sector participated with US\$ 48.74 million in ODA provisions, the mine and energy sectors were given US\$ 41.0 million, the agricultural and forestry were provided with US\$ 40.94 million, the health sector received financial support of US\$ 28.72 million, the natural resource development sector benefited with US\$ 8.37 million, and US\$ 51.77 million were channeled to other sectors.

The official development assistance to Lao PDR increased by about 8 percent per annum. Thus, the ODA has also been a significant factor for poverty alleviation, especially through provision of infrastructure development (roads, building, etc), education, health services, and livelihood opportunities.

#### **4.3. Official Development Assistancess' Donors to Lao PDR**

Through previous studies many questions were being raised in regard as to why donor countries (developed countries) provide aid to recipients (LDCs and developing countries). Generally, donor-country governments provide ODA because it is in their political, strategic, or economic self-interest to do exactly that. Some development assistance may be motivated on moral and humanitarian grounds aiming to assist the population of less fortunate countries for example in cases of emergencies where food relief and medical programs are needed. Still, there is no historical evidence which suggests that in the long-run, donor countries provide assistance for purposes other than the expectation of reaping of some corresponding benefits (political, economic, military, etc).

Fig. 4 depicts ODAs' donors to Lao PDR from 1999-2000 up to 2011-2012. During those 12 years passed, ODA inflows to Lao PDR by bilateral sources<sup>5</sup> reached the highest amounts in Lao history with a total sum of US\$ 3393.29 million. Especially, in 1999-2000, ODA inflows

---

<sup>5</sup>Bilateral sources from 20 countries: Australia, Belgium, Brunei, Denmark, Finland, France, Germany, Japan, Luxemburg, New Zealand, Norway, Sweden, Thailand, USA, South Korea, Vietnam, China, Canada, India, Switzerland



by this source financed US\$ 179.40 million to US\$ 222.52 million in 2000-2001. At present, on average the amount of ODA by bilateral sources accounts for US\$ 508.35 million in the fiscal year of 2011-2012. Additionally, in 2011-2012, ODA inflows to Lao PDR by financial institutions<sup>6</sup> accounted for US\$ 170.31 million, multilateral sources<sup>7</sup> accounted for US\$ 38.38 million, non-government organization accounted for US\$ 43.80 million, European Union accounted for US\$ 13.73 million, and the Mekong river communities accounted for US\$ 2.51 million.

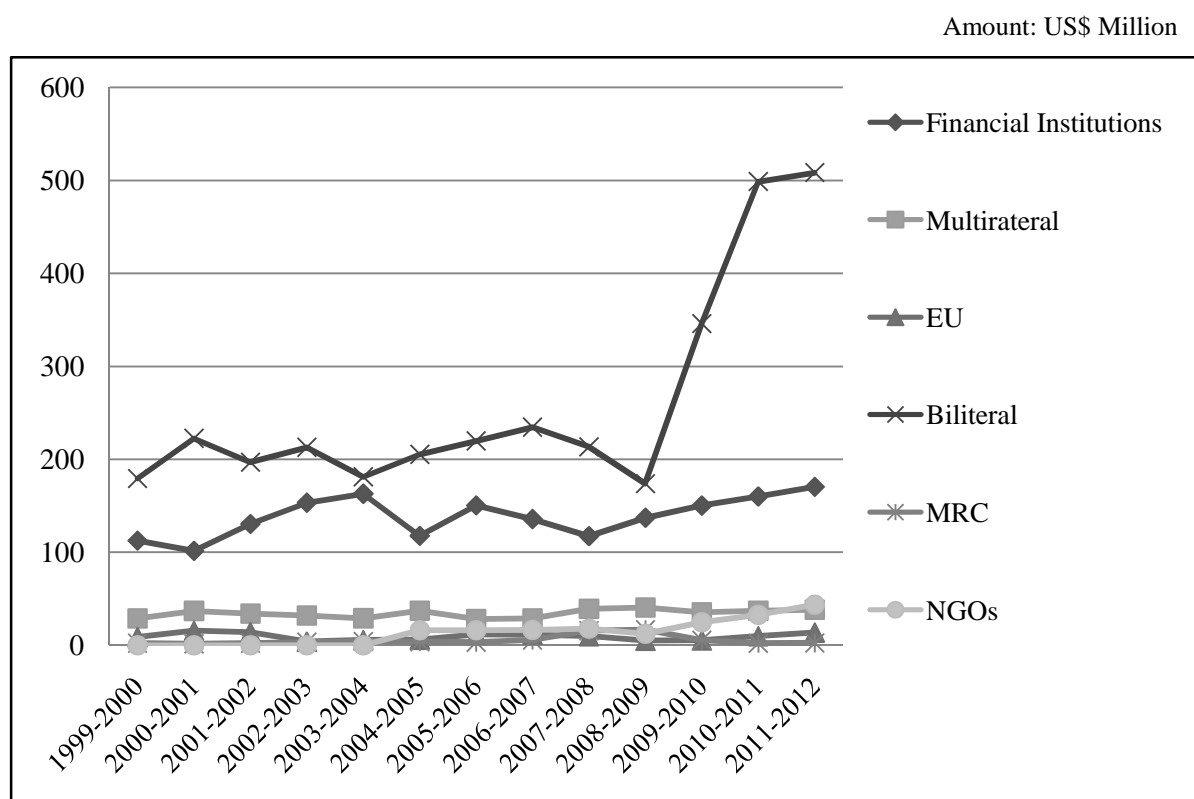


Figure 4: Official Development Assurances' Donor to Lao PDR in 1999-2012

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

In Lao PDR the responsibility for economic and development corporations has been moved to the field of foreign policy under the so called “Peace, independence, friendship and cooperation” program aiming to source more aid from bilateral and multilateral donors,

<sup>6</sup>Financial source from 8 institutions: ADB, WB, IFAD, NDF, JBIC, OPEC, IMF, EIB.

<sup>7</sup>Multilateral source from 14 organizations: UNDP, FAO, WHO, UNDCP, UNICEF, UNFPA, UNESCO, UNV, UNIDO, WIPO, ILO, WFP, IRRI, GEF.

international organizations, and financial institutions. The main purpose of this policy transformation aims to support the Lao government in achieving its NSEDP objectives. In short, the corporation with development partnerships has expanded in every sector, of which bilateral sources accounted for over 65.4 percent. Therefore, the assistance from financial institutions mainly concerned sustainable growth by expanding global economic links of the country and maximizing the benefits from an open-door policy. To achieve the sustainable development goals requires the continuation of strong support from the government in order to improve financial management and governance regulations. From this point of view, the Lao government channels aid from the financial institutions into sectors favored by the country's development plans, of which grants are used for social development purposes (education, health, and natural and environmental sectors), and loans add to the infrastructure development. Aid from multilateral sources, especially international organization under the UN system, has simply expanded. In 2007-2008, the multilaterals aid accounted for 9.5 percent or US\$ 39.45 million in the total sum of aid received by Lao PDR

The official development assistance inflows to Lao PDR from the development partnerships were implemented as a response to various regional and global conflicts. The Lao government has appreciated the strong and sustained support received from the international community. An updated country action plan for aid effectiveness should be developed to replicate sound local practices in several areas and in order to promote more accountability of aid especially regarding ODA.

In summary, it can be stated that official development inflows to the Lao PDR have increased in all areas and sectors of the country. The practice of ODA focuses upon the implementation of the MDGs, the objectives of the 7<sup>th</sup> NSEDP (2011-2015), the poverty reduction plan and the country's overarching objective of leaving the status of being an undeveloped country by 2020.

#### **4.4. Impact of Official Development Assistance on Economic Growth in Lao PDR**

Before using the regression with the Time Series data, it is necessary to check the reliability of the variables chosen within the Unit Root test by Augmented Dickey-Fuller (ADF). Table 4.1 shows that all of variables in the model were categorized as the Level and 1<sup>st</sup> Difference. While, the variables of GR, ODA commitment, ODA disbursement, POP, GLF, and GX were

categorized on both Level and 1<sup>st</sup> Difference. And only the variables of INF were categorized as 1<sup>st</sup> Difference. This result shows that not all of variables in the model are affected by the Unit Root problem.

Table 3: The Unit Root Test by Augmented Dickey-Fuller (ADF)

Variables	Stages	Critical Value	
		Level	1 <sup>st</sup> Difference
GR	Level & 1 <sup>st</sup> Difference	-5.06585*** (0)	-6.69162*** (1)
ODA dis	Level & 1 <sup>st</sup> Difference	-3.81362*** (0)	-5.22152*** (0)
ODA com	Level & 1 <sup>st</sup> Difference	-4.0995*** (0)	-6.93839*** (0)
GT	1 <sup>st</sup> Difference	-	-4.01824*** (0)
POP	Level & 1 <sup>st</sup> Difference	-4.04532*** (0)	-3.19466*** (0)
GLF	Level & 1 <sup>st</sup> Difference	-3.06315*** (0)	-6.0577*** (0)
INF	1 <sup>st</sup> Difference	-	-5.58688*** (0)

Notes: \*, \*\*, \*\*\* Significance at level 90%, 95% and 99% respectively.  
 () t-values.

#### 4.4.1. Result of the Model 1

This part describes the result of the model 1. It was found that two independent variables are signed statistically significant to the dependent variables, while three independent variables are not signed. Besides this result, it can be seen as regression below:

##### OLS Regression:

$$GR(\%) = -3.506 + 1.842 (L)\ln ODA \text{ commitment} + 0.298 GT(\%) + 0.365 POP(\%) + 22.97 GLF(\%) + 0.007 INF(\%) \dots \dots \dots (3)$$

From regression (3), it can be concluded that ODA commitment has a positive impact, and is paramount and significant to the growth rate with the coefficient value of 1.842. According to this result, the increase in ODA commitment by one percent point led approximately to a growth rate increase of 1.842 percentage points in the first year. This clearly states that ODA contributed to economic growth in Lao PDR. The estimation shows as well that effectiveness

of the labor force was positively significant to economic growth in Lao PDR, of which the coefficient value is 22.978. This result means that an increase in the effectiveness of the labor force ratio by one percent leads to a growth rate change of 22.978 percent by the significance level of 99 percent.

However, the other variables in the model including GT, POP and INF, are not statistically significant to the growth rate in Lao PDR. From this point, it seems that most of variables added to the model show not any intuitive signs. At this point, it can be said that the insignificant variables have no effect on economic growth in Lao PDR. Regarding to the estimation as shown in the Table 2, it has also been found that the Heteroskedasticity and Serial correlation tests did not occur in the model.

Table 4: Growth Regression using Time Series data of ODA commitment on Growth Rate in Lao PDR

Dependent Variable	Growth rate (GR)
Samples / Periods	28 samples / 1985-2012
Estimation Method	Distributed Lag Model
Simple Regression	(4)
POP	0.365 (0.57)
GT	0.289 (1.55)
INF	0.007 (0.86)
<i>GLF</i>	<b>22.978*** (2.02)</b>
ODA commitment (Lagged)	
<i>L1</i>	<b>1.842*** (1.89)</b>
L2	-1.425 (-1.40)
L3	0.924 (0.92)
Number of Observations	22
R Square	0.626
Heteroskedasticity test	0.348
Serial correlation test	0.345

Notes: \*, \*\*, \*\*\* Significance at level 90%, 95% and 99% respectively.

() t-values.

In conclusion, it can be briefly summarized that with regard to the growth estimation, the results concerning the key explanatory variable (ODA commitment) suggest that ODA in form of ODA commitment has contributed to economic growth in Lao PDR.

#### 4.4.2. Result of the Model 2

In connection with the previous finding of the impact of ODA commitment on Growth as shown in model 1, this study has also analyzed ODA in form of ODA disbursement on growth in Lao PDR. The result here indicates that two independent variables are signed and statistically significant to dependent variables, while three independent variables are not signed. Besides this result, it can be shown as equation below:

OLS Regression:

$$\text{GR}(\%) = -11.036 + 3.022 \text{ In ODA disbursement} + 1.203 \text{ POP}(\%) - 0.001 \text{ GT}(\%) + 4.569 \text{ GLF}(\%) - 0.009 \text{ INF}(\%) \dots \dots \dots (4)$$

From the regression (4), it can be concluded that ODA disbursement was positively signed and is significant to the growth rate with the coefficient value of 3.022. That means that an increase of one percent in the ODA disbursement leads to an increase in the growth rate by 3.022 percent. Based on this result, ODA disbursement has an effect on the economic growth in Lao PDR. The result shows that the population rate has a positive sign and is statistically significant to the growth rate with the coefficient value of 1.203. Regarding to the result, it could be suggested that an increase in the population ratio of one percentage point leads to a permanent increase in the growth rate by approximately 1.203 percentages. Thus, it is obvious that the population rate has contributed to the economic growth in Lao PDR.

However, the variables in the model for example GT, GLF and INF are not statistically significant to the growth rate in Lao PDR. From this point, it seems that most of variables added to the model have not the intuitive signs. Regarding to the estimation as shown in the Table 4.3, it was also found that the Heteroskedasticity and Serial correlation tests did not occur in the model.

Table 5: Growth Regression Using Time Series Data of ODA disbursement on Growth rate in Lao PDR

<b>Dependent Variable</b>	<b>Growth rate (GR)</b>
Samples / Periods	28 sample / 1985-2012
Estimation Method	OLS
Simple Regression	(5)
<i>ODA disbursement</i>	<b>3.022*** (2.88)</b>
<i>POP</i>	<b>1.203*** (2.02)</b>
<b>GT</b>	-0.001 (-0.01)
<b>GLF</b>	4.569 (0.45)
<b>INF</b>	-0.009 (-0.87)
<b>Number of Observations</b>	22
<b>R Square</b>	0.696
<b>Heteroskedasticity test</b>	0.297
<b>Serial correlation test</b>	0.778

Notes: \*, \*\*, \*\*\* Significance at level 90%, 95% and 99% respectively.

() t-values.

This result may lead to the interpretation that the main explanatory variable implies that ODA in form of ODA disbursement has a positive effect with statistical significance on the growth rate in Lao PDR. Moreover, the other explanatory variable (POP) has a positive sign, which could be quite precisely estimated and its magnitude is economically important. In brief, one comes to the conclusion that the effect of ODA in the form of ODA disbursement on economic growth has been positive, permanent, statistically significant and sizable, specifically in the case of regression (4). Moreover, the effect is shown to measure ODA in the form of ODA disbursement.

In comparison to the results between the regression (4) and (5), similar results of the effect of ODA disbursement and ODA commitment on growth in Lao PDR were found. From this point, it seems that the estimation of the regression of the ODA disbursement and ODA commitment have positive effects on growth in Lao PDR. Overall, it can be summarized that

the Official Development Assistance (ODA commitment and ODA disbursement) have contributed the growth rate in Lao PDR.

## **5. Conclusion and Recommendations**

### **5.1. Summary of Findings**

The study provides interesting findings. Firstly, with regard to the two research questions, throughout the past 20 years, Lao PDR has received invaluable support in terms of official development assistance from the international community, which has contributed to the early stage of the country's social-economic development. Secondly, its invaluable assistance has marked development areas in need of aid, particularly the communication and transport sectors, the education sector, the energy and mining sectors among others. Thirdly, most of ODA inflow to Lao PDR has been provided by state parties and non-state parties as well as international organizations in particular civil society organizations, NGOs and etc. Based on that, ODA inflow to Lao PDR has developed itself and became an important component for considering further measures in order to respond to the development progress in Lao PDR. This also enhances and promotes the effective cooperation between regional and international actors.

In addition, with reference to the main research objectives, this study has focused on the impact of official development assistance on economic growth in Lao PDR by using the OLS regression. From the regression results, the following conclusion can be draw: ODA in both forms of ODA commitment and ODA disbursement have a positive relation to economic growth in Lao PDR. This can be interpreted that an amount of ODA inflows to Lao PDR has promoted the country's growth rate. The large amount of ODA provided by donors has made huge contributions to the economic performance of the country and guarantee growth. In case of Lao PDR, a good policy environment and good macroeconomic management are the main reasons for ODA having an effect on growth.

### **5.2. Recommendations**

The results of this research are useful for understanding the huge contributions of ODA to economic growth in Lao PDR. Nonetheless, more studies are needed on this research

topic. Future studies should aim at collecting more data, use different calculations methods and add more and new variables to the models.



## References

- Advanced Macroeconomics*. (2011). Vientiane Capital: Faculty of Economics and Business Management, National University of Laos.
- Annual Economic Report* (2012). Vientiane Capital, Lao PDR: Bank of Lao PDR.
- Burnside, C., & Dollar, D. (2000). Aid, Policies and Growth. *Macroeconomics and Growth Division, Policy Research Department, World Bank*.
- Chakravarti, A. (2005). *Aid, Institutions and Development New Approaches to Growth, Governance and Poverty*. Celtenham, UK: Edward Elgar Publishing Limited.
- Department, M. P. (2012). *Annual Economic Report 2012*. Vientiane Capital, October: Bank of Lao PDR.
- Dornbusch, R., & Fischer, S. (1994). *Macroeconomics*.
- Durbarray, R., Gemmill, N., & Greenaway, D. (1998). New Evidence on the Impact of Foreign Aid on Economic Growth. *CREDIT Research Paper No. 98/8*(Centre for Research in Economic Development and International Trade, University of Nottingham).
- Ekanayake, E. M., & Chatrta, D. (2003). The Effect of Foreign Aid on Economic Growth in Developing Countries. (OC09003).
- Gounder, R., & Xayavong, V. (2001). Globalization and the Island Economies of the South Pacific. *Discussion Paper No. 2001/41*(WIDER, United Nation University).
- Initiatives, D. (2012). *Data & Guide: Official Development Assistance (ODA)* (October).
- Mercieca, P. (2010). Aid and Economic Growth in Developing Countries: A Literature Review *Bank of Valletta Review, No.41*(Spring).
- Nkusu, M., & Sayek, S. (2004). Local Financial Development and the Aid-Growth Relationship. *IMF Working Paper*(WP/04/238).

*Official Development Assistant Data.* (2012). Vientiane Capital: Lao's Statistic Bureau, Ministry of Planning and Investment of Lao PDR.

*Report of the evaluating for Millennium Development Goals in Lao PDR.* (2004). Vientiane Capital, January: Government of Lao PDR and UNDP team of Lao PDR.

Shirazi, N. S., Mannap, T. A. A., & Ali, M. (2009). Effectiveness of Foreign Aid and Human Development. *The Pakistan Development Review*, 48 : 4 Part II (Winter) (International Islamic University ), 853–862.

*Social Economic Development Plan for 2012-2013.* (2012). Vientiane Capital, October: Ministry of Planning and Investment.

*The 7th National Social Economic Development Plan* (2011). Vientiane Capital, October: Ministry of Planning and Investment of Lao PDR.

Todaro, M. P., & Smith, S. C. (Eds.). (2011). *Economic Development* (Eleventh ed.). Elinburge Gate, England: Pearson Education Limited.

Xayavong, V. (2002). A Macro-econometric Analysis of Foreign Aid in Economic Growth and Development in Least Developed Countries: a case study of the Lao People's Democratic Republic (1978-2001). *Massey University, New Zealand.*

## Appendix 1

### Official Development Assistance to the Lao PDR in 1999-2012

Amount: US\$ million

Year	Grants	Loans	Total ODA
1999-2000	227.85	103.60	331.45
2000-2001	282.03	96.45	378.48
2001-2002	236.27	142.04	378.31
2002-2003	232.92	172.68	405.60
2003-2004	219.50	163.82	383.32
2004-2005	257.46	129.47	386.93
2005-2006	225.27	204.62	429.89
2006-2007	243.5	189.26	432.76
2007-2008	301.79	111.65	413.44
2008-2009	280.24	105.77	386.01
2009-2010	310.34	103.45	413.8
2010-2011	294.36	98.12	392.5
2011-2012	306.72	102.2	408.9

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

## Appendix 2

Official Development Assistance to Lao PDR by sectors in 2000-2008

Amount: US\$ million

Year	Agri & Forestry	Commu & Transport	Energy & Mine	Social-economic Development	Natural Resource	Education	Health	Others
2000	30.3	94.4	22.0	54.6	12.8	33.2	25.4	9.3
2001	27.9	76.8	63.4	137.0	7.0	38.1	23.1	6.2
2002	24.4	110.4	67.4	106.8	6.6	35.8	21.3	29.2
2003	29.1	88.3	24.9	43.7	6.3	48.7	30.7	112.0
2004	29.3	71.6	22.0	37.3	4.4	52.8	33.7	120.2
2005	29.9	96.9	75.3	53.2	8.2	51.3	36.6	117.0
2006	64.5	117.4	23.1	33.9	9.0	56.3	15.9	112.6
2007	78.6	89.2	26.3	83.3	11.0	49.6	20.1	55.4
2008	54.5	112.7	44.6	38.9	10.0	72.9	51.7	174.0

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

### Appendix 3

Official Development Assistances' Donor to Lao PDR in 1999-2012

Amount: US\$ million

Year	Financial Institution	Multilateral aid	EU	Bilateral aid	MRC	NGOs
1999-2000	112.39	29.06	8.75	179.4	2.25	0
2000-2001	101.46	37.08	15.87	222.52	1.55	0
2001-2002	130.38	34.25	14.28	197.029	2.37	0
2002-2003	153.25	32.04	3.95	212.97	3.39	0
2003-2004	162.9	29.13	5.79	181.25	4.25	0
2004-2005	117.53	37.15	6.08	205.39	3.81	16.24
2005-2006	150.44	28.34	11.61	219.84	3.34	16.24
2006-2007	135.65	28.91	11.35	234.59	5.79	16.47
2007-2008	117.25	39.45	9.83	213.38	15.65	17.88
2008-2009	137.08	40.68	4.98	173.93	16.82	12.52
2009-2010	150.23	35.41	5.34	345.98	5.34	24.97
2010-2011	160.02	37.35	9.85	498.67	2.14	32.87
2011-2012	170.31	38.38	13.73	508.35	2.51	43.80

Source: Statistic Bureau, Ministry of Planning and Investment, 2012

## Appendix 4

Growth Regression using Time series data of ODA commitment on Growth rate in STATA  
(version 11)

```
. reg gdpgrowth lnodacom pop govrevgdp inflation glf L(1/3). lnodacom
```

Source	SS	df	MS	Number of obs =	22
Model	21.5867167	8	2.69833958	F( 8, 13) =	2.73
Residual	12.8604466	13	.98926512	Prob > F =	0.0524
Total	34.4471632	21	1.64034111	R-squared =	0.6267
				Adj R-squared =	0.3969
				Root MSE =	.99462

gdpgrowth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
lnodacom	-.3689406	1.245262	-0.30	0.772	-3.059166 2.321284
pop	.3655838	.6382414	0.57	0.577	-1.013253 1.744421
govrevgdp	.2895852	.187009	1.55	0.145	-.1144231 .6935936
inflation	.0075079	.0124454	0.60	0.557	-.0193787 .0343946
glf	22.97808	11.37472	2.02	0.064	-1.595517 47.55167
lnodacom					
L1.	1.842339	.9746858	1.89	0.081	-.2633415 3.94802
L2.	-1.42515	1.019497	-1.40	0.186	-3.627638 .7773387
L3.	.9249595	1.00855	0.92	0.376	-1.253881 3.103799
_cons	-3.506361	7.221187	-0.49	0.635	-19.10679 12.09406

## Appendix 5

Growth Regression using Time series data of ODA disbursement on Growth rate in STATA (version 11)

```
. reg gdpgrowth lnodadis pop govrevgdp inflation glf
```

Source	SS	df	MS	
Model	21.3208387	5	4.26416774	Number of obs = 22
Residual	13.1263245	16	.820395283	F( 5, 16) = 5.20
Total	34.4471632	21	1.64034111	Prob > F = 0.0051
				R-squared = 0.6189
				Adj R-squared = 0.4999
				Root MSE = .90576

gdpgrowth	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnodadis	3.022114	1.047532	2.88	0.011	.8014447	5.242784
pop	1.203289	.5963974	2.02	0.061	-.0610169	2.467595
govrevgdp	-.0010874	.1761837	-0.01	0.995	-.3745801	.3724052
inflation	-.0095428	.0110116	-0.87	0.399	-.0328863	.0138007
glf	4.569486	10.24631	0.45	0.662	-17.15172	26.2907
_cons	-11.09997	4.846505	-2.29	0.036	-21.3741	-.8258394

## **About MINZAS**

MINZAS program is a partnership program of Mekong Institute and New Zealand Embassy in Bangkok. The objective of this program is to enhance research capacity of young GMS researchers by providing a structured learning and field research application program for 36 master's degree students from provincial universities in Cambodia, Lao PDR, Myanmar and Thailand.

Through a comprehensive supports – trainings, roundtable meeting, constructive advices from MI advisors including financial supports – which are to be and have been provided to scholarship grantees, students' research skills and conduction of research deem to be developed. The completed research works will be published in 'MI Working Paper Series' and disseminated to related agents among the GMS.

The MINZAS Program is designed for 3 cycles; each cycle lasts for one year with 4 phases:

- Phase One: Training on Research Methodology
- Phase Two: Implementation of Sub-regional Research in Respective Countries
- Phase Three: Research Roundtable Meeting
- Phase Four: Publication and Dissemination of Students' Works in 'MI Working Paper Series'

### **The research cycle involves:**

- One month training course on GMS Cooperation and ASEAN Integration, research development and methodology. The students will produce their research designs and action plans as training outputs;
- Technical assistance and advisory support to MINZAS scholars by experienced mentors and academicians in the course of the research process;
- The scholars will present their research papers in a round table meeting attended by subject experts and their peers;
- Scholars will revise their research papers and improve as necessary, based on experts and peer review during the roundtable meeting;
- Publication of reports as MI working paper series.



**The Mekong Institute (MI)** is an intergovernmental organization with a residential learning facility located on the campus of Khon Kaen University in the northeastern Thailand. It serves the countries of the Greater Mekong Subregion (GMS), namely, Cambodia, Lao P.D.R., Myanmar, Thailand, Vietnam, Yunnan Province and Guangxi Zhuang Autonomous Region of PR. China.

MI is the only GMS-based development learning institute, chartered by the six GMS Governments, offering standard and on-demand capacity development programs focusing on regional cooperation and integration issues.

MI's learning programs services caters to the capacity building needs of current and future GMS leaders and policy makers on issues around rural development, trade and investment facilitation, human migration, with good governance and regional cooperation as cross cutting themes.

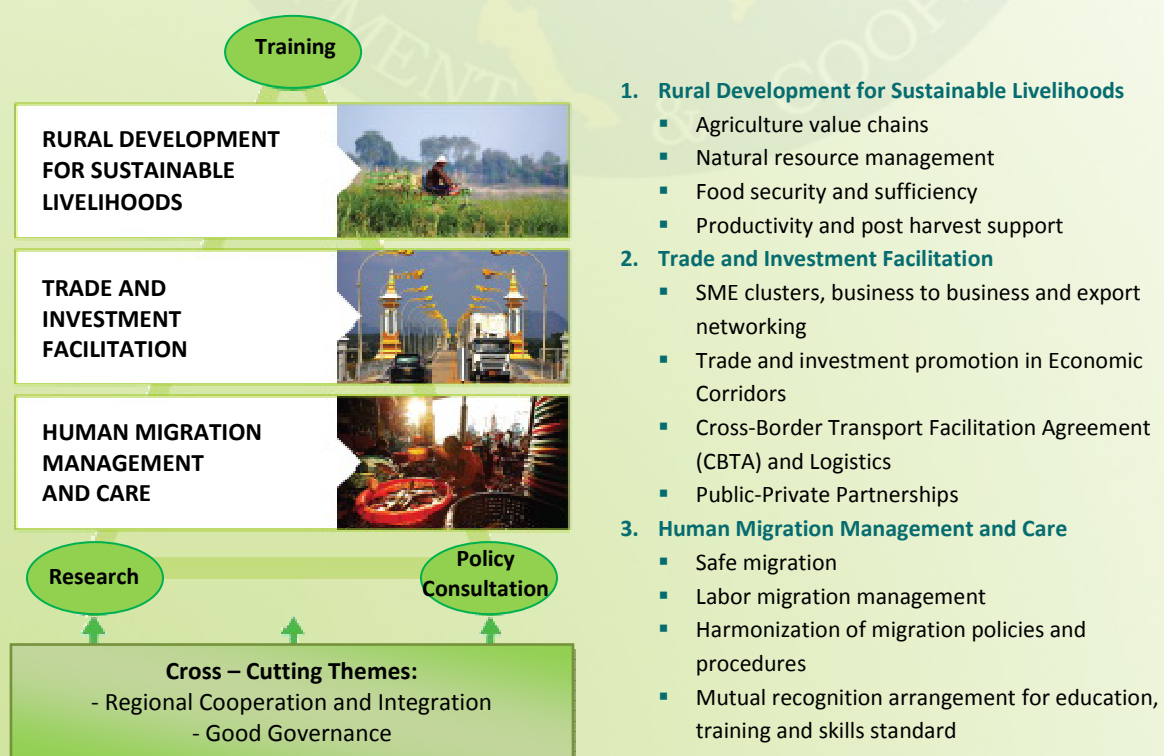
# Vision

Capable and committed human resources working together for a more integrated, prosperous, and harmonious GMS.

# Mission

Capacity development for regional cooperation and integration.

## MI Program Thematic Areas



For more information, visit  
[www.mekonginstitute.org](http://www.mekonginstitute.org)



# Mekong Institute

Research Working Paper Series 2014



---

This publication of Working Paper Series is part of the Mekong Institute – New Zealand Ambassador’s Scholarship (MINZAS) program. A collaboration project between New Zealand Embassy in Bangkok and Mekong Institute aims to bring forth the research development within the Greater Mekong Subregion (GMS) through educational provision that will be given to 36 master’s degree students from Cambodia, Lao PDR, Myanmar and Thailand (2012 - 2014).