

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Agriculture is the bedrock of economic growth, development and poverty eradication in the developing countries. Agriculture has also regarded as the engine and panacea to economic prosperity. In the words of Gunnar Myrdal (1984), the battle for long-term economic growth will be won or lost in the agricultural sector. However, how this path leads to economic prosperity is still, subject to debate among development specialists and economists.

Nepal had a late start in economic development. The government did not create a system of modern infrastructure and administration until the 1990s besides that although, it has opportunity to trap the trickled honey from largest growing economies by developing as a transit point for these two countries India and China but in reality Nepal's economy is mostly depended on monsoon seasons and remittance inflows.

Nepal's economy is anticipated to grow at a slower pace of 4.9% in FY2018 from 6.9% in FY2017 weighed down by floods of August 2017 and the erosion of base effect. This is a slight upward revision of the 4.7% growth forecast published in the September edition of Macroeconomic Update 2017, reflecting somewhat better-than-expected harvest despite floods in mid-August. Preliminary data from the Ministry of Agricultural, Land Management and Cooperatives show that paddy production this fiscal year will fall to 5.1 million tons, a decrease of 1.5% from a year earlier. The production of other summer crops like maize and millet are expected to increase in FY2018 compared to the previous year. Even with increased capacity utilization of industries, industrial growth is set to be lower in FY2018 from the high rate in FY2017, largely due to low investment in the manufacturing sub-sector for years owing to political instability and structural bottlenecks. The services sector will however remain buoyant given the expansion of wholesale and retail trade, financial intermediation and travel and tourism sub-sectors (MOF, 2018).

On the demand side, substantive growth in government expenditures and a moderate uptick in investment will drive growth in FY2018. The construction needs particularly for establishing provincial and local governments, the acceleration of post-earthquake reconstruction, and planned disbursement of relief grants to earthquake victims will induce growth. Government expenditures have increased significantly this fiscal year partly for local, provincial and parliamentary elections. Additionally, the government has apportioned fiscal transfer of NPR 232.2 billion (about 8.0% of GDP) to local and provincial governments under the federal structure of governance. Private investment has increased in construction, hotel and hydropower

GDP growth of 5.5% is envisaged for FY2019. This higher forecast hinges on the assumption of normal monsoon and acceleration of ongoing mega projects. Notably, the Upper Tamakoshi Hydropower Project of 456 megawatt will likely be added to the national grid by FY2019, ending the country's reliance on power import at least during the rainy season. Expectations are high that both the quality and quantum of infrastructure projects will accelerate in FY2019. Downside risks to outlook in FY2019 centers on limited experience and capacity especially in provincial and local governments and challenges to smooth implementation of federalism. Budget deficit may widen owing to an increased spending and weak revenue mobilization capacity of newly constituted local and provincial governments (MOF, 2018).

Revenue collection increased by about 21.0% year-on-year in the first seven months of FY2018 compared to a year earlier period. It increased primarily on higher import growth. Revenue collection as of mid-February 2018 stood at NPR 384.6 billion about 53.0% of the total revenue target for FY2018. Customs duties, VAT and income tax are the largest contributors to revenue generation. Data from Nepal Rastra Bank show a budget deficit of NPR 26.4 billion as of mid-February 2018, down from a surplus of NPR 17.9 billion in the corresponding period a year earlier. The increased recurrent expenditure compounded by election expenses and fiscal transfers widened the budget deficit. Though the Fiscal Policy for FY2018 envisaged a budget deficit of

about 11.0% of GDP, the deficit will likely be lower as capital expenditures fall short of allocation. The government's total external debt as of mid-FY2018 is NPR 436.5 billion (15.0% of GDP), up from NPR 402 billion in the corresponding period a year earlier. The total internal borrowing significantly increased to NPR 394.5 billion, or 13.5% of GDP, in the first half of FY2018 from NPR 232.2 billion, or 8.9% of GDP, in the year earlier period.

Domestic borrowing has surged in FY2018 to meet fiscal transfers to local and provincial governments, an indication that public debt to GDP for FY2018 will likely be higher than an average of 29.2% for FY2012-FY2017 (MOF, 2018).

With about one-third share of GDP, agriculture continues to provide livelihood to two-thirds of the country's population, but mostly at a subsistence level.¹ Land fragmentation is high resulting in an average farm holding of only 0.68 hectares (CBS, 2013). In the 1970's and up to FY1987, Nepal used to export substantial quantities of rice.² But today, Nepal is largely a food deficient country evident in growing imports of agriculture and livestock products (Figure 1; Figure 2). Even the export performance of potentially competitive agro-products is discouraging (Figure 3). The country's agricultural trade balance³ is negative since 2002 (Poudel, 2007). The inability to enhance agricultural productivity commensurate with growing population has fueled agricultural trade deficit. The productivity has stagnated owing to limits on the adoption of improved technology, poor market linkages, infrastructure bottlenecks, and quality issues, among others. The country's rice⁴ productivity at 3.39 metric tons per hectare (Mt/Ha) is well below that of People's Republic of China and Bangladesh at 6.75 Mt/Ha and 4.42 Mt/Ha respectively.

Low and stagnant farm productivity is a serious concern. To boost farm productivity and raise farmers' income, top-most priorities have been accorded to agriculture in various plan periods. With a vision of promoting mass scale and quality production, agribusiness promotion policy was enacted a decade ago in 2007. The Trade Policy, 2009; Fourteenth Three-year Plan,

FY2017- FY2019; and Agriculture Development Strategy, 2015-2035 - all have prioritized commercialization of agriculture for increasing farm production and productivity. Nonetheless, neither farm productivity nor export of potentially competitive agro-products has increased (Figure 3; Figure 4). The policy implementation paralysis in the absence of legal framework compounded by input-supply bottlenecks and poor infrastructure has held back commercialization of agriculture in Nepal. This issue focus highlights the importance of agricultural commercialization in Nepal and the need for its effective implementation by addressing legal, institutional, financial and infrastructural barriers.

Nepal is known as an agricultural country in the world. The statics shows that more than 66% of its population directly involve in agriculture. However, the farmers are always deprived from the expected benefits. The living standard of farmers is very poor and it is due to following traditional methods of farming and the farmers are unknown about modern technology and ideas. The country itself has great opportunities in different sectors. The country is famous for its natural beauty, diversified landscapes, suitable climate, highest mountains, unique tradition, culture, heritage, and the neighbor of rapidly developing countries between China and India but the situation is very opposite at the moment. Every day the hundreds of Nepalese youths are migrating to Gulf countries and each day number of Nepalese workers are dying and becoming disabled in the foreign land. Jobs in the Gulf countries are even not easily accessible for Nepalese people, because most of the jobs are risky and unsecured. Workers need to pay big amount of money to the agent for very little salary (ILO, 2013).

The agricultural sector in Nepal is not developing as hoped for with several likely negative consequences for the sector itself and for the rest of the economy. The hypothesis explored in this thesis is that lack of efficient financing mechanism is a major reason for the problems. To test the hypothesis a system dynamics model is developed. The hypothesis is not rejected and for that reason, the thesis ends with a discussion of policies to increase the availability of financing for the agricultural sector.

Agriculture has been an important sector in the national economy for most of the developing countries (Mongues, et al, 2012) while it plays an important role in virtually in all social and economic activities of any country (Lawal, 2011). However, (Cervantes-Godoy & Dewbre, 2010) found that people in developing countries who depend on agriculture for their living are typically much poorer than people who work in other sectors of the economy and that they represent a significant share, often the majority, of the total number of poor people in the countries where they live in thirty years. Agriculture sector can contribute to employment, food security and raw materials for agro-based industries.

In Nepal, agriculture has been contributing to more than 70 percent households (CBS, 2012), 66 percent employment (MOAD, 2015) and 35.12 percent share to National Gross Domestic Product (GDP) (MOF, 2014). Thus, agriculture is regarded as a major contributor to the national economy as well as individuals' livelihood. A strong and efficient agricultural sector would enable a country to feed its growing population, generate employment, earn foreign exchange and provide raw materials for agro-based industries.

Nepal's economy significantly rebounded from a growth rate of 0.01% in FY2016 to an estimated 6.9% in FY2017. This robust economic performance in FY2017 is the outcome of favorable monsoon leading to better harvest, normalization of trade since February 2016, acceleration of post-earthquake reconstruction work, better supply management of electricity and base year effects. 2. The agriculture sector, which accounts for nearly one-third of nation's GDP, grew by 5.3% in FY2017, up from 0.03% in FY2016. Industry sector, which accounts for slightly more than 10% of nation's GDP, grew by 10.9% in FY2017, up from a fall of 6.4% in FY2016. Growth in construction activities, expansion of energy sector including enhanced supply of electricity are some of the key factors leading to improved output of industrial sector. Services sector with contribution of approximately 55% to nation's GDP expanded by 6.9% in FY2017, up from 2% in FY2016 (ADB, 2017).

The growth in services sector is mainly due to the normalization of trade and record arrival of tourists reaching pre-earthquake levels, thus favoring

wholesale and retail trade, hotel, restaurant, travel and communication sub-sectors. 3. The economy will likely grow at a slower rate of 4.7% in FY2018. Heavy rainfall in mid-August led to landslides and floods, resulting in the loss of human lives and livelihoods. Floods inundated paddy fields and destroyed crops in most of the Terai districts of Nepal. This will depress farm output, hampering growth prospect. Industry sector, buoyed by increased supply of electricity and availability of construction materials will likely expand by 6.6% in FY2018, albeit down from a growth of 10.9% in FY2017. Services sector is forecast to grow by 5.5% in FY2018 owing largely to likely expansion of wholesale and retail trade, financial intermediation and travel and tourism sub-sectors (ADB, 2017).

Agriculture sector has multiplier effect on any nation's socio-economic and industrial fabric because of its multifunctional nature however it is affected by favorable/unfavorable climatic conditions, resulting in the fluctuation of GDP thereby, affecting overall economic growth (MOF, 2014).

In Nepal, agriculture sector includes forestry, fishery, hunting and farming and the Nepali industrial activity also mainly involves the processing of agricultural products, including pulses, jute, sugarcane, tobacco, and grain and it is major pillar of the Nepalese economy, employing 70 % of the labor forces and generating 38 % of the total GDP. The scenario shows that agriculture holds high potential to have relatively wider impact on poverty reduction and inclusiveness. Since 1990s, the contribution rate in GDP is from agriculture and has declined about 11% till year 2008 and one of the reasons was because of the Maoist civil war, which forced youth to migrate to foreign land for security and economic reason, after the end of the civil war in 2007. The positive sign can be seen (Nepal Economic Growth Assessment Agriculture 2008).

There is an ever increasing need to invest in agriculture due to a drastic rise in global population and changing dietary preferences of the growing middle class in emerging markets towards higher value agricultural products. In addition, climate risks increase the need for investments to make agriculture more resilient to such risks. Estimates suggest that demand for food will

increase by 70% by 2050 and at least \$80 billion annual investments will be needed to meet this demand, most of which needs to come from the private sector. Financial sector institutions in developing countries lend a disproportionately lower share of their loan portfolios to agriculture compared to agriculture sector's share of GDP.

On the other side, the growth and deepening of agriculture finance markets is constrained by a variety of factors which include: i) inadequate or ineffective policies, ii) high transaction costs to reach remote rural populations, iii) covariance of production, market, and price risks, and iv) absence of adequate instruments to manage risks, v) low levels of demand due to fragmentation and incipient development of value chains, and vi) lack of expertise of financial institutions in managing agricultural loan portfolios.

The development of agriculture requires financial services that can support: larger agriculture investments and agriculture-related infrastructure that require long-term funding (given that currently transportation and logistics costs are too high, especially for landlocked countries), a greater inclusion of youth and women in the sector, and advancements in technology (both in terms of mechanizing the agricultural processes and leveraging mobile phones and electronic payment platforms to enhance access and reduce transaction costs). An important challenge is to address systemic risks through insurance and other risk management mechanisms and lower operating costs in dealing with smallholder farmers.

Agriculture finance and agricultural insurance are strategically important for eradicating extreme poverty and boosting shared prosperity. Globally, there are an estimated 500 million smallholder farming households – representing 2.5 billion people – relying, to varying degrees, on agricultural production for their livelihoods. The benefits of our work include the following: growing income of farmers and agricultural SMEs through commercialization and access to better technologies, increasing resilience through climate smart production, risk diversification and access to financial tools, and smoothing the transition of non-commercial farmers out of agriculture and facilitating the consolidation of farms, assets and production financing structural change.

Global equity markets in emerging economies have been volatile in recent years but there was an overall improved operating environment in FY18, despite a decline in the fourth quarter of FY 2018 (FY18). IFC's major investment currencies remained relatively stable against IFC's reporting currency, the US\$, through much of FY18 until significant depreciation in a number of such currencies during FY18 Q4. Overall commodity prices rose during FY18, although there were mixed results across the various sectors. The market volatility, together with project-specific developments, impacts the valuations of IFC's investments and overall financial results. IFC recorded higher income from equity investments and associated derivatives in FY18, compared to FY17, driven largely by lower impairments. IFC also recorded higher income from loans and guarantees due to the increase in interest rates and an increase in income from debt securities driven by higher average balances. FY17 income from loans was positively impacted by a onetime recognition of interest income as a result of a full prepayment of a loan (IFC, 2018).

However, IFC also recorded higher borrowing charges, consistent with the increase in interest rates, and lower income from liquid asset trading activities. Specific provisions for losses on loans declined substantially in FY18, led by project-specific developments, but were offset by an increase in general provisions on loans as FY17 included a one-time release of \$156 million from the implementation of a new risk rating system. IFC has reported income before net unrealized gains and losses on non-trading financial instruments accounted for at fair value, grants to IDA and net gains and losses attributable to non-controlling interests of \$1,272 million in FY18, \$143 million higher than FY17 (\$1,129 million) and \$772 million higher than FY16 (\$500 million) (IFAD, 2018).

Agricultural finance is an essential part of the process of uplifting of agriculture and rural economy. Agriculture finance is systematically institutionalized for small farmers, agricultural development cannot be materialized. Due to small holdings, low crop yields and small income there is very little saving among the majority of the farmers of Nepal.

The agriculture sector is the backbone of an economy which provides the basic ingredients to mankind and now raw material for industrialization. Therefore, it is need of time that financing agencies come up to help them by undertaking the improved farm practices.

1.2 Statement of the Problem

In Nepal, the main problem in the field of agriculture is the land structure of the country as because of mountainous country it restrict the access of road network to the market which increase the cost of product. The lack of irrigation facilities and dependency on monsoon for irrigation is also big problem in Nepalese agriculture, The subsidies to the farmers of Nepal is very low compared to Indian farmers, which makes Nepalese product more expensive. In spite of various challenges, Nepal has large scope in the field of agriculture, as it is agricultural country and people are used to agricultural work which makes easily available of labor force for agriculture work. The climate and land topography makes it more possible for the production of various types of agricultural products. Terai is suitable for cereals and the hilly region is very good for livestock farming (goats, buffaloes, and cows) and mountain region is good for livestock farming (yaks, sheep, wild goat and so on), horticulture (apples) and so on. In spite of huge possibilities of agriculture farmers are very poor in Nepal and this entire scenario makes the agriculture field out of interest among youths.

The entire agriculture sector has been playing crucial role in the Nepalese economy. The role of agriculture is important mainly because it has been creating employment opportunities to the entire agricultural rural communities and providing food security to the country. It is imperative to make the agriculture sector efficient through the means of comparative and competitive advantages by commercializing and diversifying this sector in today's open market of international context. On the basis of available means and resources.

In Nepal for the last two decades or so, farmers are incorporating income generating activities in subsistent farming systems. Most popular income

generating activities include mushroom cultivation, sericulture, apiculture, and fish culture.

Agricultural output is low in Nepal and main reason behind the fluctuation of agricultural production is due to small holdings, traditional methods of farming poor irrigation facilities low or misuse of modern farm technology credit availability etc. This results in small income and no saving or small saving by the large population dependent in agriculture. Therefore, it needs time that credit agencies come up to help them in applying and undertaking the improved farm practices. Access to agricultural credit is vital to uplift the living standard of the agro-based rural people. Credit is an important instrument that enables farmers to acquire commands over the use of working capital, fixed capital and consumption goods. Credit plays an important role in increasing agricultural productivity. Timely availability of credit enables farmers to purchase the required inputs and machinery for carrying out farm operations. Credit is provided for relief of distress and for purchasing seed, fertilizer, cattle and implements.

In the country like Nepal, modern agriculture is essential for economic growth which is possible only meeting the financing needs of the farmers. In these circumstances the flow of credit from financial services system is inevitable in order to achieve the goal of agricultural growth which is directly associated with the economic growth of the country. As no more literature are available regarding the impact of agricultural credit flow on aggregate agricultural production in Nepal, the current study attempts to analyze the agricultural financing and economic growth in Nepal. This study will try to give answers of following questions:

- i. What are the nature and trend of agricultural financing in Nepal?
- ii. How agricultural financing is helpful for the economic growth in Nepal?

1.3 Objectives of the Study

The main objective of the study is to analyze the role of agriculture financing in economic growth. The specific objectives of the study are as follows:

- i. To analyze the status of financing in the agricultural sector and economic growth of Nepal.
- ii. To examine the relationship between agricultural financing and economic growth of Nepal.

1.4 Hypothesis of the Study

In pursuing these objectives, this study will be guided broadly by two sets of hypotheses. One will be a general working hypothesis and the other will refer particularly to the agricultural sector. The general working hypothesis is that the current tempo of economic activity in Nepal is insufficient to meet the economic development objectives of bringing about significant improvements in the living standards of the people.

National income mentioned in the Plan document probably refers to GDP.GNP estimates for Nepal are not yet brought out. It is recognized that, while dealing with economic development, it is not always possible to restrict one's analysis to quantitative economic parameters only. The process of economic development is complex and depends on political and Institutional factors as much as it does, say, on availability of capital for increasingly higher rates of investments. The approach, therefore, will be explaining the economic events in the nature of a general descriptive hypothesis derived from relevant data for Nepal. This will be included an empirical assessment of Nepalese economic development efforts insofar as the available data permit. Finally, suggestions will be made in regard to the alternative modifications.

Hence, the main hypothesis of this study is: i) there is a significance relationship between exports on income. And ii) There is a positive relation agricultural financing on Gross Domestic Product.

1.5 Significance of the Study

This study represents an effort to help to fulfill the need for an analytical appraisal of planning processes in Nepal. There were mainly two reasons that motivated conducting this study. First, Nepal has adopted planning as its development strategy and has accepted it as an essential means of guiding and accelerating the economic development of the country. Second, there are few studies of the Nepalese economy that present a coherent picture of the economy as a whole in a systematic and objective manner. The present study, too, may not be able to meet the need entirely, because large gaps still exist in the data. Nevertheless, this study as a step toward that direction may facilitate future studies as a basis for further research and analysis. The primary purpose of the study is, therefore, to obtain some understanding about the macro-economic characteristics of the Nepalese economy and to examine the policy implications of economic objectives in Nepal. The first concern will be then to provide relevant facts pertaining to the economic problems in Nepal and to explain the course of modernization, focusing the attention on analyzing the process of economic change in essentially a traditional and economically backward society.

The social objective of planning; in Nepal, as enunciated In the first Five Year Plan in 1955 were directed to "raise production, employment, standard of living and general well-being throughout the country, thus opening out to the people for a richer and satisfying life". It will not be attempted to go into details of what these objectives mean in terms of achievements until a later discussion. However, it may suffice to say that attainment of "well-being" for the society as a whole and for the Individual, as a member of them society, in particular, has been the declared policy objective of planning in Nepal, In analyzing the development policy and procures, most of the attention will be devoted to the agricultural sector. This emphasis appears warranted as most of the people are employed in the agricultural sector and this is the sector in which change must be made in the process of national economic development as implied in the National Plans. The achievement made so far will be examined in relation to the goals and targets set forth in the Plans and efforts will be made to articulate a future policy of development for Nepal in the light of experiences gained in the past.

1.6 Limitations of the Study

Following are some limitations of the study:

- i. This study was based on secondary data to assess the policy framework of importance of agriculture in economic development.
- ii. This study has been based on only secondary sources of data.
- iii. The study is based on data of 25 years from the adoption of liberal policy since 1993/94 to 2017/18.
- iv. There is no sufficient time to collect all agricultural exports, so I selected only three exports, they are coffee export, oilseed export and meat export.
- v. The result and interpretation are completely rigid from the view point of researcher.

1.7 Organization of the Study

The study comprises of three main sections; preliminary part, body and supplementary part. The preliminary section comprises of title page, recommendation letter, approval letter, acknowledgement, table of contents, list of tables, list of figures, abbreviations used and executive summary. The body the report further comprises five sections; introduction, literature review, research methods, data analysis, summary, conclusion and implications. The final section of report consists of supplementary section including references and appendix.

Chapter one included the background of the study, statement of problems, objectives of the study, hypothesis, rationale, limitations and structure and outline of the study.

Chapter two included literature review. The literature review of major studies related to agriculture financing and other related review from journal, articles and previous thesis were also included in this chapter. The literature for each section has been presented separately. The chapter further consists of theoretical concept.

Subsequently, the research methods used for the study has been explained in chapter three which comprises of research design, population and sample, source of data, tools of data collection and analysis procedures.

Chapter fourth chapter presents the data analysis and the results that have been collected from various financial and statistical tools have been used to analyze and interpret the data. The SPSS version 20, Stata12 and Ms excel 2007 software has been used for data analysis and interpretation of the results.

The fifth chapter deals with discussion, conclusions and implications provides summary and conclusions of the study and offers important implications to be followed by manufacturing company for improvement in their financial achievements. Bibliography and appendix have been incorporated at the end of the study.

CHAPTER-II

REVIEW OF LITERATURE

This chapter is basically concerned with review of literature relevant to the topic “Agricultural Financing and Economic Growth”. Every study is very much based on past knowledge. The previous studies can’t be ignored because they provide the foundation to the present study. In other words there has to be continuity in research. This continuity in research is ensured by linking the present study with past research studies.

2.1 Theoretical Concept

Lewis (1954) regarded a model of the economy with unlimited supplies of labour. It was assumed that the economy consists of subsistence or traditional agricultural sector and a modern or capitalist sector. Within the context of an unlimited supply of labour, wages in the capitalist sector will stay at a level just above subsistence, even if productivity increases. The reinvestment of the profits gained by the capitalist sector would increase productive capacity, thereby requiring more labour. This process will continue until the surplus labour is fully absorbed in productive employment. Henceforth wages will increase in the capitalist sector and productivity in the traditional sector will increase accordingly.

Johnston and Mellor (1961) supported the fundamental view of the importance of agriculture’s contribution to the economy – especially in the early stages of growth. Hence, it was repeatedly said that agriculture does not simply supply food and labour, but its purpose is further established through production and consumption linkages. As agricultural productivity grows, incomes to the rural households create demand for domestically produced industrial products. Greyling (2012) debated on Lewis' theory since the majority of rural poor people are food-insecure: the income they have are not enough to cover their dietary requirements. The researcher stated the problem of a decrease in rural production that leads to a decrease in rural income, which in turn reduces industrialization because of a decrease in the demand for manufactured goods. Hence the problem

of low agricultural productivity will result in an insufficient market for agricultural goods (Haedy & Fan, 2008).

Moreover, the location of economic activities across space may be nonlinear. Fafchamps and Shilpi (2003) found that agricultural wage employment is concentrated in rural areas close enough to cities to specialize in high-value horticulture, but not so close as to be taken over by unskilled 'urban' wage labor opportunities. Non-linearity's may also be relevant when city size is found to matter for engagement in non-farm activities or for poverty reduction (Christiaensen et al., 2013).

Meijerink and Roza (2007) found that the policy attention has long focused on agriculture's traditional role to provide food, create jobs, earn export income, generate savings and funds for investment, and produce primary commodities for expanding industries. But the role of agriculture often goes beyond these direct, market-mediated contributions. Agriculture plays also an important role in providing indirect non-commodity contributions that are public goods, social service benefits and environmental services not captured by markets. Agriculture thus contributes to (i) environmental services such as soil conservation, watershed services, biodiversity, and carbon sequestration; (ii) poverty reduction; (iii) food security; (iv) agriculture as a social safety net or buffer in times of crisis, and (v) social viability¹³⁷. A review of case-studies by FAO revealed that these indirect contributions are not well understood, seldom analyzed in the context of development, and rarely reflected in national and rural development policy formulation. This may be due to the fact that the market signals are missing and policy signals are wrong and the lack of information concerning the sector's evolving market and non-market roles. The study underlines the strong interdependence between agriculture and other sectors, as well as the many cross-sector linkages through which agricultural growth supports overall economic growth and the many benefits to society that are not measured by economic growth indicators alone.

Mallik (2008) concluded that a long run relationship exists between per capita real GDP, aid as a percentage of GDP, investment as a percentage of GDP and openness. However, long run effect of aid on growth was found to be negative for

most of the countries he examined. On the other hand, Hatemi and Irandoust (2005) in their study “relationship between foreign aid and economic growth in developing Countries Nepal, Botswana, Nepal , India, Kenya, Sir-lanka, and Tanzania” reveals that foreign aid has a positive and significant effect on economic activity for each country in the sample. They conclude that foreign capital flows can have a favorable effect on real income by supplementing domestic savings.

World Bank (2009) stated that few governments have chosen more interventionist measures, such as requiring the private sector to finance agriculture. The Indian government, for example, has imposed a mandatory target on domestic and foreign banks to provide 40 per cent of their lending to priority sectors. Among the priority sectors, a specific portion of lending has to be granted to farmers and small organizations of farmers (Reserve Bank of India, 2013). It also encourages banks to open branches in smaller cities to push the inclusive finance agenda. Finally, governments can promote and help organize the creation of institutions and partnerships between financial actors and can provide certifications, technical assistance and financial literacy to farmers and small entrepreneurs. For example, in Tanzania, the Rural Financial Services Programme pushed the creation of local community savings schemes and credit cooperatives (IFAD, 2009b). Beneficial partnerships can also be promoted to mitigate risks creating holistic solutions and enabling cost efficient delivery of financial and nonfinancial products and services (World Bank, 2013).

Moreover, Matahir (2012) revealed that the role of agriculture on economic growth and how it interplays with other sectors in the economy. Time series Johansen co integration techniques was employed to investigate the non-causality relationship between agriculture and other economic sectors of Tunis. From their findings, it was posited that, policy makers should see agricultural sectors as vital tools in their analysis of inter-sartorial growth policies. Though, agricultural sectors has not benefited immensely from the growth of service and commerce sector of Tunisia but it contribution to economic growth of the economy can never be overemphasized. This lend support from the study carried by out on Thailand economy by Jatuporn et. al. (2011). They are also of the opinion that,

policy makers should embrace agriculture and see it as a major contributor to Thailand economy.

Maduekwe and Obansa (2013) found that the various models used suggest that there is bidirectional causality between economic growth and agriculture financing; and there is bidirectional causality between economic growth and agricultural growth. Agriculture financing is essential in development strategies in a variety of ways. It promotes agricultural investment and adoption of technology necessary to spur economic growth. It has been shown that most African countries have inadequate levels of domestic savings, which could be directed to investment and insufficient export earnings required to import capital goods for investment. For the target rate of agriculture-led economic growth to be achieved there would have to be external financing (either as foreign investment or foreign borrowing) to fill the gaps. To this end, the need to investigate impact of agriculture financing appears more imperative for economic growth in Nigeria. However, Expansion of capital investment and increase in productivity of agricultural investment should be more appropriately financed with domestic savings, foreign private loan, share capital, foreign direct investment and development stocks are among suggested recommendations for agriculture-led economic growth.

Todaro and Smith (2015) stated that the reason most of the labour is moving from the rural traditional agricultural sector to the urban modern industrial sector is the additional income of workers. The traditional agricultural sector provides low productivity, low savings, and low income (Todaro & Smith, 2015). The modern industrial sector is technologically advanced with good investment. The lack of development in the rural areas is caused by the lack of investment and savings. The Harrod- Domar theory stated that the aim of development is to raise investment and savings (Todaro & Smith, 2015). Moreover, the Harrod-Domar theory problem was more focused on savings and investment, but neglected that the majority of people in rural areas are poor with no income. For them, in order to save, they need capital. For the economy to stimulate growth according to the Harrod-Domar theory, some of the Gross National Income (GNI) needs to be saved and invested in the gross national product (GNP) (Todaro & Smith, 2015). One of the disadvantages of the Lewis-theory, is that the usefulness of the

agriculture sector was not proved for the eradication of poverty and the contribution to economic growth (Todaro & Smith, 2015).

Adhikari (2015) conducted a study on Contribution of agriculture sector to national economy in Nepal. In the study, Gross Domestic Product was regressed with Domestic Savings, Government Expenditure on Agriculture and Foreign Direct Investment on Agriculture with the data from FY 2002/03 to 2014/15. Regression reveals the degree of association among these variables is significant at 5 % level of significance ($R=0.991$, $P=0.005<0.05$). The analysis showed that the contribution of Government Expenditure on Agriculture to Gross Domestic Product was found significant whereas the Domestic Savings and Foreign Direct Investment on Agriculture were found insignificant. The compound annual growth rate of Government's expenditure was found slightly lower than that of budget allocated to Ministry of Agricultural Development. In sum, the study concluded that the Government Expenditure on Agriculture is crucial for the national economy.

Dahal and Nowak (2016) wrote an article on the contribution of education to economic growth: evidence from Nepal. This paper investigates the long run relationship between education and economic growth in Nepal between 1995 and 2013 through application of Johansen Co integration technique and OLS. The results from OLS show that secondary and higher education contributes significantly to the Real GDP Per Capita in Nepal. The elementary education also positively influences economic growth but the results are statistically less significant. The co integration test results confirmed the existence of long run relationship in education (a well-educated human capital) and Real GDP Per Capita. It is therefore, suggested to keep education on top priority in public policies, make serious efforts for Universalization of Primary Education and discourage the drop-out rate at all levels of education to achieve sustained economic growth.

Egwu (2016) study on impact of Agricultural Financing on Agricultural Output, Economic Growth and Poverty Alleviation in Nigeria. This study examined the impact of agricultural financing on agricultural output, economic growth and poverty alleviation in Nigeria.. In an attempt to do this, ordinary least square

regression technique was employed in which T-test, R-Square, Standard Error Test and Durbin Watson test ADF/PP unit root and co-integration test were used in the data analysis. The research findings revealed that Commercial Bank Credit to Agricultural sector (CBCA) and Agricultural Credit Guarantee Scheme Fund Loan to Nigeria's Agricultural sector (ACGSF) were significant to Agricultural sector output percentage to gross domestic product (ASOGDP) the dependent variable, thereby alleviated the poverty rate and induced to economic growth in Nigeria, that there exist a long run relationship among the variables in Nigeria under the study period. In the light of the research findings, the researcher recommended that there is the need for the Central Bank of Nigeria to reduce the cash-reserve ratio. However, funds that accrue from such policies must be added to the agricultural credit portfolios. There is the need to review the land use decree to enable Nigerians have free access to land. This will consequently increase the farmers that could eventually serve as collateral for credit facilities from the banking system.

Morteza and Mahmoudi (2018) found that the theoretical framework and empirical model for productivity growth evaluations in agricultural sector as one of the most important sectors in Iran's economic development plan. We use the Solow residual model to measure the productivity growth share in the value-added growth of the agricultural sector. Our time series data includes value-added per worker, employment, and capital in this sector. The results show that the average total factor productivity growth rate in the agricultural sector is -0.72% during 1991-2010. Also, during this period, the share of total factor productivity growth in the value-added growth is -19.6%, while it has been forecasted to be 33.8% in the fourth development plan. Considering the effective role of capital in the agricultural low productivity, we suggest applying productivity management plans (especially in regards of capital productivity) to achieve future growth goals.

2.2 Empirical Review

Empirical research is research using empirical evidence. It is a way of gaining knowledge by means of direct and indirect observation or experience. Empiricism values such research more than other kinds. Quantifying the evidence

or making sense of it in qualitative form, a researcher can answer empirical questions, which should be clearly defined and answerable with the evidence collected (usually called data). Research design varies by field and by the question being investigated. Many researchers combine qualitative and quantitative forms of analysis to better answer questions which cannot be studied in laboratory settings, particularly in the social sciences and in education. In this section international and national review were presented the following sections:

2.2.1 International Context

OECD (2010) has conducted a study on *The Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Ghana*. This study based on the last three runs of national representative household surveys shows that, agricultural crop production is the most important activity for a majority of rural households both as income-generating activity and as a source of income. The importance is particularly higher for the poor than for the non-poor. While income share of crop production in total income has been declining over time between 1992 and 2006, considering crop and livestock together, agriculture still provides more than or close to 50% of total income for most rural households and only in the coastal zone share of agricultural income for the rural households as a whole fell to 40% in the most recent survey. Existence of spatial difference in the importance of crop production as a source of rural household income indicates the need to have different policies among different zones in poverty reduction.

The analysis of the three runs of household surveys also shows that non-farm employment opportunities provided by the non-agricultural sectors to the rural households are still very limited even in the most recent survey. This is particularly true for households in the two savannah zones. Moreover, share in the total income generated from non-farm employment activity is lower than the non-farm employment participation rate. Further breaking down into the poor and non-poor household groups within each zone, it shows that only for the non-poor households in coastal and forest zones such opportunity provide slightly more than 10% of total income for the rural households, while for all poor household groups and for the other two non-poor groups, non-farm wage employment

provided only 1.4%-7.3% of total income. Thus, it is unrealistic to consider non-agricultural growth as a main source to further reduce poverty nationwide.

Greyling (2012) conducted a thesis on *The Role of the Agricultural Sector in the South African Economy*. The importance of the agricultural sector in the South African economy is often stressed by farmers and agricultural industry organizations. The reality, however, is that the sector has constituted less than 3% of the economy since 2005 (DAS, 2012). It is therefore important that the current role of the agricultural sector in the South African economy is investigated. This has been the subject of a number of studies. The most comprehensive study to date was undertaken by Brand (1969) within the well-known framework of Johnston and Mellor (1961). A number of less comprehensive studies have followed. This is the second comprehensive analysis of the role of the agricultural sector in the South African economy. This study reapplies Brand's (1969) framework to the data currently available. The results are contrasted with those obtained by Brand (1969) and other authors, in order to establish whether, and if so how, the role of the sector has changed in the last 50 years. The results obtained are then incorporated into policy suggestions.

Ruete (2015) conducted a survey on *Financing for Agriculture: How to boost opportunities in developing countries*. The government can play a proactive role by promoting laws and regulations with new financial instruments or even raising awareness of existing ones to bring them to the attention of the financial and agricultural sectors. Specialization in agricultural finance in the government and in the financial sectors is an important driver to its development. However, financing is not a charitable activity; it is primarily profit driven. This necessarily means that all possible regulation and programs to attract financing must be realistic with the characteristics of the sector and the viability and rate of return. Managing the risks and understanding the opportunities of the agriculture sector is key for any successful policy or law.

Thus, to attract finance and, consequently, investment in the agriculture sector, it is critical to strengthen both the agriculture and financial sectors. This requires a coherent strategy with consistent regulation and policies that match the sectors' needs and in line with the realistic capacities of all the actors in both sectors.

Moreover, financial regulations must go beyond economic development. An effort must be made to take a holistic approach to consider, among others, food security, poverty reduction and mainstreaming marginalized groups. The approach should include all interested parties including the different ministries or agencies, as well as farmers' organizations and financial institutions to create a win-win-win agricultural financing system.

Rahman (2017) has conducted a thesis on Agricultural Productivity Growth and the Role of Capital in South Asia (1980–2013). The study assessed agricultural sustainability in South Asia (i.e., Bangladesh, Pakistan, India and Nepal) by computing multi-lateral multi-temporal Total Factor Productivity (TFP) indices and their six finer components (technical change, technical-, scale- and mix-efficiency changes, residual scale and residual mix-efficiency changes) and examined the role of capital in driving TFP growth covering a 34-year period (1980–2013). Results revealed that all countries sustained agricultural productivity growth at variable rates with Bangladesh experiencing highest rate estimated @1.05% p.a. followed by India (0.52%), Pakistan (0.38%) and Nepal (0.06% p.a.). The major drivers of agricultural TFP growth were the levels of natural, human and technology capital endowments whereas financial capital and crop diversification had opposite effects.

Serto lu (2017) has study on The contribution of agricultural sector on economic growth of Nigeria. This study empirically examines the impact of agricultural sector on the economic growth of Nigeria, using time series data from 1981 to 2013. This study reveals that in the short run, a positive statistical relationship exists between natural logarithm value of agricultural output and RGDP. This shows that agriculture is a viable source of economic growth in Nigeria. The study also found out that from the Johansen multivariate test that, there is a long run relationship between all variables. We observed in the long run, the effect of agriculture on RGDP is restricted to zero when oil rent is controlled for, meaning that the neglect of the agricultural sector for the oil sector in Nigeria has negative long run implication as oil has a negative statistical relationship with RGDP. Findings revealed that real gross domestic product, agricultural output and oil rents have a long-run equilibrium relationship. Vector error correction model

result shows that, the speed of adjustment of the variables towards their long run equilibrium path was low, though agricultural output had a positive impact on economic growth. It was recommended that, the government and policy makers should embark on diversification and enhance more allocation in terms of budgeting to the agricultural sector.

Ozden (2017) conducted a survey on empirical study of agriculture on economic growth: The case of Nigeria. The study investigates the impact of Agricultural output on economic growth in Nigeria. The Ordinary Least Square regression method is used to analyze the data. The results reveal that a positive and significant relationship exists between gross domestic product (GDP) and agricultural output in Nigeria. Agricultural sector is estimated to contribute 2.247 percent variation in gross domestic product (GDP) from 1981 to 2014 in Nigeria. The Agricultural sector suffers neglect during the hey-days of the oil boom in the 1970s. In order to improve agriculture, government should ensure special incentives to farmers, provide adequate funding, and also provide infrastructural facilities such as good roads, pipe borne water and electricity.

Ndubuaku, et al. (2018) had analyzed the Impact of Agricultural Financing on Agricultural Contribution to Economic Growth in Nigeria. This research investigated the impact of agricultural financing on agricultural sector contribution to economic growth in Nigeria. The objective of the study was to determine the impact of agricultural financing on agricultural contribution to GDP. Standard Diagnostic tests were carried out to determine the properties of the data. The Auto Regressive Distributed Lagged (ARDL) regression analysis was used to estimate the model. The study found that Government funding (capital and revenue) to agriculture, Agricultural Credit Guarantee scheme Fund (ACGSF) had a positive and non-significant impact on Agricultural Contribution to GDP (AGDP). On the other hand, the study found that Commercial Bank Credit to the Agricultural Sector (CBCA) had a positive and significant impact on AGDP. The study recommended the sustenance of government policy that encouraged consistent injection of funds into agriculture. It advocated that a sizeable portion of Commercial Banks' credit should be channelled to agricultural production.

Okunlola, Osuma & Omankhanlen (2019) studied on 'Agricultural finance and economic growth'. The study performed an in-depth examination of the impact of guaranteed agricultural finance to oil palm, cocoa, groundnuts, fishery, poultry, cattle, roots, and tubers on the real gross domestic product of the country. Time series data was sourced from the Central Bank of Nigeria statistical bulletin of various issues. The data sets covered thirty-seven (37) years spanning from 1981 to 2017. The study used Autoregressive Distributed Lag (ARDL) model for its analysis. However, prior estimation and due to several exogenous variables, Phillip Perron stationary test was used to determine the order of integration because of its robustness to serial correlation and heteroskedasticity. The study also specified the lag criterion based on LR, FPE, AIC, SC, and HQ using Newey-West covariance matrix estimator. Findings from both short-run and long-run models as confirmed by the Wald test, which shows that none of the guaranteed agricultural finance is statistically significant to real gross domestic product. The study, therefore, recommends increased funding and deliberate efforts at determining which of the nominated agricultural spending has the most contributory impact on growth.

2.2.2 Nepalese Context

Pokhrel and Kharel. (2012) has focused on the long standing debate regarding the relative merits of bank vs. capital market-based financial system in promoting economic growth and examines this particular issue in the Nepalese context. Using Johansen's co integrating vector error correction model based on annual data from 1993/1994 to 2010/2011; this paper concludes that financial structure matters for economic growth in Nepal. Particularly, our empirical result suggests that Nepalese banking sector is more growth enhancing relative to capital market. The main implication of our findings is that the policy should focus on banking sector development by enhancing products and service quality along with the expansion of its outreach. The policy should focus on banking sector development as it better promotes economic growth compared to capital market. The banking sector development does not necessarily mean the increment of number of banks and financial institutions, but it is the expansion in the outreach of their financial services and product in terms of quality as well as quantity. The conclusion of this

paper, however, should be analyzed cautiously as we are working on a small sample size. We may obtain a different result while working with a large sample size or when the real sector dominates the capital market in future. Further, the study can be extended by incorporating the data of other financial institutions like provident fund and insurance companies, which have been excluded in this study.

Thapa (2013) has conducted about the development of agro tourism in Nepal. The objective of the study is to explore the possibilities of development of agro tourism in Nepal which can be an alternative than emigrating to the Gulf countries. An empirical part of the study consisted of the qualitative research. The research was conducted in two ways: as semi-structured interviews and textual analysis. The interview with the proprietor of the Bishram Batika restaurant has been used as a tool for collecting data. The textual analysis was completed by analyzing the cause of emigration and comparative benefits of the agro-tourism in Nepal. The secondary data, maps and different reports were taken from various sources for the textual analysis. The study revealed that the development of agro tourism is better alternative way than emigration to the Gulf countries.

ILO (2013) conducted a research on developing the rural economy through financial inclusion: The Role of Access to Finance. The impact of financial service provision on rural household incomes, employment conditions and employment creation – as well as the potential contribution of financial institutions to improving decent work among rural households should be further explored. Moreover, research is needed on agricultural value chains to identify the networks that value-chain actors use to distribute inputs and collect produce from farmers, and use those networks to channel financial services, improve risk management, and support capacity-building measures. Similarly, given that climate change is impacting agriculture all over the world, research is needed on how this is shaping demand for financial services and how responding services can be delivered in a sustainable manner. Efforts should be focused on strengthening the knowledge and capacity of commercial banks to engage in value-chain finance beyond traditional collateral lending. Furthermore, facilitating portfolio diversification of financial institutions can mitigate risks stemming from

concentrated agricultural portfolios. The risks in financial portfolios resulting from climate change should be considered.

Nepal (2015) Importance of Financing for Nepalese Agriculture and Economic Development. The agriculture sector in Nepal has not been growing as expected over the last decade. To understand the ongoing dynamics in the Nepalese agriculture sector, the study states a hypothesis that lack of effective and efficient financing cause slow agriculture sector growth. The hypothesis is tested using a system dynamics model representing the Nepalese agriculture sector with causalities of financing on the sector. The analysis of the hypothesis states that insufficiency in formal banking access causes aggregate interest rate to rise, which reduces investment and capital in the sector, causing production levels to fall and vice versa. The model used to test the hypothesis replicates the historic production trajectory in the Nepalese agriculture sector with only a maximum deviation of an approximate 5 percent. Based on the reliability of the model in terms of representing the Nepalese agriculture sector for the past 15 years, two policies are proposed to increase productivity. The policy propositions, expansion of formal banking market share and interest rate cut, to cost-effectively cover the rural agriculture sector, result in significant improvements on production and income levels over the next 25 years. These policies have significant positive implications for restructuring the growth trajectory of the Nepalese agriculture sector towards an optimistic outlook.

Rai and Vijit (2016) study on A Study of Financial Sectors of Nepal and its Role in Economic Growth. The overall objective of this study is to explore the financial sectors and the development structure of Nepalese financial sectors, and examine its implications for future research and policymaking by central bank. The data of NRB and survey were analyzed to find out the significant relationship between performance of different banks to develop economy and performance in credit level. Out of 75 individuals questioned and study from previous surveys, 61% percent of total individuals preferred commercial banks for their financial transactions. The result shows that „non-performing loan“ has effect on bank performance. Collectively, from the survey and literature review the Commercial banking (44% till 2015) credit facility. Thus, these banks need to follow prudent

credit risk management and safeguarding the assets of the banks and protect the interests of the stakeholders. Regarding the nature of investment and contribution of bank for development; the commercial banks and development banks have vital role in the development of the country. It appears that Nepal Government has been able to provide the necessary factors for example, ability to access loans, banking knowledge, ability to invest and ability to access international banking which are considered as major hindrance to the growth and success to financial sectors.

Chaudhary (2018) found that the rural area and agriculture are interrelated; like two parts of the same coin. The contribution of agriculture to national Gross Domestic Product is remarkable; however, it is declining over the decades. In fact, the agricultural sector cannot attract young people; the trend of migration from rural to urban is significantly increasing. The poverty is exceedingly marked in rural Nepal. The Government of Nepal emphasizes agriculture development in for poverty alleviation. Order to alleviate poverty, rural development, and national economic growth through the policy level. However, available data and qualitative analysis reveal that the outcome from the agricultural sector is not satisfactory due to several factors. In such situation, more than half of the population has been facing food insufficiency because of weak policy and implementation, the agriculture sector s been suffering poor outcome. In that way, the government of Nepal along with concerned authorities should effectively implement agriculture policies in order to reduce poverty and rural development. The agriculture-rural accommodating policies and successful performance are crucial for poverty alleviation and rural development.

UNDP (2018) conducted a survey on Impact of climate change finance in agriculture on the poor. The objective of the study was to provide the MoAD with a snapshot of the impacts of climate investments on the poor and vulnerable as well as of the current gaps in its delivery of climate investment both at the national and sub-national levels. This study reviewed agricultural programmes coded as climate-relevant in the national plan. The socioeconomic benefits of the climate-relevant programmes in the districts of Bardiya and Myagdi were assessed, particularly with respect to their benefits in terms of gender equality and

poverty reduction. Programmes that the districts considered to be climate-relevant but which were not coded as climate-relevant in the national plan were identified in consultation with officials in the districts for assessment. The study team also reviewed the National Climate Change Impact Survey (NCCIS) to identify socioeconomic factors that contribute to climate change adaptation practices (CBS, 2016). Secondary information was collected through a review of the Nepal Living Standard Survey (NLSS), the NCCIS, the Red Book, national and district crop production data, climate-coded programme documents, and relevant technical and policy documents. Primary information was collected through consultations at the MoAD, Ministry of Finance, District Agriculture Development Offices, and group discussions and personal interviews with farmers' groups, cooperatives and individual farmers in the districts. The socioeconomic impacts of climate-related investment in agriculture are clearly visible.

WB (2019) conducted a survey on Agriculture Finance & Agriculture Insurance. This report focused on developing and implementing agriculture finance strategies and instruments to crowd-in private sector, enhancing access to suitable financial services to farmers particularly smallholders and agricultural Small and Medium Enterprises (SMEs) as a way to increase agricultural productivity and income, and facilitating the consolidation/ integration of production and marketing entities in agriculture to achieve economies of scale and stronger presence in markets. Important instruments for our work are: diagnostics on the state and areas for improvement of agricultural finance, participation by our team members as technical experts in agricultural finance in lending and advisory projects, and KM/GE activities on topics related to agricultural finance. The benefits of our work include the following: growing income of farmers and agricultural SMEs through commercialization and access to better technologies, increasing resilience through climate smart production, risk diversification and access to financial tools, and smoothing the transition of non-commercial farmers out of agriculture and facilitating the consolidation of farms, assets and production.

Ojha (2019) studied on Remittance Status and Contribution to GDP of Nepal. The research paper aims to analyze the status of remittance and its contribution to GDP of Nepal. The study has adopted the descriptive and analytical research design. The study is quantitative in nature. Most of the developing countries like Nepal depend on remittance as the major source of foreign currency earning. Remittance plays an important role in economic development of a country. Nepal has also long history of international labor migration about 200 years ago Nepali migrant laborers are contributing substantial amount as remittance inflows through legal channel which has positive impact on GDP, per-capita income, Capital formation, education etc. The volume of remittance is much more than the records because, migrants are using illegal ways due to ignorance and difficulty in receiving amount from legal ways.

2.3 Research Gap

Literature review is the most important function to develop any research provides deeper knowledge, experience and other ideas to the researcher. The researcher has made attempts to study some dissertations and relation books to reviews the literature related to the study. Review of related literature helps to the researcher to gain the inside to previous research study that related to the present study. Literature review have most vital role in this study and it has more implication for this study which provides deeper knowledge, experience and other ideas to the researcher. To create the research idea, to gain the research methods and many methodology, the review of the literature can use. For review of the related literature, the study to be easier than easier. It can helps for cited, to gain objectives of the study, for sampling procedure and it also helps for how to table and chart construct and give deeply knowledge about the study. The review of literature helps to actualization of study, interpretation and analysis of data, categorization of data and comparison of data and summary writing. Above literature review helpful for the researcher tool design. There has been conducted several studies on impotence of agriculture in economic development of Nepal. Most of these studies are analyzing particular country's agriculture to Nepal and its impact on national economy. They are analyzing the impact only. This study will try to find out the trend and pattern of financing in the agricultural development of Nepal and appraise the policies and programs that have proved successful

CHAPTER-III

RESEARCH METHODOLOGY

This chapter outlines the methodology for analyzing agricultural financing and its role on economic growth on various economic indicators. This study was based on secondary data information.

3.1 Theoretical Framework

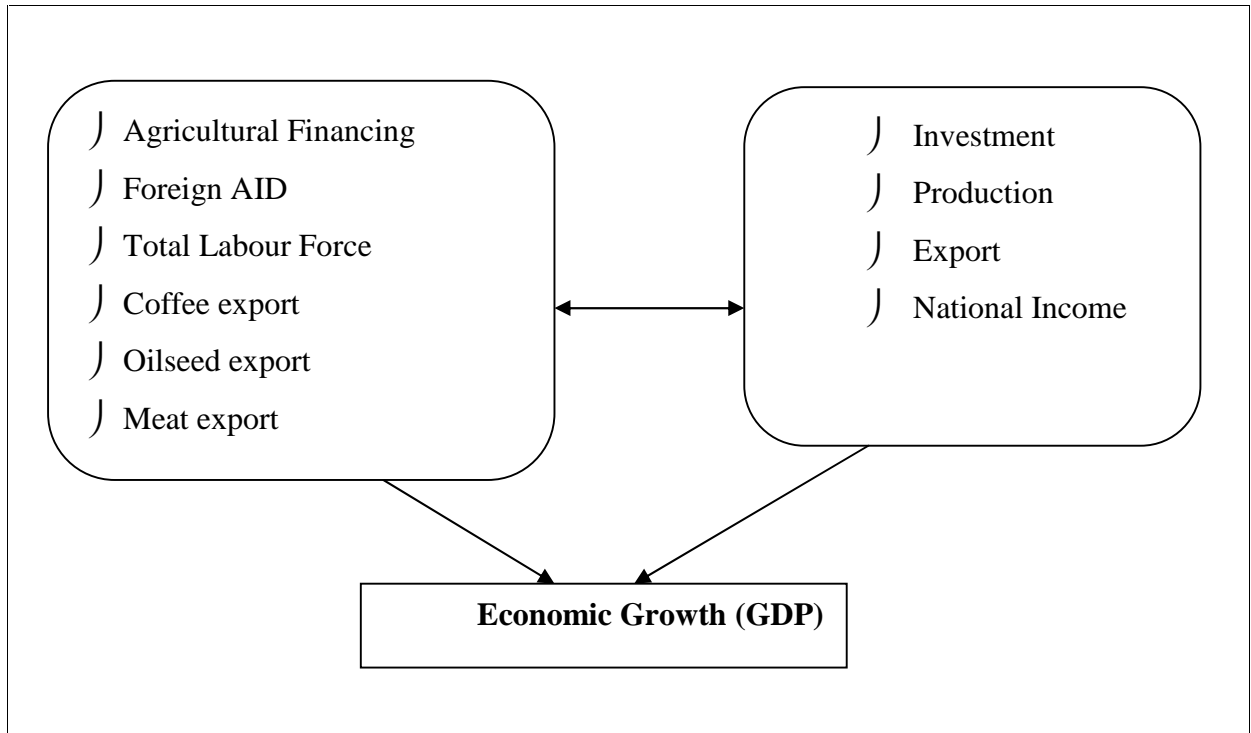
Agricultural sector has been one of the effervescent sectors lubricating the industrial sector as well as the overall growth of the economy of the developing economies. In the past, it was viewed as the passive sector in the development process.

Thorbecke (2002) has presented a somewhat different analytical approach to agricultural development insofar as policy measures are concerned. Agriculture becomes integrated into the modern developed system and a further process of sectoral development continues under competitive market conditions, giving rise to factor mobility between agriculture and other sectors in response to economic incentives. Contrary to the other models presented above, in Thorbecke's analysis, the development process in agriculture does not taper off after take-off stage but continues as a viable part of the system.

In his framework of analysis, Thorbecke has incorporated policy means that bring changes in agrarian structures in each phase of the development process and it can also indicate how changes in the agrarian structure interact with other aims of an economic policy. This approach has substantial relevance for Nepal's economic development. Given the nature of the existing agrarian structure, substantial and rapid changes such as in the land tenure are inevitable in Nepal in its quest for economic development. In the analysis of the agricultural sector, therefore, an attempt will be made to identify the defects in the agrarian structure that obstruct

the process of development in Nepal. The conceptual framework of this study is presented the following figure:

Figure - 3.1: Conceptual Framework



3.2 Research Design

This study was based on the descriptive and analytical research design. Secondary data will be used because of the nature of the study which was an analysis of the contribution of the agricultural sector to the national economy, taking GDP as proxy. Data that has been generated are required for this type of study. The method of data analysis is the ordinary least square (OLS) multiple regression method. I use of Ms. Excel, SPSS.20 and econometric software.

3.3 Nature and Sources of Data

This study is completely was based on secondary sources of data. Data has been collected from central Bureau of Statistics (CBS), Ministry of Finance (MOF) Economic survey of Nepal, Nepal Rasta Bank (NRB), Ministry of Agriculture, Ministry of Irrigation, and Ministry of Forest.

3.4 Study Period

The time series data cover 25 years ranging from 1993/94-2017/18. The purpose of choosing this period is to empirically test the significance or the extent to which agricultural sector contributes to the economic growth despite several years of Government neglect and the renewal of effort towards stabilizing the sector, since 1993 to date. Hence, the study is based on data of 10 years from the adoption of liberal policy since 1993/94-2017/18.

3.5 Tools and Methods of Data Collection

The secondary data are readily available from the other sources and as such, there are no specific collection methods. The researcher can obtain data from the sources both internal and external to the organization. The secondary data can be both qualitative and quantitative. The qualitative data can be obtained through newspapers, diaries, interviews, transcripts, etc., while the quantitative data can be obtained through a survey, financial statements and statistics. One of the advantages of the secondary data is that it is easily available and hence less time is required to gather all the relevant information. Also, it is less expensive than the primary data. But however the data might not be specific to the researcher's needs and at the same time is incomplete to reach a conclusion. Also, the authenticity of the research results might be skeptical. Hence, this study is completely will be based on secondary sources of data. Data will be collected from central Bureau of Statistics (CBS), Ministry of Finance (MOF) Economic survey of Nepal, Nepal Rasta Bank (NRB), Ministry of Agriculture, Ministry of Irrigation, and Ministry of Forest.

3.6 Data Organization and Processing

A literature review of the macroeconomic methodological framework (Input-Output tables, Social Accounting Matrices (SAM), multiplier analysis, impact analysis and relationship) was conducted to present the context of the study. The model is a SAM-based multiplier model. The model is used to assess the contribution of the agricultural sector to economic growth in Nepal . The Leontief inverse matrix was used to estimate the SAM output, income and value

added/GDP multiplier. Scenarios was analyzed, in particular, the scenario related to increased demand for agricultural commodities by Nepal to increase investment subsidies in Nepal. Finally, the column sums of the Leontief inverse was used to estimate backward relationship and the row sums of the Ghosh inverse to estimate forward linkages. The normalized form used to calculate the power and sensitivity of dispersion indices.

3.7 Methods of Data Analysis

The data was collected from different sources to process, analyze and interpret them to drive meaningful conclusion. The various data was collected from different sources has been compiled condensed, analyzed and presented in the form of tables and graphs.

3.8 Model Specification

Regression is the statistical tool, with the help of which we can predict the unknown value of one variable from known value of any other variable. Assuming that the two variables are closely related, we can estimate the value of one variable from the value of another. The variable, whose value is given, is called independent variable and the variable whose value is to be predicted is called “dependent variable. It is a statistical tool for determining relationship between the variables by the establishment of an approximate functional relationship between them. It is used to determine that whether the dependent variable is influenced by the given independent variable or not. Regression analysis is a branch of statistical theory that is widely used in almost all the scientific disciplines. One of the most frequently used techniques in economics and business research, to find a relation between two or more variables that are related casually is regression analysis.

Various economic growth theory have been discussed in this study under theoretical frame work, such as Classical growth theory which assumes non-economic factors of production like population growth, political instability ,the security of private property and the role of law and institutions in addition to economic factors of production land ,labor, capital and technology. Endogenous

growth theory depends on the implication that, policies which embrace openness, competition, change and innovation will promote growth and conversely, policies which have the effect of restricting or slowing change by protecting or favoring particular existing industries or firms are likely over time to slow growth to the disadvantages of the communities.

3.8.1 Multiple Regression Model

The multiple regression model take on the following form:

$$GDP_{it} = \beta_0 + \beta_1 AgF_{it} + \beta_2 FA_{it} + \beta_3 TLF_{it} + \beta_4 COFX_{it} + \beta_5 OLX_{it} + \beta_6 MTX_{it} + U_{it}$$

....(i) (Population Model)

Where,

| | |
|------------------------------------|------------------------|
| $\beta_0, \beta_1, \dots, \beta_6$ | Regression Parameter |
| GDP | Gross domestic product |
| AgF | Agricultural Financing |
| FA | Foreign Aid |
| TLF | Total labor force |
| COFX | Coffee export |
| OLX | Oilseed export |
| MTX | Meat export |

GDP = Dependent Variable

AgF, FA, TLF, COFX, OLX, MTX are explanatory variable or independent variable

U_{it} = Radom stochastic variable

Sample Model,

$$GDP_{it} = \hat{\beta}_0 + \hat{\beta}_1 AgF_{it} + \hat{\beta}_2 FA_{it} + \hat{\beta}_3 TLF_{it} + \hat{\beta}_4 COFX_{it} + \hat{\beta}_5 OLX_{it} + \hat{\beta}_6 MTX_{it} + e_{it}$$

....(ii)

The estimated regression equation is,

$$\hat{GDP}_{it} = \hat{\beta}_0 + \hat{\beta}_1 AgF_{it} + \hat{\beta}_2 FA_{it} + \hat{\beta}_3 TLF_{it} + \hat{\beta}_4 COFX_{it} + \hat{\beta}_5 OLX_{it} + \hat{\beta}_6 MTX_{it}$$

....(iii)

From equation (ii) and (iii),

$$GDP_{it} = \hat{GDP}_{it} + e_{it}$$

Therefore, $e_{it} = GDP_{it} - \hat{GDP}_{it}$

Specifically, when the above general model is converted into the specified Variables of this study the above multiple regression model equations were run to estimate the role of agricultural financing for the economic growth in Nepal.

3.9 Variable Specification

In this chapter, the model used in the study is tested and explained. The model is partially presented and detailed with separate sections for each components of the model. While presenting the model, one of the most important sections, capital sector as indicated by Capital Mobilized, is considered at first and then the rest of the model is presented following the loops or sequence in the model.

Gross Domestic Product (GDP)

It is dependent variable since the study is looking at the relationship between the real GDP and agricultural export in Nepal. It is defined as 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.

Agricultural Financing

Agricultural finance is an essential part of the process of uplifting of agriculture and rural economy. Agriculture finance is systematically institutionalized for small farmers, agricultural development cannot be materialized. Due to small holdings, low crop yields and small income there is very little saving among the majority of the farmers of Nepal. Agriculture finance and agricultural insurance are strategically important for eradicating extreme poverty and boosting shared prosperity.

Foreign Aid

Foreign aid is an important instrument to bridge the fiscal gap in least developed countries in the world. It has two headings: foreign loan and grant. International finance among the public finance plays a key role in socio-economic development. Foreign direct investment, remittance and official development assistance (ODA) fall under international finance. In the past, major source of

development expenditure used to be foreign aid which currently occupies nearly 20 percent of the national budget. The share of foreign grants and debts is likely to grow in upcoming years due to necessity for post-earthquake reconstruction and rehabilitation works (Economic Survey, 2018).

In this study, foreign aid is taken as an independent variable even it is affected by dozen of factors, in regression analysis, it is denoted by FA. There is positive relationship between government expenditure and foreign aid in Nepal. Higher the foreign aid, higher will be the government expenditure in this study but government expenditure itself is independent variable.

Total Labor Force (LF): This variable captures the effect of labour force on economic growth since the development on the agricultural sector improves the productivity of labour. Labour is considered to play a vital role in export-growth relationship. The neoclassical theory, stipulates that as the input (labour and capital) increases total output increases. It is therefore expected that labour force will have a positive relationship with economic growth.

Coffee Exports (COFX): Coffee is the leading export commodity in Nepal. Export expansion is a significant catalyst in improving productivity growth. Therefore, export expansion helps to concentrate investment in agricultural sectors which in turn increase the overall total productivity of the economy. Additionally, export growth may also relieve the foreign exchange constraint, allowing capital goods to be imported to boost economic growth. Therefore positive relationship will be expected on economic growth.

Oilseed Exports (OLX): Oilseed is the second exportable commodity in Nepal shows increasing trend indicating the increasing demand for oilseed in the world market as well as production in the country. Since export is a catalyst for productivity growth and elevates the foreign currency constraint, oilseed export is expected to have positive relationship with economic growth.

Meat Export (MTX): Annual consumption of meat in Nepal is approximately 250,000 metric ton. Buffalo, goat, sheep, pig and poultry (chicken) are the major

meat animals in Nepal. Although meat is an excellent source of protein and other nutrients in human diet, it can pose a significant health risk due to easy growth of pathogenic microorganisms and other zoonotic disease agents. Despite its widespread consumption in Nepal, meat is one of the most unsafe food items sold in the market. In an attempt to ensure the availability of safe meat to the public, government of Nepal formulated and enacted the Animal Slaughterhouse and Meat Inspection Act 1999 and regulation 2001. Among more than 100 food standards of Nepal, no standard is found about meat and meat products.

Investment

Investment refers to the sum of total financial contribution of the Nepalese banking sector and farmers in the agriculture sector in Nepal. Actual Borrowing Rate (ABR) is the total amount of financing received from the banking sector and Retained Earnings (RE) is net saving of the farmers in the Nepalese agriculture sector accounted after financial and household obligations. Both ABR and RE are explained in the following section of this chapter.

Investment, purely determined by ABR and RE exhibits a tremendous growth during the simulation period. Investment which starts at approximately NPR 35 billion in the base year stands at approximately NPR 54 billion at the end of the simulation period, which is 2014. This shows that investment in the Nepalese agriculture sector grew by over 50 percent over the period of 15 years. Thus, increase in investment from banks and farmers' retention of income increases investment in the Nepalese agriculture sector.

Production

In the model, production (P) refers to the total output of agricultural products produced in the Nepalese agriculture sector. The level of CM combined with the contribution of households determines production. Production is calculated using the „Cobb-Douglas“ production function. The „Cobb-Douglas“ production function calculates output based on the availability of factor inputs, which are CM and Households (H) in the model. The equation gives the amount of output that can be produced using these factor inputs.

In the model, P_o is derived by the interaction of demand and supply of agricultural products in the Nepalese economy. In a free market economy like Nepal, P is determined by the equilibrium point of supply and demand. Supply is given by the volume of production and demand is assumed to be constant with the supply in the study. Since, the study doesn't incorporate import of the agriculture products, demand is assumed to be equal to supply which is determined by the volume of production.

P_o in the model excludes the effects of market inefficiencies and inflation. Market inefficiencies refer to involvement of market intermediary, brokers and transport business owners which increase final prices. The presence of market inefficiency makes products expensive for consumers and makes product market less attractive. Furthermore, as the effect of inflation is excluded from the model, P_o derived by the model is real prices over the simulation period.

Income (I)

"I" represents the total amount of monetary value generated in the Nepalese agriculture sector by summing up the entire production activities. Simply, it is the total revenue given by the entire Nepalese agriculture sector.

Table 3.1: Variables and Expected Signs

| Variable | Variable Name | Expected |
|-----------------|------------------------|-----------------|
| GDP | Gross domestic product | + |
| AgF | Agricultural Financing | + |
| FA | Foreign Aid | - |
| LF | Total labor force | + |
| COFX | Coffee export | + |
| OLX | Oilseed export | - |
| MTX | Meat export | + |

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

4.1 Status of Economic Growth and Financing in the Agricultural Sector

There is an ever increasing need to invest in agriculture due to a drastic rise in global population and changing dietary preferences of the growing middle class in emerging markets towards higher value agricultural products. In addition, climate risks increase the need for investments to make agriculture more resilient to such risks. Estimates suggest that demand for food will increase by 70% by 2050 and at least \$80 billion annual investments will be needed to meet this demand, most of which needs to come from the private sector. Financial sector institutions in developing countries lend a disproportionately lower share of their loan portfolios to agriculture compared to agriculture sector's share of GDP.

On the other side, the growth and deepening of agriculture finance markets is constrained by a variety of factors which include: i) inadequate or ineffective policies, ii) high transaction costs to reach remote rural populations, iii) covariance of production, market, and price risks, and iv) absence of adequate instruments to manage risks, v) low levels of demand due to fragmentation and incipient development of value chains, and vi) lack of expertise of financial institutions in managing agricultural loan portfolios. The development of agriculture requires financial services that can support: larger agriculture investments and agriculture-related infrastructure that require long-term funding (given that currently transportation and logistics costs are too high, especially for landlocked countries), a greater inclusion of youth and women in the sector, and advancements in technology (both in terms of mechanizing the agricultural processes and leveraging mobile phones and electronic payment platforms to enhance access and reduce transaction costs). An important challenge is to address systemic risks through insurance and other risk management mechanisms and lower operating costs in dealing with smallholder farmers.

4.1.1 Economic Growth

World Economic Outlook of International Monetary Fund (IMF) published in April 2017 projects that the world economy grows by 3.5 percent in 2017. Such growth stood at 3.1 percent in 2016. The world economy is projected to expand marginally due to the expansion of economic activities in developed countries and high contribution of emerging and developing economies to global economic growth. Developed economies that grew by 1.7 percent in 2016 is projected to expand by 2.0 percent in 2017. Of the developed countries, the US economy that grew by 1.6 percent in 2016 is projected to grow by 2.3 percent in 2017. Likewise, Euro area that had expanded by 1.7 percent in 2016 is projected to grow at the same rate in 2017. Japanese economy that grew by 1.0 percent in 2016 is estimated to grow by 1.2 percent in 2017 due to increase in net exports.

Global growth in 2019 is expected to slow to 2.6 percent, reflecting weaker-than-expected trade and investment at the start of the year. Growth is projected to gradually rise to 2.8 percent by 2021, predicated on continued benign global financing conditions and a modest recovery in emerging market and developing economies (EMDEs). However, EMDE growth remains constrained by subdued investment. Risks are firmly on the downside, in part reflecting the possibility of a further escalation of trade tensions. It is urgent for EMDEs to reinforce policy buffers and to implement reforms that boost growth prospects (International Monetary Fund, 2019).

Against this backdrop, global growth is forecast at 3.2 percent in 2019, picking up to 3.5 percent in 2020 (0.1 percentage point lower than in the April WEO projections for both years). GDP releases so far this year, together with generally softening inflation, point to weaker-than-anticipated global activity. Investment and demand for consumer durables have been subdued across advanced and emerging market economies as firms and households continue to hold back on long-range spending. Accordingly, global trade, which is intensive in machinery and consumer durables, remains sluggish. The projected growth pickup in 2020 is precarious, presuming stabilization in currently stressed emerging market and developing economies and progress toward resolving trade policy differences.

Risks to the forecast are mainly to the downside. They include further trade and technology tensions that dent sentiment and slow investment; a protracted increase in risk aversion that exposes the financial vulnerabilities continuing to accumulate after years of low interest rates; and mounting disinflationary pressures that increase debt service difficulties, constrain monetary policy space to counter downturns, and make adverse shocks more persistent than normal.

Multilateral and national policy actions are vital to place global growth on a stronger footing. The pressing needs include reducing trade and technology tensions and expeditiously resolving uncertainty around trade agreements (including between the United Kingdom and the European Union and the free trade area encompassing Canada, Mexico, and the United States). Specifically, countries should not use tariffs to target bilateral trade balances or as a substitute for dialogue to pressure others for reforms. With subdued final demand and muted inflation, accommodative monetary policy is appropriate in advanced economies, and in emerging market and developing economies where expectations are anchored. Fiscal policy should balance multiple objectives: smoothing demand as needed, protecting the vulnerable, bolstering growth potential with spending that supports structural reforms, and ensuring sustainable public finances over the medium term. If growth weakens relative to the baseline, macroeconomic policies will need to turn more accommodative, depending on country circumstances. Priorities across all economies are to enhance inclusion, strengthen resilience, and address constraints on potential output growth. Emerging and developing economies is projected to grow by 4.5 percent in 2017. Such growth rate was 4.1 percent in 2016. Indian economy that grew by 6.8 percent in 2016 is estimated to expand by 7.2 percent in 2017. India is projected to expand at a high rate due to the introduction of economic reform programs, convenient supply situation and policy reforms. Likewise, according to IMF, Chinese economy that grew by 6.7 percent in 2016 is projected to grow by 6.6 percent in 2017.

All South Asian countries except that of Bhutan and Bangladesh are projected to grow in 2017 as compared to that of 2016. Likewise, all other south Asian countries except India, Sri Lanka and Nepal had expanded marginally in 2016 as compared to 2015.

Price Situation

IMF has projected that the inflation in developed economies remains 2.0 percent in 2017. Such rate was 0.8 percent in 2016. Likewise, inflation in emerging and developing economies that stood at 4.4 percent in 2016 is projected to reach 4.7 percent in 2017. Inflation is projected to rise in developed and developing economies due to the increased commodity prices including energy price in global markets. South Asian countries inflation in Nepal, India and Bhutan is projected to fall in 2017 as compared to that of 2016. Likewise, among the South Asian countries, the inflation rate of Nepal, Bangladesh, Sri Lanka and Afghanistan had surged while that of other countries had declined marginally in 2016 as compared to 2015.

4.1.2 Gross Domestic Product (GDP)

The Gross Domestic Product (GDP) in Nepal expanded 7.1 % YoY in Jul 2019, following a growth of 6.7 % in the previous year. Real GDP Growth YoY data in Nepal is updated yearly, available from Jul 1961 to Jul 2019, with an average rate of 4.1 %. The data reached an all-time high of 9.7 % in Jul 1984 and a record low of -3.0 % in Jul 1983. CEIC calculates Real GDP Growth from annual Real GDP. The Central Bureau of Statistics provides Real GDP, at 2000-2001 producer prices. Real GDP Growth prior to 2002 is calculated from Real GDP sourced from the World Bank. The fiscal year is from July 16th to July 15th. In the latest reports, Nominal GDP of Nepal reached 30.7 USD Billion in Jul 2019. Its GDP deflator (implicit price deflator) increased 5.0 % in Jul 2019. GDP Per Capita in Nepal reached 1,034.1 USD in Jul 2019. Its Gross Savings Rate was measured at 51.7 % in Jul 2019.

Macroeconomic indicators related to national accounts such as GDP, consumption, savings and investments are prepared by measuring various aspects of the economy for formulation of economic policies, and regular monitoring and evaluation of economic activities. Such indices provide real picture of the current situation and guide a future course of action. From the perspective of economic growth, current fiscal year 2016/17 has been encouraging. Economy has expanded as a result of increase in agricultural production due to favorable monsoon, speed

up in reconstruction works and resolution of energy crisis. Likewise, additional factors contributing in the expansion of economic activity include the commercialization of agriculture, stability oriented politics, reduction in closures and strikes, and reform in government policies and programs.

Table 4.1: Gross Domestic Product Trend

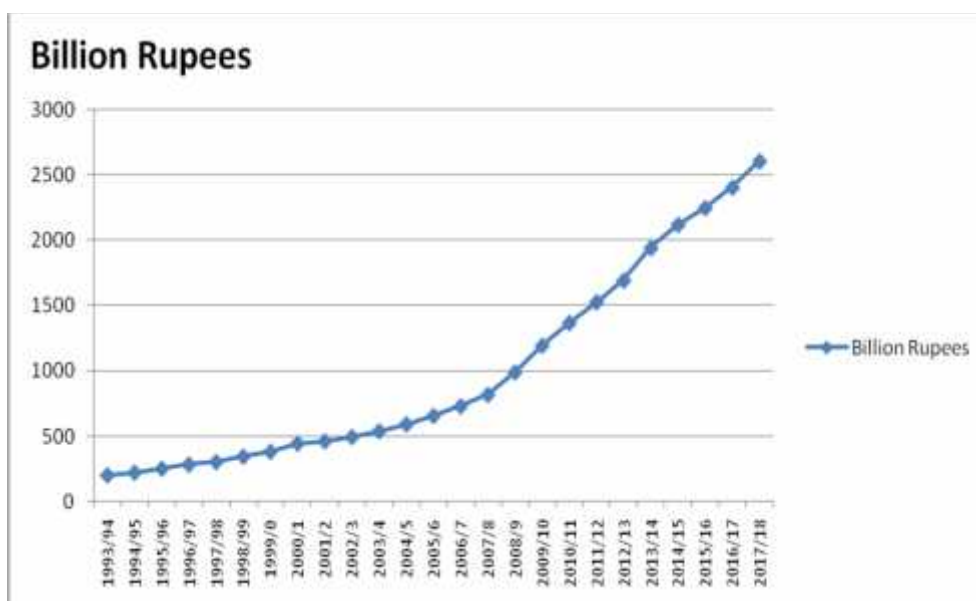
| Fiscal Year | Billion Rupees |
|--------------------|-----------------------|
| 1993/94 | 198.78 |
| 1994/95 | 219.75 |
| 1995/96 | 248.913 |
| 1996/97 | 280.513 |
| 1997/98 | 300.845 |
| 1998/99 | 342.026 |
| 1999/0 | 379.488 |
| 2000/1 | 441.519 |
| 2001/2 | 459.443 |
| 2002/3 | 492.231 |
| 2003/4 | 536.749 |
| 2004/5 | 589.412 |
| 2005/6 | 654.084 |
| 2006/7 | 727.827 |
| 2007/8 | 815.658 |
| 2008/9 | 988.272 |
| 2009/10 | 1192.774 |
| 2010/11 | 1366.954 |
| 2011/12 | 1527.344 |
| 2012/13 | 1692.643 |
| 2013/14 | 1941.624 |
| 2014/15 | 2120.47 |
| 2015/16 | 2248.691 |
| 2016/17 | 2406.048 |
| 2017/18 | 2607.28 |

Source: Ministry of Finance (MoF)

The above table results shows that the Gross Domestic Product has been increasing tremendously with the time. This increase in Gross Domestic Product

has ultimately resulted in the increase of national economic growth rate and which is a good sign for the developing countries like Nepal.

Figure 4.1: Gross Domestic Product Trend



Source: Table 4.1

GDP at base prices is estimated to grow by 6.94 percent in current fiscal year 2016/17. Such growth rate remains 2.97 percent in FY 2014/15 and at 0.01 percent in 2015/16. Economic growth rate has averaged 4.2 percent in the last ten years. The growth rate remained low in most of the fiscal year. The growth rate of 6.94 percent in the current fiscal year is the highest recorded growth in the last ten years. This growth rate is the highest since FY 1994/95.

Likewise, agriculture and non-agriculture sector growth averaged 3.2 percent and 4.7 percent respectively in last ten years. Similarly, industrial and service sector growth averaged 2.8 percent and 5.3 percent respectively in the last ten years. In this period, the growth of agriculture and industrial sector was not achieved as expected. However, the growth rate of the service sector remained satisfactory.

4.1.3 Financing in the Agricultural Sector

Agriculture finance and agricultural insurance are strategically important for eradicating extreme poverty and boosting shared prosperity. Globally, there are an estimated 500 million smallholder farming households – representing 2.5 billion people relying, to varying degrees, on agricultural production for their livelihoods. The benefits of our work include the following: growing income of farmers and agricultural SMEs through commercialization and access to better technologies, increasing resilience through climate smart production, risk diversification and access to financial tools, and smoothing the transition of non-commercial farmers out of agriculture and facilitating the consolidation of farms, assets and production (financing structural change).

Agriculture sector forms the basis for overall development of the country. The sector is pivotal to increase income, alleviate poverty and uplift living standard of Nepalese people. Recent evidence consistently shows that agricultural growth is highly effective in reducing poverty. Gross Domestic Product (GDP) growth originating in agriculture is two times more effective in reducing poverty than GDP growth originating outside the sector (World Bank, 2008). Many countries that had fairly high agricultural growth rates saw substantial reductions in rural poverty. The contribution of agriculture in food, raw materials, and financial surplus (including foreign exchange) to invest is essential for the process of industrialization in its early stages.

Agricultural growth was the precursor to the industrial revolutions that spread across the temperate world, from England in the mid-18th century to Japan in the late 19th century. World Bank (2008) reports that more recently, rapid agricultural growth in China, India, and Vietnam was the precursor to the rise of industry.

Table 4.2: Financing in the Agricultural Sector(Agricultural credit flow)

| Fiscal Year | AGF (Billion Rupees) |
|--------------------|-----------------------------|
| 1993/94 | 0.04908 |
| 1994/95 | 0.0582 |
| 1995/96 | 0.07206 |
| 1996/97 | 0.0897 |
| 1997/98 | 0.1014 |
| 1998/99 | 0.11603 |
| 1999/00 | 0.13508 |
| 2000/01 | 0.15709 |
| 2001/02 | 0.18704 |
| 2002/03 | 0.3872 |
| 2003/04 | 0.39631 |
| 2004/05 | 0.51345 |
| 2005/06 | 0.5793 |
| 2006/07 | 0.6239 |
| 2007/08 | 0.7902 |
| 2008/09 | 0.8125 |
| 2009/10 | 0.6239 |
| 2010/11 | 0.923 |
| 2011/12 | 2.34007 |
| 2012/13 | 3.1531 |
| 2013/14 | 4.027 |
| 2014/15 | 5.0706 |
| 2015/16 | 6.1125 |
| 2016/17 | 7.535 |
| 2017/18 | 11.01709 |

Source : Based on the Data from banking an Financing Statistics and Statistical information on Nepalese Agriculture (1993 to 2018)

Since time immemorial, agriculture has been the basic profession for livelihood. Despite decreasing share of the agriculture in the world economy with development and expansion of other sectors, size of the production of this sector

has been growing. The agriculture sector occupies 28.9 percent of the Nepalese economy. Population engaged in agriculture profession, however, is around two third. Agriculture sector could not be linked to other sectors of the economy while modernizing this sector. Due to the failure to make feel agriculture a dignified occupation, this sector has not developed to the extent desired.

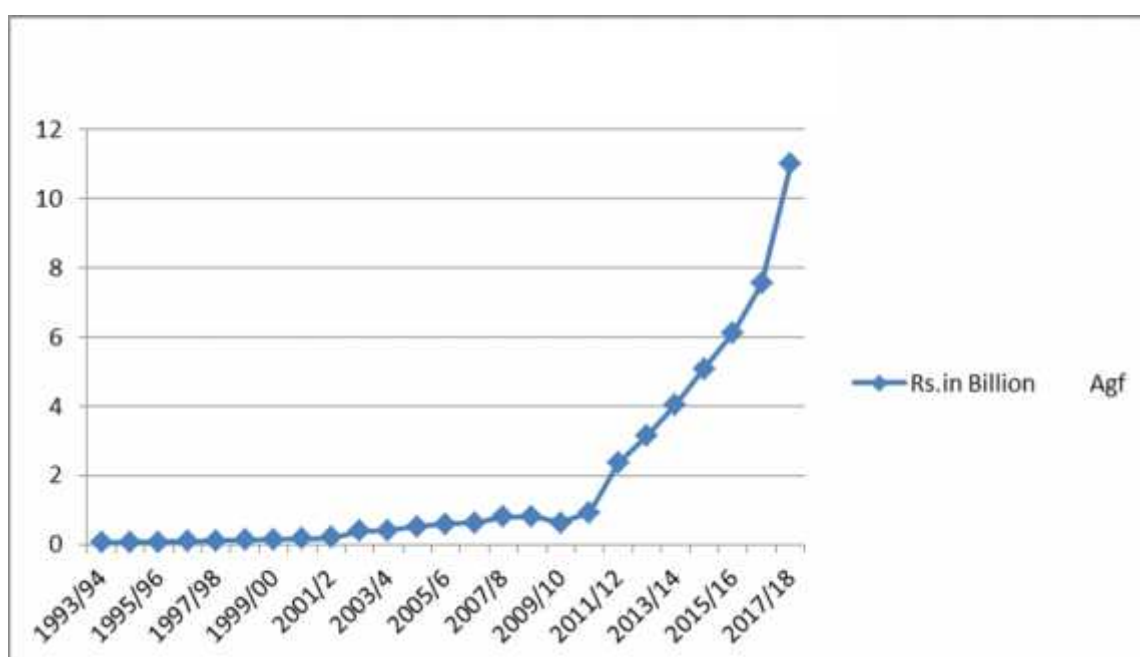
There is a need to implement Agriculture policy and programs that help improving agro-based industry while raising production and productivity of the agriculture sector. Program is needed to encourage production and consumption of healthy food grains while promoting the use of organic pesticides in the agriculture system. Food sovereignty guaranteed by the Constitution of Nepal requires to be ensured by raising the size of agriculture production while adopting scientific method in food grains and cash crops farming systems. Agriculture policy and programs have been geared towards this direction.

Following implementation of Agriculture Perspective Plan in B.S. 2052 (1995 AD), Agriculture Development Strategy is in implementation for next 20 years 2015 - 2035. Objectives of this strategy are to make the country self-reliant on food grain; boost employment opportunities through development of a competitive professional agriculture system; ensure food and nutrition safety; and conserve the environment sustainably. As agriculture is the source of raw materials for industrial development, a Prime Minister Agriculture modernization project to be financed from internal resource has been launched from FY 2016/17 forming a supplementary project of agriculture development strategy to promote agricultural entrepreneurship. In the process of identifying feasible commercial agriculture production area super zones of 1,000 hectare land in each of seven provinces under this program, 30 zones of 500 hectare have been identified. Similarly, 2,100 small pocket areas of 10 hectares each have been identified including 600 in the proximity of postal roads and 200 in and around the mid-hill highway.

Agricultural crop production programs as a commercialization basis are carried out by establishing two blocks of at least 100 hectares each in every district. Likewise, supplemental programs for local employment promotion and industrialization of the agriculture sector are in implementation through eight

projects supported by foreign aid agencies. The above results shows that annual financial change in 1990 to 2000 is increasing and then it went on decreasing in 2001 and it climbed up slowly. Similarly annual financial change decreased in 2014/15 due to the earthquake in Nepal, then after it has been increasing slowly as many people were busy on rebuilding their houses which were badly damaged and farmers couldn't involve in agricultural activities.

Figure 4.2. Financing in the Agricultural Sector



Source : Table 4.2

Agriculture sector is estimated to have contributed 28.9 percent to GDP in FY 2016/17. Such contribution of the Agriculture sector in the previous FY 2015/16 stood at 31.1 percent. Annual growth rate of the Agriculture sector in FY 2016/17 at basic prices is estimated at 5.3 percent whereas such growth remained negative by 0.03 percent in the previous FY 2015/16. Growth of the Agriculture sector, which is dependent on favorability of weather condition, has not been satisfactory during previous 10 years.

4.1.4 Flow of Agricultural Foreign Aid

The trend of year wise flow of Agricultural foreign Aid in Nepal is erratic and unpredictable. The table 4.1 manifests the amount of real agricultural foreign aid and real agricultural GDP from 1997 to 2016 A.D. The table shows that the

magnitude of agricultural foreign aid was Rs. 1194.27 million in FY 1997 which has increased to Rs. 2152.27 million in FY 2015. There is some degree of fluctuations in FA. The main cause of this ups and down flow of FA in Nepal may be the high risk due to the transitional politics and internal conflict.

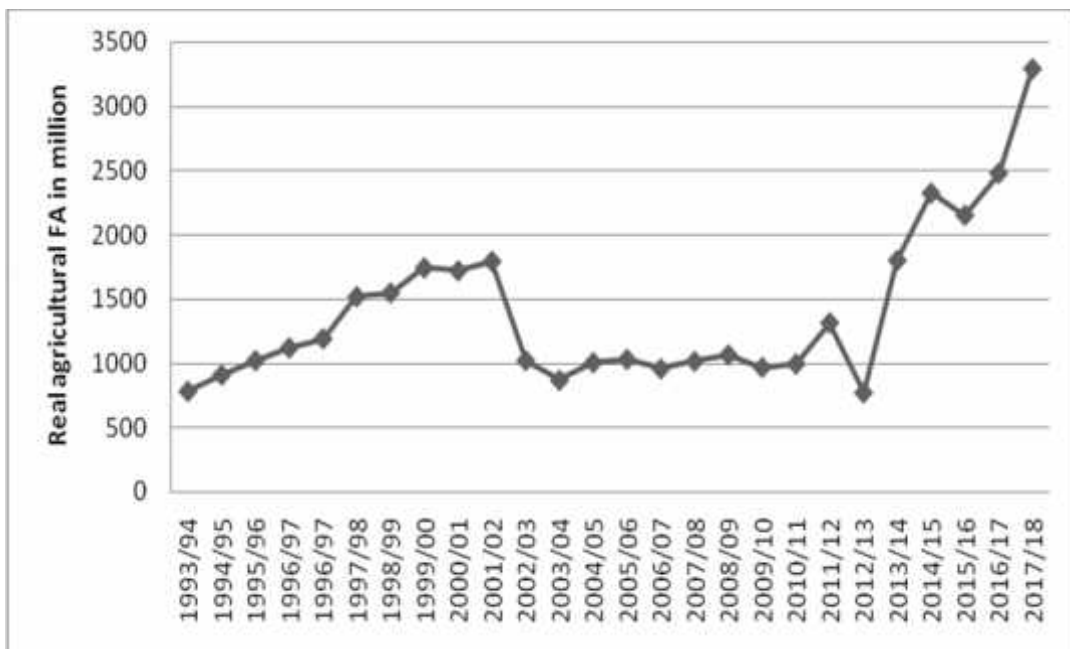
After 1996 political instability occurred in Nepal with rise of Maoist party, which started the armed revolution in Nepal. Thus, with the increase in political conflict and armed revolution in Nepal and hence the flow of FA also fluctuates because political stability is the main factor for huge inflow of FA.

Table: 4.3: Trends of Agricultural Foreign Aid

| Years | Real agricultural FA (Rs. in Million) |
|--------------|--|
| 1993/94 | 785.13 |
| 1994/95 | 912.17 |
| 1995/96 | 1023.78 |
| 1996/97 | 1123.09 |
| 1996/97 | 1194.27 |
| 1997/98 | 1520.72 |
| 1998/99 | 1549.97 |
| 1999/00 | 1744.43 |
| 2000/01 | 1721.63 |
| 2001/02 | 1794.79 |
| 2002/03 | 1024.32 |
| 2003/04 | 871.01 |
| 2004/05 | 1008.60 |
| 2005/06 | 1033.28 |
| 2006/07 | 960.12 |
| 2007/08 | 1018.27 |
| 2008/09 | 1067.67 |
| 2009/10 | 970.70 |
| 2010/11 | 998.51 |
| 2011/12 | 1317.32 |
| 2012/13 | 775.35 |
| 2013/14 | 1802.93 |
| 2014/15 | 2324.73 |
| 2015/16 | 2152.27 |
| 2016/17 | 2478.87 |
| 2017/18 | 3289.79 |

Source: Ministry of Finance

Figure 4.3: Trends of Agricultural Foreign Aid



Source : Table 4.3

4.1.5 Total Labor Force

Workers' remittances and compensation of employees comprise current transfers by migrant workers and wages and salaries earned by nonresident workers. Data are the sum of three items defined in the fifth edition of the IMF's Balance of Payments Manual: workers' remittances, compensation of employees, and migrants' transfers. Remittances are classified as current private transfers from migrant workers resident in the host country for more than a year, irrespective of their immigration status, to recipients in their country of origin. Migrants' transfers are defined as the net worth of migrants who are expected to remain in the host country for more than one year that is transferred from one country to another at the time of migration. Compensation of employees is the income of migrants who have lived in the host country for less than a year.

Table: 4.4 : Role of Remittance Inflows to GDP for Nepal

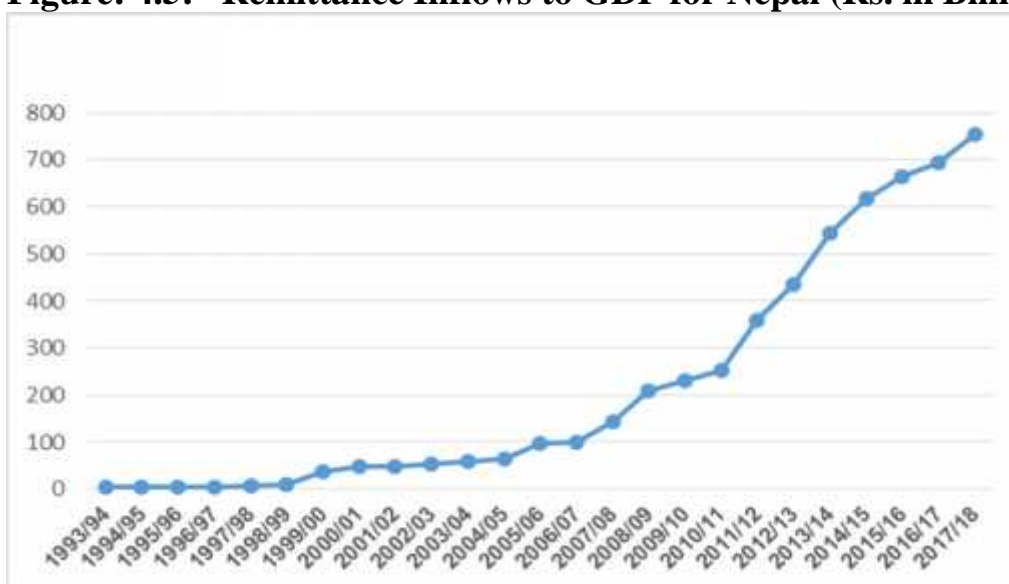
| Years | Remittance Inflows (Rs. In billion) |
|--------------|--|
| 1993/94 | 3.46 |
| 1994/95 | 5.06 |
| 1995/96 | 4.28 |
| 1996/97 | 5.59 |
| 1997/98 | 6.98 |
| 1998/99 | 10.31 |
| 1999/00 | 36.82 |
| 2000/01 | 47.22 |
| 2001/02 | 47.54 |
| 2002/03 | 54.20 |
| 2003/04 | 58.58 |
| 2004/05 | 65.42 |
| 2005/06 | 97.69 |
| 2006/07 | 100.14 |
| 2007/08 | 142.68 |
| 2008/09 | 209.70 |
| 2009/10 | 231.7 |
| 2010/11 | 253.6 |
| 2011/12 | 359.6 |
| 2012/13 | 434.6 |
| 2013/14 | 543.3 |
| 2014/15 | 617.3 |
| 2015/16 | 665.1 |
| 2016/17 | 695.5 |
| 2017/18 | 755.1 |

Source: Ministry of Finance

Workers' remittances and compensation of employees comprise current transfers by migrant workers and wages and salaries earned by nonresident workers. Data are the sum of three items defined in the fifth edition of the IMF's Balance of Payments Manual: workers' remittances, compensation of employees, and migrants' transfers. Remittances are classified as current private transfers from migrant workers resident in the host country for more than a year, irrespective of their immigration status, to recipients in their country of origin. Migrants' transfers are defined as the net worth of migrants who are expected to remain in the host country for more than one year that is transferred from one country to another at the time of migration. Compensation of employees is the income of migrants who have lived in the host country for less than a year.

The above table result shows that in year 1993/94 the remittance inflow was 3.46 billion rupees, slowly it kept on increasing and it reached 100 billion rupees in 2006/07. This shows that the key contribution to national GDP is remittance in Nepal. Day by day many youths are going abroad in the search of good employment and for life security. The remittance reached 755.1 billion rupees on 2017/18 fiscal year, which is almost 200 times as that was in 1990's decade. The government should take this seriously and sought out the problems behind this.

Figure: 4.5: Remittance Inflows to GDP for Nepal (Rs. in Billion)



Source: Table 4.5

4.1.6 Export Status of Oil Seeds

Among various types of crops cultivated, oilseed crops are those which are cultivated for extraction of oil and oil products. The oil extracted from oilseeds form an important item of our diet and are used as raw materials for manufacturing large number of items like paints, varnishes, hydrogenated oil, soaps, perfumery, lubricants, etc. Oil-cake which is the residue after the oil is extracted from the oilseeds, forms an important cattle-feed and manure. Production of oilseed crops in current fiscal year is estimated to reach 212,000 MT. This production, as compared to production of 211,000 MT in FY 2015/16, is more by 0.28 percent. Growth rate of production of oilseed has remained low for lacking sufficient investment in this area.

Table 4.5 : Export Status of Oil Seeds

| Fiscal Year | Thousand US\$ |
|--------------------|----------------------|
| 1993/94 | 5,146 |
| 1994/95 | 6,079 |
| 1995/96 | 16,970 |
| 1996/97 | 10,730 |
| 1997/98 | 2,207 |
| 1998/99 | 1,767 |
| 1999/0 | 656 |
| 2000/1 | 551 |
| 2001/2 | 549 |
| 2002/3 | 775 |
| 2003/4 | 279 |
| 2004/5 | 357 |
| 2005/6 | 296 |
| 2006/7 | 571 |
| 2007/8 | 158 |
| 2008/9 | 224 |
| 2009/10 | 178 |
| 2010/11 | 340 |
| 2011/12 | 32 |
| 2012/13 | 87 |
| 2013/14 | 407 |
| 2014/15 | 386 |
| 2015/16 | 551 |
| 2016/17 | 7,113 |
| 2017/18 | 9,714 |

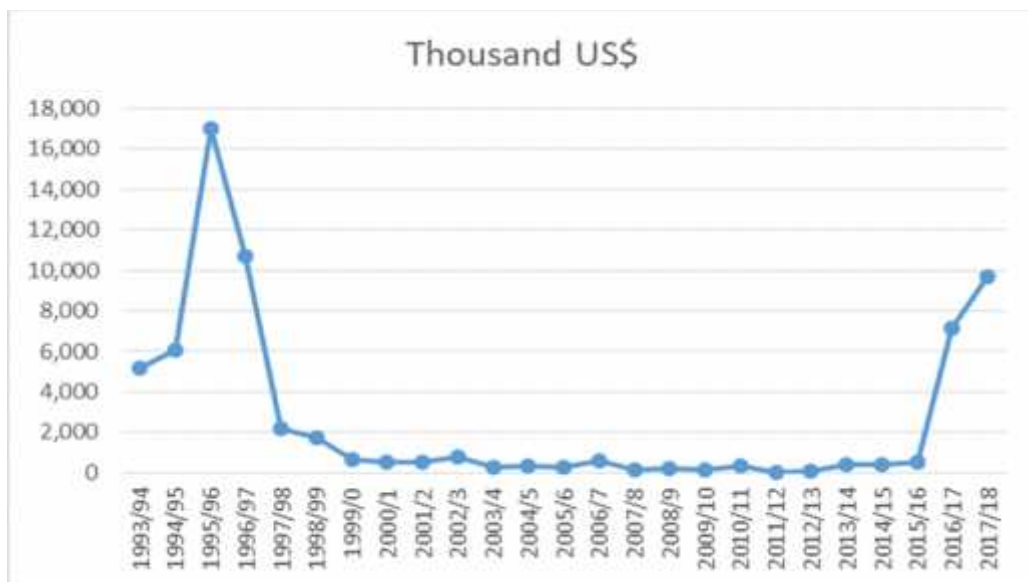
Source: Ministry of Agriculture

In Nepal, cultivation of oilseed crop is increasing every year. Significant proportion of the fats and oils in Nepalese diet comes from vegetable oil (oilseed crop). Many oilseed crops are grown in Nepal, among them mustard is the main of Nepal and supplies more than 80% of vegetable oil in Nepalese diet .

Sunflower is another potential oilseed crop having a wide range of availability. This can be grown throughout the year due to its photosensitivity. Groundnut is also important oil crops of the world. In Nepal, this crop is getting popularity among the farmers especially due to market created by different food industries. But the average yield level of groundnut in Nepal is as low as 600 kg/ha. Rapeseed and mustard are also grown as oilseed crop in Nepal which are used throughout the country for cooking purpose. They are widely accepted the Nepalese farmer. As other crops Tori is also one of the important crops of Nepal during the winter season but it's per hectare yield is quite low.

The oilseed yield has not increased since 2 decades whereas the population of Nepal has increased tremendously. So the country is facing the scarcity of cooking oil. Very little effort has been given to increase the yield per ha of these crops. There are so many troubles that are responsible for the low yield of oilseed crops. Among several factors the poor management is the number one. The farmers don't apply proper amount of fertilizers and do little or no weeding. As a result, the yield of oilseed crops is very low in our country.

Figure 4.6 Export Status of Oil Seeds



Source: Table 4.6

Hence, from above figure we are able to analyze the trend of different oilseed crops. Though the productivity of oilseeds in Nepal is increasing it has not been able to obtain satisfactory result. Government has not paid proper attention in this

field in terms of policy making as well as other regulatory activities. There are no opportunities for mass production as farmers are not able to obtain quality seeds and depend upon foreign countries. Due to greater prices of raw materials, farmers are not being able to obtain much profit. Similarly, due to lack of transportation and roadways they are not being able to commercialize the product. Thus, by adopting modifications in agricultural as well as governmental systems (in terms of policy making and regulations) and by proper provision of quality seeds for all area of production, scope of oilseed can be increased.

4.1.7 Export Status of Coffee

Nepal has enormous potential for cultivation of coffee as the climate is suitable throughout the mid hills of the country. High demand of coffee and higher price, comparative to other crops in the international market lure farmers for its cultivation. This heading deals with the present state of same product focusing on the production and consumer behaviour on preferences of Nepalese coffee. For the study, growth rate in area, production and yield of coffee was estimated using the secondary information.

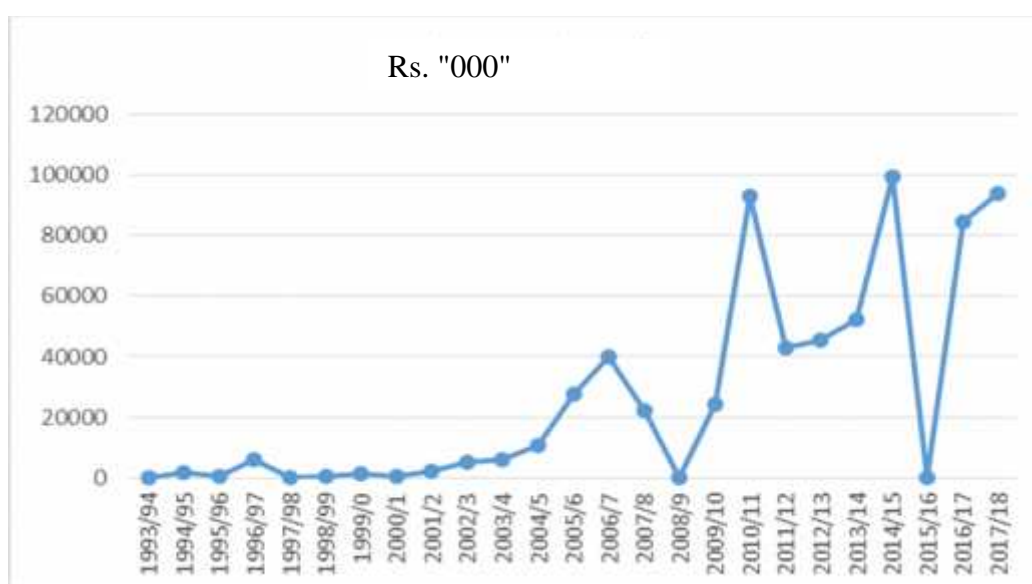
Table 4.6 : Export Status of Coffee

| Fiscal Year | Rs. "000" |
|--------------------|------------------|
| 1993/94 | 0 |
| 1994/95 | 1,643 |
| 1995/96 | 638 |
| 1996/97 | 6,023 |
| 1997/98 | 318 |
| 1998/99 | 634 |
| 1999/0 | 1,415 |
| 2000/1 | 673 |
| 2001/2 | 2,455 |
| 2002/3 | 5,205 |
| 2003/4 | 5,947 |
| 2004/5 | 10,792 |
| 2005/6 | 27,678 |
| 2006/7 | 40,117 |
| 2007/8 | 22,175 |
| 2008/9 | 1,25,108 |
| 2009/10 | 24,363 |
| 2010/11 | 93,089 |
| 2011/12 | 43,095 |
| 2012/13 | 45,676 |
| 2013/14 | 52,207 |
| 2014/15 | 99,176 |
| 2015/16 | 1,07,901 |
| 2016/17 | 84,539 |
| 2017/18 | 93,725 |

Source: Ministry of Agriculture

Production of coffee has been increasing gradually in the country in recent years along with growing coffee culture, although its full production potential is yet to be tapped, according to a study. The study revealed that annual growth rate of area under coffee and its production during 1997 to 2018 was 11.61 percent and 10.59 percent, respectively. Whereas, the productivity of coffee during the same period decreased by 1.01 percent. The decline in productivity might be due to problem of irrigation, inadequate nutrient supply and diseases and pests. Large proportion of coffee produced in Nepal is exported. However, the analysis showed that there is decrease of coffee export by 25.6 per cent annually due to increase in local consumption of coffee.

Figure 4.7 Export Status of Coffee



Source: Table 4.7

4.1.8 Export Status of Meat

As the consumption of meat has been growing rapidly among the urban population, the country has been importing processed meat, live animals and frozen meat from different countries, especially from India and Tibet. Subsequently, Nepal's import bill for meat and live animals has been increasing along with the rising demand of meat. The growing number of hotels and restaurants in urban and semi-urban areas has played a catalytic role in increasing the consumption of meat. Though demand of meat is increasing rapidly, production has not been able to keep pace with it.

Table 4.7 Export Status of Meat

| Fiscal Year | Thousand US\$ |
|--------------------|----------------------|
| 1993/94 | 0 |
| 1994/95 | 0 |
| 1995/96 | 0 |
| 1996/97 | 0 |
| 1997/98 | 0 |
| 1998/99 | 289 |
| 1999/0 | 0 |
| 2000/1 | 0 |
| 2001/2 | 4 |
| 2002/3 | 60 |
| 2003/4 | 27 |
| 2004/5 | 27 |

| | |
|---------|-------|
| 2005/6 | 27 |
| 2006/7 | 27 |
| 2007/8 | 27 |
| 2008/9 | 1,294 |
| 2009/10 | 670 |
| 2010/11 | 3,626 |
| 2011/12 | 7,556 |
| 2012/13 | 6,034 |
| 2013/14 | 6,663 |
| 2014/15 | 3,908 |
| 2015/16 | 64 |
| 2016/17 | 3,180 |
| 2017/18 | 4,325 |

Source: Ministry of Agriculture

As the consumption of meat has been growing rapidly among the urban population, the country has been importing processed meat, live animals and frozen meat from different countries, especially from India and Tibet. Subsequently, Nepal's import bill for meat and live animals has been increasing along with the rising demand of meat. The growing number of hotels and restaurants in urban and semi-urban areas has played a catalytic role in increasing the consumption of meat. Though demand of meat is increasing rapidly, production has not been able to keep pace with it.

Against this backdrop, the government accepted around Rs 8.24 billion assistance from the World Bank Group last month to promote innovation in livestock farming, including production of meat. The Ministry of Livestock Development (MoLD) has been framing a policy to substitute the import of meat, under which the government is preparing to promote cooperatives for livestock farming and the private sector for meat processing and market development. The government will support the cooperatives through extension services, insurance schemes, innovate techniques for breeding and concessional loan facility to promote livestock farming, according to MoLD officials.

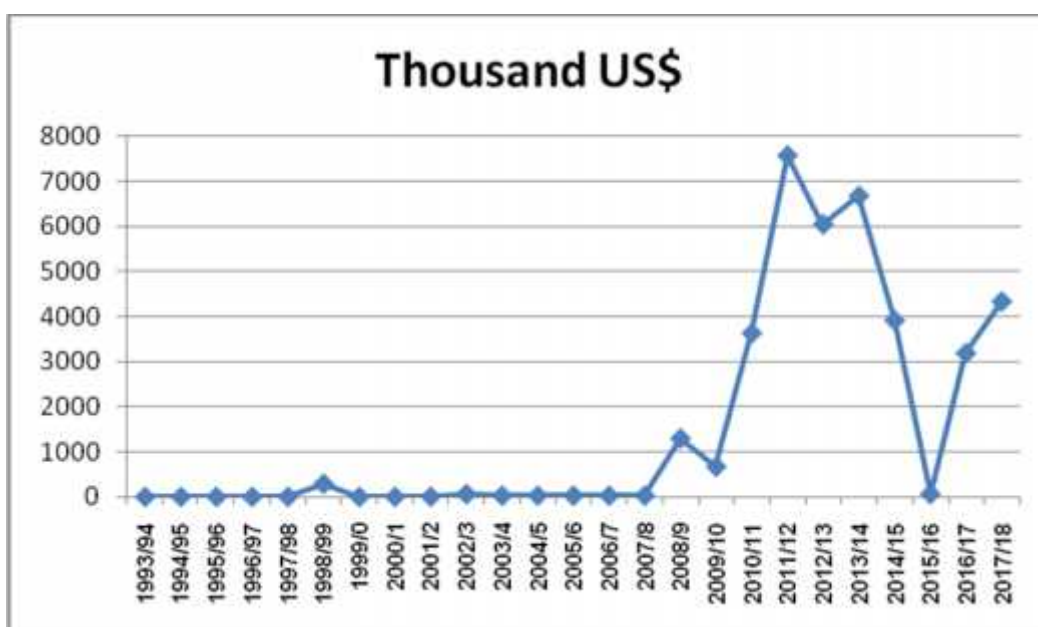
Keshav Prasad Premy, director general of the Department of Livestock Services, said that implementation of the policy will make the country self-reliant in meat.

Currently, Kathmandu Valley is the largest consumer of meat. Per capita meat consumption or per person per annum meat consumption in Kathmandu is 16 kg,

as per Premy. However, nutrition requirement is 17 kg per capita per annum. Per capita consumption of meat in developed countries is around 25 kg.

The above table shows that the meat export from 1993/94 to 1997/98 is zero, then in the fiscal year 1998/99 the export of raised up to 289 US dollar then the following two successive year it again reduced to nil. Since then the export of meat has been fluctuating with the time, this is mainly due to change in country production of farming of animals.

Figure 4.8 Export Status of Meat



Source : Table 4.8

4.2 Regression Analysis

Regression analysis is a powerful statistical method that allows examining the relationship between two or more variable. Regression analysis helps to examine the influence of one or more independent variables on a dependent variable. While hierarchal multiple regression sued in this study helps to determine the magnitude and direction of change in dependent variable in response to change in other independent variable after accounting for all other control variables.

Regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables. Agricultural production is independent variables and economic growth is depended variable study which are expected to significantly influence the GDP of the selected Nepal.

The analysis used to describe the average relationship between two variables is called “simple linear regression analysis”. It is considered as a useful tool for determining the strength of relationship between two (variables in simple regression) or more variables in multiple regression. Specially, regression is used to estimate or predict the most probable value of dependent variables based on one or more independent variables.

Multiple regression analysis is a logical extension of the simple linear regression analysis. Instead of single independent variable, two or more independent variables are used to estimate the unknown values of a dependent variable. However the fundamental; concept in the analysis remains the same. Multiple regressions is defined as statistical device which is used to estimate the most probable value of dependent variable on the basis of known value of two or more independent variables. After determining the order of integration and proving the existence of co-integration among the variables, then the model can be predicted. Therefore, the long run parameters were determined by applying long run model stated in equation four. The result is given in table.

Table 4.8 : Long Run Relationship Between Gross Domestic Product (GDP) and Agricultural Financing

| Dependent: | Coef. | Std. Err. | T | P>t |
|---------------|----------|-----------|--------|------|
| ln GDP | | | | |
| Constant | 374.112 | 81.050 | 4.616 | .000 |
| AGF | 5.944 | 26.547 | .224 | .825 |
| FA | -28.781 | 59.565 | -.483 | .635 |
| LF | 2.776 | .340 | 8.166 | .000 |
| COFX | 1061.387 | 773.454 | 72 | .187 |
| OLX | -70.245 | 44.298 | -1.586 | .130 |
| MTX | 129.413 | 108.598 | 1.192 | .249 |

significant at 1%

R-Squared = 0.9910

Adj R-Squared = 0.988

DW statistics=1.227

The regression equation of GDP on AgF, FA, LF, Cofx, Olx, Mtx, is:

$$\begin{aligned}
 \widehat{GDP}_{it} &= \widehat{\beta}_0 + \widehat{\beta}_1 AgF_{it} + \widehat{\beta}_2 FA_{it} + \widehat{\beta}_3 TLF_{it} + \widehat{\beta}_4 COFX_{it} + \widehat{\beta}_5 OLX_{it} + \widehat{\beta}_6 MTX_{it} \\
 &= 374.112 + 5.944AgF_{it} - 28.781FA_{it} + 2.776TLF_{it} + 1061.387COFX_{it} - \\
 &\quad 70.245OLX_{it} + 129.413MTX_{it}
 \end{aligned}$$

Coefficient of multiple determination (R-Square):

R-Squared = 0.9910, it means 99.10% of total variation in economic growth (GDP) is explained by AgF, FA, TLF, Cofx, Olx, Mtx, and remaining 0.90% of the total variation is other factors.

Results in Table, show that the significant variables are LF at 1% level of significance and Agf , FA, Cofx, Olx, MTX are not significant.

The adjusted R square is high (about 98.8 percent). There is a positive significant relationship between the dependent variable GDP and independent variables TLF. This means that if one of these independent variables increases, the dependent variable will also increase and vice versa.

4.2.1 Impact of Agricultural Financing (AgF) on Economic Growth

The study has found an positive relationship between gross domestic product and agricultural financing (AgF). **The coefficient of AGF is 5.944, Std. err is 26.547 and value is 0.224. The coefficient of AgF is positive (5.944) and insignificant. This result is confirming the positive relation between GDP and AgF. Hence, GDP is increase economic growth of nation is also increase.**

Rai & Vijit (2016) shows that non-performing loan has effect on bank performance. Collectively, from the survey the Commercial banking (44% till 2015) credit facility. Thus, these banks need to follow prudent credit risk management and safeguarding the assets of the banks and protect the interests of the stakeholders. From the graph, the credit to the GDP by domestic financial sectors are shown in percentage with the freedom of financial polices by NRB. 47% people said that commercial banks have adequate facility they seek regarding banking services.

4.2.2 Impact of Foreign Aid (FA) on Economic Growth

Foreign Aid has negative sign and his statistically insignificant in enplaning the GDP in the long run. Increase or appreciation of Foreign aid by 1 unit increases GDP by -28.781 unit.

Thapa (2017) stated that the total share of foreign aid in development expenditure is estimated 50 percent in the three years interim plan (2007-2010). The total share of foreign aid in development expenditure is estimated 57.41 percent in the 13th Plan (2013-16). The effective aid policy should be developed in the country so that the donor country could donate huge amount aid in agricultural as well as infrastructural development

4.2.3 Impact of Labor force (TLF) on Economic Growth

The long-run result showed that, labor force (TLF) directly influence economic growth. The relationship is positive and highly significant. The result of the labor force (LF) indicates that GDP increases by about 2.776 units in the long run due to an addition of one unit in labor force. This means that labor force expansion and economic growth in this study moves in the same directions. The study reports the less share of capital in economic growth as compared with labor's

share in growth. The reason may be that Nepal is the second densely populated country in Asia and labor force is constantly and consistently growing. Human capital is growing due to expanding education, skill and training facilities and provision of better health facilities even in rural or backward areas of the country. Besides these, investment in education and health has increased in private sector as well as by the government. Therefore, Human capital is considered as the primary source of economic growth.

This is supported by Gemechu G.(2002) and Shewengizawu H. (2003) who has previously looked at exports and economic growth in Nepal and the role of diversification in reducing impacts of export instability on Nepal's economic growth by including labor force as independent variable in their model. Muhammad (2012) used labor as one of the independent variables in his model and found relationship between labor and GDP not only positive but more elastic in Pakistan economy. Noula (2014) who have looked at the relationship between labor force expansion and economic growth in Cameroon confirmed that one of the sources of economic growth in Cameroon is from an active labor force.

4.2.4 Impact of Coffee Exports on Economic Growth

The findings reveal that coffee export (COFX) has a positive and insignificant effect on GDP in Nepal indicating a 1 unit increase in coffee export resulted in increase of GDP by 1061.387 unit and is less elastic. This result suggests the importance of coffee for Nepal's economy. Being the principal cash crop, coffee is the oldest and the most highly marketed commodities. Coffee has been exported from Nepal. (the oldest exporter of coffee as a commodity in the world) for more than 1500 years (ECX, 2008).

Coffee production overlaps with many biologically richest regions of the world. Given the right conditions, coffee production can be both economically and ecologically beneficial. Originally, coffee farming was done in shade of trees, which provided natural habitat for many animals and insects. In Nepal coffee produced in 4 ways; forest coffee, semi-forest coffee, garden coffee, and plantation coffee where forest coffee accounts for about 10 percent, semi forest coffee for about 35 percent, garden coffee for about 35 percent, and plantation for about 20

percent (5 percent government, 15 percent private) of total coffee production in Nepal (ECX, 2008).

The government of Nepal has given high priority for coffee production and export by providing extension service to advise the small holder farmers on how to increase productivity. Commercial farms are encouraged to participate in the growing of coffee through provision of different incentives like land, and income tax exemption among others. Likewise exporters of coffee are given different incentives to encourage them to export high quantity of coffee on time. These include export trade duty scheme, duty draw-back scheme, voucher scheme, bonded manufacturing warehouse, export credit guarantee scheme and foreign exchange retention scheme. These different measures taken by government have improved the production of coffee and export level in Nepal (Yishak, 2009).

According to Paulo (2000), during the second half of the nineteenth century up to the world economic crisis of the 1930s, the coffee sector played an important role in many countries such as Brazil, Colombia, Costa Rica, and a bit later and to a lesser degree in other countries in South and Central America. Similarly Naula *et al.* (2013) points out the positive and significant effect of coffee export on economic growth of Cameroon.

4.2.5 Impact of Oilseed Exports on Economic Growth

The Oilseed export (OLX) result from table 10 reveals that oilseed export has a negative and insignificant effect on GDP of Nepal indicating a 1 unit increase in oilseed export results in -70.245 unit increase in GDP and stands less elastic. The evidence from this study suggests that real output and nominal exchange rate significantly influence oilseeds export performance. It was also revealed that during the reform period, oilseeds export showed improvement. It was inferred that oilseeds export performance demands an appropriate macroeconomic incentive environment and complementary structural policies. Thus, Nepal's oilseeds export performance will be determined primarily by its domestic policies. It was scrutinized that despite the generally open trade regime, industrial countries tend to have restrictions on imports of agricultural products, where much of Nepal's export potential is concentrated.

Further, it is argued that a country's oilseeds export may fail to grow as rapidly as the world average for three reasons. Exports may be concentrated in commodity groups for which demand tends to grow relatively at a low rate.

The Nepal n government has indicated that the oilseeds sesame seed, niger seed, and sunflower seed are high-priority export crops. Since these oilseeds are an export-oriented product, there is a small degree of local consumption. Though, the production of oil seed in Nepal is dominated by smallholder farmers, it is also cultivated by some commercial farms which can enhance the production level (PCI, 2013).

4.2.6 Impact of Meat Exports on Economic Growth

Annual consumption of meat in Nepal is approximately 250,000 metric ton. Buffalo, goat, sheep, pig and poultry (chicken) are the major meat animals in Nepal. Although meat is an excellent source of protein and other nutrients in the human diet, it can pose a significant health risk due to easy growth of pathogenic microorganisms and other zoonotic disease agents. Studies by different scientists have evidenced that prevalence of meat borne zoonotic diseases in Nepal is very high as compared to those in developed countries. In a study 9.2% of the meat samples collected from capital city of Nepal (Kathmandu) was found to be positive for salmonella species which is one of the major causes of food poisoning. Approximately 50% of the isolates were multi drug resistant. In another study, 11.4% of meat samples were found positive for salmonella in Kathmandu district.

The study has found an inverse positive relationship between Gross Domestic Product (GDP) and meat export (MTX). Increases of export of meat by 1 unit then GDP increases by 129.413 unit. The coefficient of MTX is positive and insignificant, this result is confirming the positive relation between GDP and MTX. Hence, GDP increases economic growth of the nation is also increases.

Although meat is an excellent source of protein and other nutrients in human diet, it can pose a significant health risk due to easy growth of pathogenic microorganisms and other zoonotic disease agents. Despite its widespread consumption in Nepal, meat is one of the most unsafe food items sold in the

market. In an attempt to ensure the availability of safe meat to the public, government of Nepal formulated and enacted the Animal Slaughterhouse and Meat Inspection Act 1999 and regulation 2001. Among more than 100 food standards of Nepal, no standard is found about meat and meat products.

4.3 Major Causes Affecting Agricultural Production

4.3.1 Weather

The monsoon had entered on 15 June, 2016 from the Eastern area. Against the trend of beginning monsoon by June 10 of every year, the monsoon this year was late by 5 days. The effect of monsoon reactive in the whole country from 1 July, but in overall it remained normally average. None the less, from regional perspective, rainfall was more than average in some geographical sections of mid and far-Western Terai and some parts of far-Western Mountains. But, Terai and Hills of the East received less than average rainfall while it was average in rest geographical areas. Land under paddy cultivation expanded and production increased due to overall good rainfall. Likewise, there was positive effect on winter crop due to moisture in soil and normal winter rainfall.

Table 4.9 : Supply Situation of Agriculture Inputs

| Chemical Fertilizers (MT) | 2013/14 | 2014/15 | 2015/16 | 2016/17* |
|--|---------|---------|----------|----------|
| Improved Seeds (MT) | 232188 | 298677 | 258913.9 | 187131.5 |
| Irrigation Additional Ha | 7290 | 9151 | 12480 | 5031 |
| Fingerlings / in 1000 | 19310 | 18083 | 24291 | 9775 |
| Agricultural Credits of Commercial Banks (In 10 Million) | 148501 | 191345 | 212355 | 303530 |

Source: Ministry of Agriculture Development

4.3.2 Improved Technology

Adoption of improved technology in agriculture, in addition to raising agricultural production, has contributed to raise productivity as well. There has been improvement in agricultural system due mainly to improved seed, fertilizer, pesticides, farming method, use of agricultural tools, and mobilization of trained human resource. As an example of modern technology adoption, 90 percent of land area under the maize

cultivation is covered by improved maize seed. Recommended varieties of paddy for cultivation includes Sabitri, Bindeshwori, Radha - 4, and Radha - 12 in Terai; Khumal- 4, Khumal - 10, and Khumal - 11 in mid hills; and Chandannath. More than 90 percent of the total land area under is covered by recommended paddy varieties. Productivity of these paddy varieties shows twice the production of local varieties.

4.3.3 Natural Disaster

An agricultural activity gets directly affected by the nature as it is not performed in a controlled environment but under the open sky. Excess rain is estimated to have caused damage to paddy, vegetables, maize, fish ponds, fruits of 127,158 hectares of land area in current FY 2016/17. In previous FY 2015/16, land area that suffered such damage totaled 60,520 hectares.

4.3.4 Chemical Fertilizer

A total of 298,677 MT of chemical fertilizer was sold in FY 2014/15, which decreased by 13.3 percent in FY 2015/16 coming down to 258,913 MT. The reason for such low sale of fertilizer was due to disturbance in the supply system caused by obstruction at the borders in previous FY 2015/16. Sale of chemical fertilizers in first eight months of current FY 2016/17 has reached 187,131 MT. Production of monsoon crops including paddy has increased as supply of chemical fertilizers eased, favorable weather condition and increased use of chemical fertilizer in FY 2016/17. The trend of chemical fertilizer use shows that per hectare use in FY 2012/13, FY 2013/14 and FY 2014/15 was 57 Kg, 75 Kg, and 97 Kg respectively. The use of chemical fertilizer in first eight months of current FY 2016/17 is 45 Kg. per hectare. As the season for sowing monsoon crop is due, use of chemical fertilizer is expected to increase by the end of current FY 2016/17. The use of organic fertilizer is being encouraged for maintaining soil fertility while conserving its sustainability.

4.3.5 Irrigation

Of the total arable 2,641,000 Ha, only 1,766,000 ha of land can be made irrigable due to geographical remoteness and land conditions. Due to investment made in the irrigation sector and improvement effort; infrastructure for irrigation has been created by FY 2015/16 for irrigating 1,392,177 Ha. of land comprising surface irrigation

775,000 Ha.; groundwater irrigation 409,013 Ha.; new technology-based irrigation 5,865 Ha.; and improved farmers' irrigation canal 202,299 Ha. Irrigation facility could be made available to only about 40 percent of the total arable land due to failure on relocating water and execution of storage-based multipurpose project at desired level. In FY 2015/16 additional irrigation infrastructure was added comprising 5,800 Ha. Surface irrigation; 17,463 Ha. ground water irrigation; and 1,028 Ha. New technology-based irrigation. By the first eight months of current FY 2016/17, irrigation facility on 9,775 Ha. has been added through groundwater irrigation infrastructure.

4.3.5 Agricultural Credit

Agricultural credit disbursed for agriculture and livestock stood at Rs. 78.791 billion by mid July 2016 which is higher by 20.9 percent as compared to that of preceding year. Likewise, a sum of Rs. 85.453 billion has been lent to agriculture sector during the first eight months of the current FY 2016/17 while such credit amount was Rs. 71.0 billion during the same period of previous fiscal year 2015/16 which is lesser by 20.3 percent.

4.3.6 Investment for Small Farmer Development

The Small Farmers Development Bank, established in 2001 with the objective of leading the activities of small farmer development projects implemented for the sustainable development of rural small farmers, has been making wholesale credits available through Small Farmers' Agricultural Cooperatives and other micro-finance institutions of similar nature established and operated by small farmers in rural sector for operating agriculture and agro-based microfinance programs.

The programs implemented through Small Farmers Development Banks have been extended to 66 districts by the first eight months of current fiscal year. A total of 602 cooperatives were associated with the programs by the end of previous fiscal year 2015/16 while this number went up to 636 with the addition of 34 cooperatives by the first eight months of the current FY 2016/17. Likewise, the number of small farmer group to join the Bank operated programs had stood at 31,968 by the end of FY 2011/12 while this number rose to 81,330 by the first eight months of current FY 2016/17.

The number of families of small farmer member associated with this program reached 599,765 benefiting approximately 2.9 million populations. Thus, additional 171 organizations replicating small farmer cooperative are under their establishment process. Local capital, approved credit, loan investment, and the loan investment amount in this program have been gradually increasing. The total local capital has reached Rs. 20300.8 million by the first eight months of the current FY 2016/17 against such capital amount of Rs. 16295.7 million of previous fiscal year. Similarly, the amount of credit investment in this program that stood at Rs. 11,304.1 million by the end of FY 2015/16 reached Rs. 13,193.1 million by the first eight months of the current FY 2016/17.

The Bank has been executing meat oriented livestock credit program since FY 2010/11 with the objective of reducing increased dependency on meat items by encouraging small farmers to get engaged in livestock farming for enhancing meat production. The area of credit has been extended since FY 2014/15 with a view to disburse credit for milk production through livestock farming. A credit sum of Rs. 7001.4 million has been disbursed to 77,754 small farmers of 390 small farmer agriculture cooperative institutions from 52 districts by the first eight months of current FY 2016/17.

In the small farmer sector, programs including farmers' capacity enhancement, micro-finance service, alternative energy credit lending, improved stove, disaster mitigation and rehabilitation, livelihood credits are being carried out in participation with various development partners. Similarly, Small Farmer Development Bank has provided both theoretical and practical international agriculture related training opportunities to 12 class based 1,600 children of 20-30 age group of small farmer members with support of the government of Israel with a view to attract educated youths with skill and competency towards agriculture profession. Preparations are underway for sending additional 490 such youths to foreign countries to acquire trainings in current FY 2016/17 by coordinating with Kathmandu University since last year.

4.4 Major Challenges of Economy

It is a challenging task to graduate the country at the middle income status by 2030 and achieve the sustainable development goals by ending poverty, inequality,

unemployment and dependency through high, sustained and broad-based inclusive growth.

-) It is a daunting challenge to develop a socialistic oriented economy as envisioned in the constitution through formulation and implementation of economic policy including the optimum utilization and management of the means of production along with their distribution and redistribution for a robust and sustained economic growth.
-) There is a challenging task of economic development including macroeconomic stability by creating the foundation for the mobilization of resources as well as the availability, assurance and equitable distribution of the means and resources at the federal, provincial and local levels in line with federal governance system.
-) There remains a challenge of increasing domestic production through industrial infrastructure, decent labor relation, energy availability and the production of quality products. Likewise, creating investment friendly environment for increasing the production of goods and services having competitive and comparative advantage as well as for increasing the domestic and foreign investment is also a daunting task.
-) It is a challenging task to reduce dependency on foreign employment by creating employment opportunities at home and reaping demographic dividend by developing human resources as per the national needs and demand.
-) Ending load shedding permanently by building large hydro projects or reservoir based hydroelectricity projects to reduce investment and production risks on hydroelectricity that may emanate from the climate change remains a challenge.
-) It is a challenge to achieve high and sustained economic growth by concentrating investment on the key drivers of growth agriculture, tourism, hydroelectricity and infrastructure.
-) Modernization and commercialization of agriculture by increasing production and productivity through an adequate arrangement of

agricultural inputs such as improved seeds, fertilizers, irrigation, agricultural credit, technology, and skilled human resource is a challenging task.

-) Formulating strategies and work plans of scientific land-use policy and managing land effectively by resolving problems of uncontrolled land use and encroachment of public land have been daunting tasks.
-) There remains a challenge of developing infrastructure at federal, provincial and local level as per the federal structure. Likewise, interlinking the centers of local level and linking these centers with provinces and federation is also a challenge.
-) Timely completion of reconstruction works by ensuring budget for the development of modern settlement and the reconstruction of earthquake damaged private buildings, schools, health post, public buildings, cultural heritages and, physical and social infrastructures has been a challenge.
-) It is challenging to increase investment bearing capacity in line with sustainable fiscal structure and resource mobilization for the implementation of state policies and fundamental rights envisioned in constitution.
-) It is a challenging task to enhance federal finance by developing the revenue system as per the federal structure and increasing the ratio of tax revenue to GDP through the development of a neutral and transparent tax system as well as voluntary compliance of tax.
-) Reducing dependency on foreign aid for country's development finance by enhancing the development capacity and utilizing foreign aid for national benefit and priority sectors is a challenging task.
-) There remains a challenge of containing inflation rate within desired limit by effectively managing supply through market monitoring and price information system as well as managing of the storage and distribution system of all the goods including petroleum products.
-) Tasks of carrying out social security programs in an integrated way, mobilizing funds in line with investment plans in a coordinated way, and taking grant-based social security programs to the target groups are full of challenges.

- J Creating dynamism in the economy by expanding the size of formal economy through enhancing the access to finance is also a challenging task. Likewise, it is challenging to make a provision of at least a bank branch in 744 centers at local level established in the federal system and implement access to finance programs based on innovative financial technology and financial literacy.
- J There is a challenge to achieve balanced and inclusive development by addressing geographically between village and towns, mountains, hills and Terai as well as on the basis of castes, groups and genders.

CHAPTER-FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The main objective of this study was to empirically determine the Role and impact of agricultural financing on economic growth of Nepal using annual data for the period 1993/94 to 2017/18. Descriptive and time series techniques were used to determine the trends of agricultural exports and to evaluate the impact of agricultural exports on economic growth (GDP) respectively. This study show that the significant variables were, AgF, and LF at 1% level of significance and FA, Cofx, Olx, MTx are not significant. The adjusted R square is high (about 99.43 percent). There is a positive significant relationship between the dependent variable GDP and two independent variables AgF, LF. This means that if one of these independent variables increases, the dependent variable will also increase and vice versa. The major findings of the study are as follows:

- i. The study has found a positive relationship between gross domestic product and agricultural financing (AgF). Increases of agriculture financing by 1 unit then GDP increases by 5.944 unit. The coefficient of AgF is positive (5.944) and insignificant. This result is confirming the positive relation between GDP and AgF. Hence, GDP is increase economic growth of nation is also increase.
- ii. Foreign Aid has positive sign and his statistically insignificant in enplaning the GDP in the long run. Increase or appreciation of Foreign aid by 1 unit increases GDP by -28.781 units.
- iii. The long-run result shows that, labor force (TLF) directly influence economic growth. The relationship is positive and highly significant. The result of the labor force (LF) indicates that GDP increases by about 2.776 unit in the long run due to an addition of one unit in labor force. This means that labor force expansion and economic growth in this study moves in the same directions.
- iv. The findings in reveal that coffee export (COFX) has a positive and insignificant effect on GDP in Nepal indicating a 1 unit increase in coffee

export resulted in increase of GDP by 1061.387 unit and stand less elastic. This result suggests the importance of coffee for Nepal n economy. Being the principal cash crop, coffee is the oldest and the most highly marketed commodities.

- v. The Oilseed export (OLX) result from table 10 reveals that oilseed export has a negative and insignificant effect on GDP of Nepal indicating a 1 unit increase in oilseed export results in -70.245 unit increase in GDP and stands less elastic. Nepal has been significantly increasing its supply to world markets which 90 percent being sesame seed.
- vi. The study has found an inverse positive relationship between Gross Domestic Product (GDP) and meat export (MTX). Increases of export of meat by 1unit then GDP increases by 129.413 units. The coefficient of MTX is positive and insignificant; this result is confirming the positive relation between GDP and MTX.

5.2 Conclusion

Nepal, an economy based on agriculture, has been realizing a slow agriculture sector growth for over a decade. With the agriculture sector not gaining momentum, the overall economy of Nepal faces several negative economic consequences. The present structures of the economy in general and the agricultural sector in particular are analyzed. The interrelationships of the agricultural sector with the rest of the economy are examined. **The contributions of the agricultural sector with the rest of the economy are examined. The contributions of the agricultural sector to the national growth are empirically examined for the period of 1993-2018.**

The study is believed to be first of its kind in the Nepalese agriculture sector where banking access and interest rates are directly associated to the outcome of the agriculture sector. The study gives interesting new insights in the Nepalese agriculture sector. Increase in banking access to the rural agriculture sector pulls down interest rates in the formal banking sector, as a result of increased competition, which gradually adjusts interest rates in the informal sector. This causes aggregate interest rate to fall. As aggregate interest rate falls, the volume of capital in the agriculture

sector increases, meeting the desired investment, which contributes to production. This increases income, saving and investment, generating a multiplier effect in the economy. Furthermore, the study also exhibits that increase in the volume of mobilized capital in the economy puts a downward pressure on interest rates, causing rates to gradually decline over time. Thus, with an increasing level of production, backed by lower interest rates, cost per unit of output also gradually decreases over time with increase in production efficiency.

5.3 Recommendations

- J The government of Nepal should set a target to increase the formal banking sector access for the agriculture sector to 40 percent from the next issue of fiscal policy.
- J All the regulated financial institutions in the Nepalese banking sector should be guided to increase their access to rural agro sector and increase their portfolios in the agriculture sector to at least 15 percent of their respective total portfolio.
- J The government of Nepal should focus on increasing access of banking in the agriculture eco-system, including storage and transportation.
- J The Ministry of Agriculture should focus on facilitating educational campaigns in the agriculture sector, assure better product markets and eliminate involvement of market intermediaries.
- J To increase the impact of coffee export on economic growth, a concerted effort should be directed toward productive channels of coffee in the economy so as to enhance sustainable economic growth through increased coffee export. Modern production technologies of coffee must be quickly introduced to upgrade the traditional methods currently used and Encouraging large commercial farms through providing new potential land and enforcing the implementation of different export incentives given for the exporters. Government should emphasize towards value addition than exporting raw coffee since the relationship with economic growth is inelastic.
- J The impact of oilseed export on economic growth of Nepal will increase if the government concentrates towards the productive channels and value addition to the product to increase the export effect on economic growth.

Since the impact of this product is inelastic to economic growth, the government should emphasize on facilitating the ground for value addition on oilseed rather than exporting raw product and emphasize towards awareness creation on how to adequately prevent the adulteration of seeds.

) Although meat exports indicated insignificant economic growth of Nepal, a concerted effort should be directed towards productive channels of meat, to fulfill the high domestic consumption and promising international demand of the meat. The government should concentrate on the area of encouraging large farms and create awareness on productive farming unknowingly to increase output.

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APPENDICES

Data Analysis: (Rs. In Billion)

| Fiscal year | GDP | AgF | FA | LF | |
|-------------|----------|----------|-------|--------|----|
| 1993/94 | 198.78 | 0.04908 | 0.785 | 3.46 | |
| 1994/95 | 219.75 | 0.0582 | 0.912 | 5.06 | 0. |
| 1995/96 | 248.913 | 0.07206 | 1.024 | 4.28 | 0. |
| 1996/97 | 280.513 | 0.0897 | 1.123 | 5.59 | 0. |
| 1997/98 | 300.845 | 0.1014 | 1.194 | 6.98 | 0. |
| 1998/99 | 342.026 | 0.11603 | 1.521 | 10.31 | 0. |
| 1999/00 | 379.488 | 0.13508 | 1.55 | 36.82 | 0. |
| 2000/1 | 441.519 | 0.15709 | 1.744 | 47.22 | 0. |
| 2001/2 | 459.443 | 0.18704 | 1.722 | 47.54 | 0. |
| 2002/3 | 492.231 | 0.3872 | 1.795 | 54.2 | 0. |
| 2003/4 | 536.749 | 0.39631 | 1.024 | 58.58 | 0. |
| 2004/5 | 589.412 | 0.51345 | 0.871 | 65.42 | 0. |
| 2005/6 | 654.084 | 0.5793 | 1.009 | 97.69 | 0. |
| 2006/7 | 727.827 | 0.6239 | 1.033 | 100.14 | 0. |
| 2007/8 | 815.658 | 0.7902 | 0.96 | 142.68 | 0. |
| 2008/9 | 988.272 | 0.8125 | 1.018 | 209.7 | 0. |
| 2009/10 | 1192.774 | 0.6239 | 1.067 | 231.7 | 0. |
| 2010/11 | 1366.954 | 0.923 | 0.971 | 253.6 | 0. |
| 2011/12 | 1527.344 | 2.34007 | 0.998 | 359.6 | 0. |
| 2012/13 | 1692.643 | 3.1531 | 1.317 | 434.6 | 0. |
| 2013/14 | 1941.624 | 4.027 | 0.775 | 543.3 | 0. |
| 2014/15 | 2120.47 | 5.0706 | 1.803 | 617.3 | 0. |
| 2015/16 | 2248.691 | 6.1125 | 2.325 | 665.1 | 0. |
| 2016/17 | 2406.048 | 7.535 | 2.152 | 695.5 | 0. |
| 2017/18 | 2607.28 | 11.01709 | 2.479 | 755.1 | 0. |

Long Run Relationship Between Gross Domestic Product (GDP) and Agricultural Financing

| Dependent: | Coef. | Std. Err. | T | P>t |
|--------------|----------|-----------|--------|------|
| lnGDP | | | | |
| Constant | 374.112 | 81.050 | 4.616 | .000 |
| AGF | 5.944 | 26.547 | .224 | .825 |
| FA | -28.781 | 59.565 | -.483 | .635 |
| LF | 2.776 | .340 | 8.166 | .000 |
| COFX | 1061.387 | 773.454 | 1.372 | .187 |
| OLX | -70.245 | 44.298 | -1.586 | .130 |
| MTX | 129.413 | 108.598 | 1.192 | .249 |

Adj. R squared=0.988

DW statistics=1.227

Variables Entered / Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|--------|
| 1 | MTX, FA, OLX, COFX, AGF, LF ^b | . | Enter |

a. Dependent Variable: GDP

b. All requested variables entered.

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .995 ^a | .991 | .988 | 84.57424 | .991 | 330.242 | 6 | 18 | .000 | 1.227 |

a. Predictors: (Constant), MTX, FA, OLX, COFX, AGF, LF

b. Dependent Variable: GDP

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|---------|-------------------|
| 1 | Regression | 14172914.128 | 6 | 2362152.355 | 330.242 | .000 ^b |
| | Residual | 128750.450 | 18 | 7152.803 | | |
| | Total | 14301664.579 | 24 | | | |

a. Dependent Variable: GDP

b. Predictors: (Constant), MTX, FA, OLX, COFX, AGF, LF

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 374.112 | 81.050 | | 4.616 | .000 |
| AGF | 5.944 | 26.547 | .022 | .224 | .825 |
| FA | -28.781 | 59.565 | -.018 | -.483 | .635 |
| LF | 2.776 | .340 | .905 | 8.166 | .000 |
| COFX | 1061.387 | 773.454 | .056 | 1.372 | .187 |
| OLX | -70.245 | 44.298 | -.045 | -1.586 | .130 |
| MTX | 129.413 | 108.598 | .046 | 1.192 | .249 |

a. Dependent Variable: GDP

Residuals Statistics^a

| | Minimum | Maximum | Mean | Std. Deviation | N |
|----------------------|------------|-----------|----------|----------------|----|
| Predicted Value | 222.2980 | 2549.5969 | 991.1735 | 768.46476 | 25 |
| Residual | -121.59696 | 168.29393 | .00000 | 73.24344 | 25 |
| Std. Predicted Value | -1.001 | 2.028 | .000 | 1.000 | 25 |
| Std. Residual | -1.438 | 1.990 | .000 | .866 | 25 |

a. Dependent Variable: GDP