CHAPTER ONE

INTRODUCTION

1.1   General background of the study

A major target of any welfare state is to give importance to improve the living standard of its people through the development process. It can be achieved by the equity, economic growth, and economic stabilization of the country. Therefore, the underdeveloped countries (UDCS) have to gear up their economic growth rates, eradicate absolute poverty, reduce inequalities and create more employment opportunities in the country. To achieve these goals, the government needs various types of financial resources. The sources of government revenue are categorized mainly on two types; i. e. internal and external. Both are mobilized by the government. However, the internal resources are more preferable than external one for sustainable development. Internal source consists of internal revenue and internal loans. Bilateral and multilateral loans and grants are the components of external source. Over the last 10 years in Nepal, government expenditure has increased particularly in regular expenditure. During the fiscal year of 2005/06, regular expenditure covers 73.3% of the total expenditure while development expenditure was only 26.6%. This statistics has clearly indicated that government of Nepal lacks so many funds to invest in productive fields.

Similarly, tax revenue and non-tax revenue are the crucial revenue sources of the government. The tax revenue is received as a compulsory payment whereas the non-tax is conditional. The tax revenue is mainly classified into to streams, i. e. direct tax and indirect tax. The distinction between direct tax and indirect tax is broadly based on the impact and incidence of tax. Income tax, land tax, house and land registration fees, property tax, profit tax and interest tax are the components of direct tax. On the other hand, indirect tax is broadly commodity-based tax. VAT, custom duties, excise duties are the major components of indirect tax. Non-tax revenue is the other key source of government revenue of Nepal. This includes duty, fees, penalty, fines, and forfeitures receipt from sales and rent of government property, principle repayment, donation and miscellaneous income.

The primary purpose of the taxation is to divert control of economic resources from tax payers to the state for its own use or transfer to others. Taxation not only restrains total spending by households and enterprises but also influences the allocation of economic resources, recognizes social costs that are not reflected in market prices and affects the distribution of income and wealth. (Goode, 1984).

The relationship between taxation and economic development had been the matter of great concern for policy makers. A fair tax system of any country results in a colorful economic progressivity. Thus, as said, a reasonable tax system is the good indicator of an economic progress. The word development has a different connotation. Meier opines that economic development is not equitable to the total development of a society; it is only a part or one dimension of general development. (Meier, 1990) Economic development is the process whereby the real per capita income of a country increases over a long period of time- subject to the stipulating that the number of people below an absolute poverty line does not increase". According to Todaro, economic development even when defined in terms of both the rapid growth and more equitable distribution of national income and opportunities. Development is taken to mean growth plus change. (Meier, 1990). Economic development as "upward movement of the entire social system". If we are to rely on a single indicator of the level of development, per capita income is the most revealing, even with its imperfection. (Higgins, 1990)

Domestic financing of economic development requires increased total saving (including taxes) and investment. When excess capacity exists, investment can take place without either a reduction in consumption or inflation. Where such excess capacity in insufficient for a minimum effect, the lunching of take-off may require "collective thrift" through taxation. (Higgins, 1990)

Issue of taxation can be analyzed from two different perspectives that of incentives and that of resources. It is argued that if insufficient investment and low growth are attributed to a lack of resources, then the tax system should be designed to increase resource available for investment through additional taxation. (Meier, 1990)

Country "taxation potential" depends on a variety of conditions:

a) The level of per capita income;

b) The degree of inequality in the distribution of that income;

c) The industrial structure of the economy and the importance of different types of activities;

d) The social, political and institutional setting and the relative power of different groups;

e) The administrative competence, honesty, and integrity of tax gathering branches of government. (Meier, 1990)

The extent of taxation is not independent of government expenditure. Higgins opines that if the ratio of government expenditures to national income rises, so that relatively more goods and services are being offered in exchange for taxes, if the goods and services provided by government yield more satisfaction, then people would accept a higher ratio of taxes to income. But if government expenditures through taxation provide less satisfaction to the people, there can be 'burden' for the community as a whole.

1.2   Statements of the problem

Nepal is one of the least developed countries in the world. Nepalese economy is strictly agro-based economy. The per capita income is very low even in comparison with other SAARC nations. Agricultural income is still out of effective tax net. Nepalese tax system has been heavily dependent upon indirect tax although there is ample scope to increase government revenue through a progressive-natured tax like direct tax. The inherent problems in the Nepalese tax system are given below following paragraphs:

Development activities particularly depend upon the extent of resource mobilization in the economy. Higher the revenue surplus, the greater will be the possibility of building the infrastructure for development process. Nepal is facing acute problem of surplus revenue for development expenditure. The share of revenue surplus for development expenditure is

continuously declining throughout the years. The share of development expenditure to total expenditure in 1989/90 was 66.08% but it declined extensively to reach 26.69 % in 2005/6. This fact also reveals that the share of development expenditure to total expenditure has been gradually declining and hence lack of resources for the development. The development expenditure in Nepal is declining also because of instability and insecurity condition in the country.

The base of Nepalese tax system is very narrow, both legally and administratively. For instance: several goods and services, transaction, income source, and property are kept out of the tax net. Major exclusions include: the exemptions of necessities from various taxes, the exemptions of agricultural income, allowances granted to employees etc. Moreover, several incentives for the industries in the form of tax holiday, tax rebates, tax credits, additional expenses and depreciation. This means that statutory base is much smaller than the potential tax base. (Khadka, 1994)

Low responsiveness and productivity is also an another problem of Nepalese tax system. The review of literature included in the third chapter clearly indicates that the elasticity coefficients of all tax heads stand less than unity. So, the government of Nepal has been meeting its expenditure through discretionary measures.

Domination of Indirect tax in Nepal is the next problem of the Nepalese tax system. It is generally believed that direct taxes are more just than the indirect tax from the point of view of progressiveness and equity. Indirect tax has adverse effects on savings, investments, consumption, production, and distribution of wealth. Similarly, tax administrative efforts of the government of Nepal are very dismal. The share of direct tax to total tax revenue is 24.32 percent in 2005/06 while the percentage share of indirect tax to total tax revenue is 75.67 percent in the same year.

Nepalese tax administration is not efficient. So far it has not been able to win the confidence of the tax payers. Corruption is the key weakness of Nepalese tax administration Revenue offices lack both trained manpower and technical equipment to keep the records of revenue well.

Resource gap is a phenomenon that occurs generally at the initial stage of the development of the country. Resource gap is also one of the major problems of Nepalese economy. Growing reliance on foreign loan has been increasing rapidly. To bridge the resource gaps, reliance on internal and external loan has been increased in Nepal since the beginning of planned economic development in 1956.

The level of voluntary tax compliance is very low. The tax consciousness has yet to be developed among the Nepalese people. This may be due to the illiteracy, complicated tax procedures, the low costs of non-compliance etc.

1.3 Objectives of the study

The specific objectives of this study are:

    a. To review the Structure and Productivity of direct taxation in Nepal from the period of **1989/90 to 2005/06**.

    b. To estimate the **Responsiveness** and **Productivity** of Direct tax

    c. To provide the suitable recommendations for improving existing direct tax scenario.

1.4 Organization of the study

This study has been carried out into six chapters. The first chapter deals with introduction. The second chapter deals with the Review of Literature. This includes some Empirical studies made by various researchers and also some methods of removing discretionary changes. The third chapter deals with Methodology. This includes both theoretical aspects of taxation and various models used. The fourth chapter deals with the structure of Direct Taxation in Nepal. This includes some detailed information regarding the revenue contribution of direct tax and other major revenue sources. The fifth chapter deals with the Responsiveness and productivity of direct taxation in Nepal. The sixth chapter includes summary, conclusions and recommendations.

1.5 Limitations of the study

a) This study covers only the period from **1989/90 to 2005/06**.

b) The data adjustment is based on Sahota's method.

c) For the study of Direct tax, only the major components of direct tax are taken as a component for measuring their elasticity, buoyancy, F-test, T-test and R^2, R and standard errors, and only some major revenue heads such as indirect tax revenue, total tax revenue, total revenue and non-tax revenue are taken for measuring their coefficients.

d) Autocorrelation of the data will not be corrected.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Theoretical Overview

2.1.1 General overview

A tax is a compulsory contribution made to the government without reference to a particular benefit. Tax system varies greatly across countries depending on their stage of development. The relation between taxation and development has long been matter of concern to policy makers and students of public policy alike. Both the tax goals and constrains of developing economies differ from those of developed economies. The classical economists devoted substantial efforts to analyzing the effects of taxation on growth and the related questions of the distribution of factor incomes and witnessed the full title of Principles of political economy and taxation.

With the rise in Keynesian economies in the post war era, the efforts of taxation on the stability of the economy also became am important subject of analysis. These classical and Keynesian concerns constituted prominent themes in early analysis of taxation in UDCs (Kaldor, 1956, Higgins, 1959). Subsequently the range of concern widened to include the effects of taxation not just on the rate of growth of national income but also on the distribution of that income by income size, class on employment , and on their objectives of policy. For example, lists the objectives of fiscal policy as the promotion of income disparities between `households and regions the promotion of economic stability and economic efficiency and the increase of host country returns from natural resource endowments. The primary purpose of taxation is to divert control of economic resources from tax payers to the state for its own use of transfer to others. Taxation not only restrains total spending by household and enterprise but influences the allocation of economic resources, recognizes social costs that are not reflected in the market prices and affects the distribution of income and wealth. (Goode, 1984)

2.1.2 Principle of taxation

Equity, efficiency and administrative feasibility are the three major principles of tax design of any economy. For UDCs, the most important role of taxation is to mobilize the resources for development. As an instrument of resource mobilization, its principle function lies in raising the volume of public saving to be used for capital formation

Consistent with growth of saving in the economy as a whole. In the principle of equity, it is maintained that the tax must be levied according to the tax paying capacity of the individuals. The subject of every state ought to contribute towards the support of the government as nearly as possible, in proportion to their respective ability that is in proportion to the revenue which they respectively enjoy under the protection of state. In other words, the principle of benefit states the burden of taxation should be subjected to higher taxation in comparison to the poor. The higher the income the higher the tax rate, the lower the income the lower the tax rate. Adam Smith further stressed that every individual should contribute according to his abilities so that equality of sacrifice be achieved. Under the benefit principle of taxation, tax is compulsory contribution to pay the burden of taxation should be distributed equally to all the citizens with respective to their income and resources. Furthermore, principle of economic efficiency can be achieved only at this point when all economic resources are allocated to their best uses. Prof. Samuelson tried to give a solution that amount of social good which society uses, will be same for A and B consumers. For this purpose he has applied market principle to the pricing of social goods to determine optimum allocation of resources. In the case of a private goods marginal utility and marginal cost are equal for all consumers, since utility schedules of individual are different, such equality and hence, efficient level of output will be attained with different consumers consuming different amounts of outputs at the same price. It refers that the aggregate demand schedule will be the horizontal summation of individual demand schedule. In the case of public goods which are by definition consumed equally by all, different individuals will pay different price for the same quality of output. Here the sum of marginal utilities to consumer will be equal to the marginal cost it means that the individuals demand schedule will be vertically added in this case. Moreover, taxes should be imposed to the consumers in accordance with

2.1.3 Horizontal vs. Vertical equality

In simple words, horizontal equity calls for equal treatment of people in equal position. However, as cannon of equity, the concept requires that equals be treated equally. For instance, in case of income tax, a broad-based tax including income from all sources and independent of its use. This broad definition is mostly in line with efficiency and avoidance of excess burden. We also interpret the horizontal equity as follow: All citizens of the country should pay equal dose of taxes. The citizens who benefit equally from expenditures should pay equal amount of taxes. All tax payers with equal abilities should bear equal taxes. Among the three points, third one is most relevant to the principle of horizontal equity. Vertical equity means that citizens with large income pay more taxes than citizens with small incomes. It thus considers that as a citizen's ability to pay increases, his taxes should be increased. In fact, nobody can question the equality the equity of the proportion that a rich man should pay more taxes than a person. In case, there is any controversy, it centers on the structure of the controversy, it centers on the structure of the effective rates of taxes. Therefore, the problem of vertical equity is how to implement a given, presumably progressive, distribution of the tax bill with a minimum of excess burden. (Lekhi, 2005)

2.1.4 Direct vs. Indirect Taxation

Prof. Dalton made a distinction between direct and indirect taxes as "that a direct tax is really paid by a person an whom it is legally imposed, while an indirect tax is imposed on one person, but paid partly or wholly by another, owing to consequential change in the terms of some contract or bargaining between them." Thus, an indirect tax is conceived as one which can be shifted or passed on; a direct is one which can not be shifted to others. In the case of the direct tax, the impact or the money burden and the incidence are on the one same person: while that in case of indirect taxes, the impact and the incidence of tax are on different persons. An income tax is generally regarded as a direct tax while customs and excise duties are indirect taxes. "Those taxes which are based on receipt of income, are termed as direct whereas those levied on expenditure, are termed as indirect. Income tax, profit tax, capital gain taxes are therefore direct tax; customs duties, excise duties and stamp duties are indirect"-(Prest, 1985)"Taxes while levied on permanent or recurring occasions are direct tax, while charges on occasional or particular events are indirect taxes". Thus, all taxes on income or the ownership of property would be direct

taxes and taxes on the purchase or sale of property like stamp duties would be indirect taxes. Indirect tax is generally imposed on consumption. Income tax is the key segment of direct tax. Income tax is also classified into two categories: i) Personal tax, ii) Corporate tax. Personal tax is imposed on the income received by a particular person whereas corporate tax is imposed on the income received by a particular institution or business enterprises.

2.1.5 Role of Direct Taxation in The process of Economic Development

In developing countries like Nepal, taxes are used to mobilize substantial resources to desired fields, discourage unproductive investments, stimulate productive investment, reduce conspicuous consumption and discourage investment in real state. They have also to be used to transfer an increasing proportion of the addition made to the national income for development purposes. Prof. W. A. Lewis holds a view that 'the central problem in the theory of economic development is to understand the process by which a community which was previously saving or investing 4 or 5 percent of its national income or less converts itself into an economy where voluntary saving is running at about 12 to 15 percent of national income or more. This is the central problem because the central fact of economic development is rapid capital accumulation. (Lewis, 1970) Role of direct taxes in developing economies are discourage speculative investment, control over inflation, inducement to agriculture sector, Restrictions on consumption, reduction in inequalities of income and element of equality. Direct taxes like taxes on land, capital gains tax etc. are imposed to prevent speculative investment. Direct taxes are also to be used to reduce to some extent, inequalities in the distribution of income and wealth. Such tax policy will check unproductive investment and release a greater amount of resources available for productivity investment. Direct taxes especially progressive taxes control inflation. Since the distinction effects of the progressive rates in the non-functional personal incomes are low, they would be more important for checking an inflationary pressure associated with the development expenditure. Besides the personal income taxes can be adopted to have a built-in-flexibility so as during inflationary period that a higher proportion of the additional income will pass on to the government.

2.1.6 Justification of Property tax

The taxation of property as a source of development finance has a particular attraction in those underdeveloped and developing countries in which highly progressive system of income taxation has not been developed. Even if a system of progressive taxation of income exists in them they should prefer to raise additional resources through property taxation rather than through the raising of the rates of income tax.

The imposition of property taxes is generally justified on the basis of three important arguments relating to equity, economic effects and administrative efficiency. From the point of view of the principle of equity, it is maintained that "only a combination of income and property taxes can give an appropriate to taxation in accordance with ability to pay." (Kaldor, 1956) From the point of view of the relative effect on enterprise "while high income taxes discourage incentive and enterprise, and put a premium on evasion, capital taxes are much less likely to have this effect. Thus property taxes commend themselves as an important instrument of development finance in underdeveloped and developing countries because in raising the same volume of resources, a incentives as a progressive tax on property will not produce as adverse an effect on incentives as a progressive tax on income.

2.1.7 Justification of Income taxation

The justifications of income tax are maintained through three motives such as economic growth, equitable distribution and economic stabilization. For economic development of any country there must be adequate capital accumulation to finance development project and gear up the pace of growth in the country. The experience of th3e developing
countries indicate that early introduction of direct taxes like personal income tax contributes to development financing in a significant way. "The income tax has great advantage of automatic expansion in coverage and revenue as development continues". (Due, 1959). The general welfare is conditioned by the improvements in production and equitable distribution of income and wealth in the community. Therefore, the income and property taxes are made progressive to reduce the inequalities of income and wealth. Firstly, equitable distribution may help the rate of growth by providing political stability in the country. In a state of political disturbance, the

growth rate of the economy is retarded. In the absence of equitable distribution i. e. with the widening of the gap between 'haves' and 'haves-not' a class struggle may start checking or pushing the growth rate back. Hence equality in distribution is needed for growth. (Kayastha, 1974)

Secondly, equitable distribution may accelerate the pace of growth by ensuring bigger market. Because the equitable distribution achieved by the proper tax structure will transfer the purchasing power in the hands of many. It will broader the domestic market which will encourage private investment and will, thus, promote growth.

Thirdly, equitable distribution will push up the standard of living of the masses that constitute the poor labor force of any developing economy. It will increase the efficiency of this class which will increase the growth of the economy. The process of development is said to be inherently inflationary. A mild dose of inflation is quite essential to the process of economic development, but the mild inflation may take the form of galloping inflation retarding the pace of economic growth. In this circumstance, the tax structure should be such that it will minimize the inflationary pressure. James Cutt defines this structure in the following words, the stabilization role of tax policy may thus be defined as one of ensuring that the planned rate and form of economic growth are not, prejudiced by inflation. (Cutt, 1969).

2.1.8 The Concepts of Elasticity and Buoyancy

Elasticity and Buoyancy are the two major concept used in measuring the responsiveness and productivity of tax yields. They are also commonly known as automatic growth stabilizers. If the elasticity value is more than unity, then the tax system is said to be elastic and it does not need any discretionary action of the government authority for smooth functioning of the tax system. An elastic tax system is productive from the point of view of domestic resource mobilization. The modern theory of automatic stabilization concentrates its attention mainly on making fiscal

tolls automatic in their effects. There are two methods of measuring the automatic response of fiscal tools are given as:

Built-In-Flexibility or Stabilized coefficients or **Elasticity** and Sensitivity or **Buoyancy.**

Elasticity or Built-in-Flexibility, this method measures the responsiveness of a particular tax system is also known as "Built-in-Flexibility" or "Stabilized Coefficients" (Dahal, 2000). The first economists to define "Built-in-Flexibility are (R.A. Musgrave and M.H. Miller, 1948). They describes that the automatic compensatory movement of the tax revenue or the Built-in-Flexibility of tax system plays an important role, as a stabilizing device for an economy. The total revenue that can be raised by various combinations of statutory rates and tax sources will result in different degree of sensitivity of yield in response to changes in income. It is the selection of one of the combinations and of the rates necessary to produce the desired yields from the expected level of income that determines the extent of "Built-in-Flexibility" for the system as a whole. They analyzed the degree of flexibility in terms of level of taxation (average tax rate at the expected level of income) and the sensitivity to changes in income of the selected combination of tax sources. For them, the income elasticity or sensitivity (E) of the tax yields (T) is the ratio of percentage change in tax yields to a given percentage change in income.

Symbolically,-. (Musgrave and Miller, 1968)

$$E = (\Delta T) Y \div (\Delta Y) T \quad \text{or} \quad (\Delta T) Y_1 / (\Delta Y) T_1$$

In addition, as a convenient measure for the compensatory effectiveness of "Built-in-flexibility can be written as:

$$\alpha = 1 - \Delta Y / \Delta Y_a$$

Where, ΔY refers to changes in income and ΔY_a refers to the system where E is set equal to zero. That is, $\Delta Y / \Delta Ya$ is the ratio of the decline (or increase) in income in the particular tax system under analysis to the decline (or increase) in income if the system had no "Built-in-Flexibility"; and a, which is one minus this ratio, is the fraction of changes in income which is prevented because of the existence of "Built-in-Flexibility". If a = 0, there is no Built-in-Flexibility. If there is a = 1 Built-in-flexibility is perfect.

Buoyancy or Sensitivity or Exploitation Coefficients

The term Buoyancy can be understood as a sensitivity or exploitation coefficients. It is traditional income elasticity. It provides a summary indication of the historical responsiveness of tax collection to the growth in GNP. Buoyancy actually measures what really happens. This measure provides a 'face value or floating value' of taxes. The buoyancy includes both automatic growths and discretionary changes. It reflects the influence of such factors as sensitivity of the tax base to growth in GNP, the progressivity of the tax rate structure, the nature and frequency of discretionary action and change in prices. Thus, it can be viewed as a total account of tax responsiveness to change in the national income. (Dahal, 1985)

Elasticity is measured by constructing a hypothetical revenue series of tax revenue with adjusted data while buoyancy is measured by constructing unadjusted data. The first step in measuring elasticity and buoyancy of any tax system is to separate automatic growth of revenue from total revenue growth by eliminating discretionary changes, Actual revenue data reflect both normal growth and discretionary changes. It is therefore, necessary to construct a hypothetical net revenue or 'cleaned' series from gross revenue series by cleaning the discretionary effects. (Dahal, 1985)

Bretherton (1937) maintained that "Sensitivity" of the tax system can be defined as a proportionate change in national income with given tax rate and coverage of tax base. In addition, the formula for sensitivity is given by :(Mansfield, 1972)

$$T/ \, Y \times Y/T$$

Where, T refers to tax yields, Y refers to national income and   refers to changes in respective variables. In Bretherton's opinion, tax structure is stabilizing if the sensitivity is greater than unity and such tax system is said to be progressive.

Mansfield defined elasticity as the automatic response of revenue to income change (i. e. revenue increase, excluding the effects of discretionary changes) and buoyancy as the total response to tax revenue to change in income. (Mansfield, 1972)

Chaudhary states that in estimating the Built-in-Flexibility of tax, historical revenue series must be adjusted to eliminate the effects on revenue of discretionary tax measuring the period under review. (Choudhary, 1961/70) If no such adjustment is made one obtains the buoyancy of the tax, which reflects the growth in revenue resulting both from the automatic growth in the base caused by the increase in income and from discretionary tax changes. In fact, the terms "Elasticity or Built-in-Flexibility or stabilized coefficient" are similar and likewise are terms "Buoyancy or Sensitivity or exploitation coefficients or administrative flexibility". (Dahal, 1985)

Tanzi (1976) opines that elasticity is a ratio which is defined as the percentage change in tax yield that is brought about by a change in one percent in AGI. Built-in-Flexibility is defined as the ratio of the absolute change in tax yield to the absolute change in AGI. To get directly the Built-in-Flexibility of T with respect to AGI, Tanzi maintains the relation;

$$T = a + b \, AGI$$

Where, b gives the built-in-flexibility indirectly. Tanzi defines built-in-flexibility as the product of elasticity and average tax rate (T/AGI)

Symbolically,

$$Elasticity = \ T/T \times \ AGI/ \ AGI$$
$$= \ T/ \ AGI$$

Vito Tanzi also jointly called elasticity and 'built-in-flexibility' as sensitivity.' Elasticity can be obtained by regressing the adjusted gross income (AGI) with tax yield (T) using an equation of the type:

$$T = by$$

Taking log on both sides Log T = loga + blogY

Where, Y = adjusted gross income (AGI)

And b gives the elasticity of tax with respect to AGI.

J. A. Pechman opined the built-in-flexibility as the change in the tax yield (T) associated with the change in gross national product (GNP) which is the product of two components, VIZ. Tax base flexibility, $\Delta T_1/\Delta GNP$ and marginal rate of taxation, $\Delta T/\Delta T_1$

Symbolically, $\Delta T/\Delta GNP = \Delta T_1/\Delta GNP \times \Delta T/\Delta T_1$

Where, T_1 = Taxable income

G. S. Sahota maintained elasticity or sensitivity as, 'built-in-flexibility and administrative flexibility as 'buoyancy'. The later refers to changes in tax yield as a result of change in legal tax rates and tax bases including (or excluding) income change. Musgrave called it as "formula flexibility".

Adhikari (1995) maintains that the elasticity or buoyancy of the tax system can be defined as the ratio relative change in dependent variable (adjusted tax or actual tax yields) to the relative change in dependent variable (GDP to proxy bases). (Adhikary, 1995)

Symbolically, $e = dy/y \div dx/x$

Where, e = elasticity or buoyancy

d_y = change in revenue y = revenue

d_x = change in GDP x = GDP

For calculating elasticity, adjusted revenue yields are used, which is obtained by eliminating the discretionary change from the gross revenue series. Actual revenue series are used for estimating the buoyancy of the tax system.

From the definitions given by various economists regarding the concepts of elasticity and buoyancy that buoyancy is nothing but a traditional elasticity, which can be defined as the relative change in actual tax receipt due to the relative change in national income or GDP. On the other hand, elasticity can be defined as the relative change in net or adjusted tax receipt due to the relative change in national income or GDP. Elasticity can be decomposed into tax-to-base and base-to-income elasticity. So, adjusted as actual revenue series are used to calculate elasticity and buoyancy of the tax system respectively. Actual revenue series include both normal growth and discretionary change whereas adjusted revenue series is the clean revenue series from which the effect of discretionary change in tax revenue is adjusted.

The meaning of the term "**Automatic effects**" is the total tax increased in any given period minus the increase due to discretionary action. Tax yield due to arbitrary legislative changes is based on the budgetary estimates each year. These estimates are often arbitrary and superfluous.

The term "**Discretionary Effects**" is referred to as the net effect on tax yield of any change in the tax rate or base, which occurs through legislative or executive action. Discretionary changes are also defined as legal changes in the tax rate or in the tax base, the introduction of new taxes and certain administrative efforts, the change in the yield of taxes due to improvement in the tax administration is also considered as discretionary changer.-(Nepal, 1995)

In course of measuring elasticity and buoyancy, generally two problems can be encountered. They are:
How should the effect of discretionary changes be separated from other tax revenue growth?
What should be the form of equation used to estimate the tax income relationship?

Thus, Depending on the availability of the suitable data on legal bases and simple rate structure for necessary adjustments, there are various methods for data adjustment such as, constant structure method, dummy variable method, divisia index method, and proportional adjustment method,
-Constant rate structure method
-Proportional adjustment method
-Dummy variable method
-Divisia method

a) Constant rate Structure method

Rao (1979) maintained that the constant structure method was mainly synthesized and used for the estimation of personal income taxes in United States. The studies by Harris (1968), Singer (1970), Wasylenko (1975) and Bahl (1961), which conceptually extended for other tax types, employed constant structure method. This method suggests that the yield of a constant rate personal income tax may be stimulated through the utilization of effective tax rates applicable to each income bracket in the reference year and the distribution of taxable income in other years. Symbolically, if (i) tji represents the actual collections in jth income bracket in the ith year; (ii)

xji represents the total taxable income in the jth bracket in the ith year; and (iii) xji represents the total taxable income in the jth bracket in year i, the stimulated tax yield for the ith yea at base year, say, "0" rate structure would be given by $(T_{jo}/ x_{jo}). x_{ji}$. The other methods that can also be classified as of constant structure type as follow:

Lewis (1962), his suggestion involves the derivation of adjusted tax receipts through a multiplicative process, based on current tax accruals and the current and previous years' actual tax rates.

Wasylenko (1975) suggests for an isolation of the effect of non-discretionary changes in place of the effect of discretionary change. Following steps are followed from this method: (a) The selection of a base year (b) The estimations of the "effective base ratio" for each income class in the base year (c) application of the rates to each the non-base years.

Symbolically, if '0' is the base year,

TB (j, 0)   = Taxable income of jth class in the base year.

Y (j, 0)   = Total income of jth class in the base year.

T (j, 0)   =   Tax revenue of income of jth class in the base year.

n =   the total number of income classes. Then,

EBR (j)   =   the effective base ratio for jth class

               =   TB (j, 0) / Y (j, 0)

ETR (j)   =   the effective rate for jth income class

               =   TB (j 0) / (j, 0)

STB (j, 0)   =   the simulated tax base for income class j for year i

               =   EBR (j) / Y (j, i)

TSTB (i)   =   the total simulated tax base for year i

               =   STD (j, i)

                         J = 1

ST (j, I)   =   the simulated tax revenue from income j for year i.

$$= \text{ETR (j) / STB (j, i) and}$$

TST (i) = The total simulated tax revenue for year i

  =   ST (j, i)

   J = 1

The basic requirement of this method is that it should be readjusted each year to the changing characteristics of the income classes. This method, thus, suppose a detailed knowledge of the tax bases and of the tax rates. These requirements may render this method infeasible for developing economies in the in such economies long-time series data on the disaggregated bases and rates are very difficult to obtain.

b) Proportional Adjustment Method

This method is the most widely used method to separate the discretionary changes from the automatic revenue growth. This method is appropriate especially for the least developed countries like Nepal where data arrangements are not in sound position. This method adjusts the revenue yield based on the structure of rate and exemption for a reference year. There exist several methods; the following are the most noteworthy:

Prest method, Sahota method and Chellia and Chand method

(i) Prest Method

The basic purpose of this method is to accommodate both rate and base changes. However, in the absence of such detailed data, the prest (1962) method suggests the derivation of the adjusted data from the raw data as follow, let.

T_1 T_2………… T_t…………T_n be the actual tax yields for a series of years;

D_1 D_2 …………D_t,………..D_n be the estimates of the revenue effects of discretionary changes tied over the corresponding years; and

Tij Represents the jth years' actual tax yield adjusted to the structure that existed in year i.

Then if i = 1 is taken as the reference year, the series T_{11}, T_{22},…………T_{ij}………T_n represents what tax structure had remained as in year 1 with all discretionary changes removed from the years following year 1. This can be generalized as;

$$T_{11} \quad = \quad T_1$$

$$T_{12} \quad = \quad T_2 - D_2$$

$$T_{12} \quad = \quad T_{23}(T_{12}/T_2) \qquad \text{where, } T_{23} = T_3 - D_3$$

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$$T_{1j} \quad = \quad T_{j-1}(T_{j-2, j-1}) \times……….\times (T_{23}/T_3)(T_{12}/T_2)$$

$$T_{1j} \quad = \quad T_{j-1} \times T_{j-2, j-1}/T_{j-1} ………. T_{23}/T_3 \times T_{12}/T_2$$

Thus, to adjust the tax revenue of any year to be simulated yield for that year, if a base year's tax structure had prevailed the actual tax revenue be multiplied by a sequence of multiplicative factors, the effect of each one of these is to adjust tax revenue to the structure that prevailed in the year to which the factors reforms.

ii) Sahota's Method (1961)

Sahota method is an alternative method of the Prest method. If it is interpreted correctly, it yields the same result as the Prest method. Sahota has used a comprehensive proportional adjustment method to separate the discretionary changes of revenue from the total growth revenue. In this method, the percentage contribution of new tax proposals to the total estimated revenue has been taken in the same proportion to calculate discretionary changes from actual collection of total revenue. For instance, if a new tax proposal is estimated as 15 percent of the total estimated revenue, the same changes.

Symbolically, - (Dahal, 1985)

$$IT_t \quad = \frac{AT_t \pm RT_t}{AT_{t-1}} \times IT_{t-1}$$

Where, $\quad IT_t \quad$ = Adjusted or net tax revenue at time t

IT_{t-1} = Adjusted or net tax revenue of previous year (t-1)

AT_t = Actual tax revenue at time (t)

AT_{t-1} = Actual tax revenue at time (t-1)

RT_t = Actual discretionary changes at time (t)

iii) Chand's Method (1974)

This method adjusts the actual figure of the current year based on the adjusted figure of the following year. The result obtained from both models will approximately be the same. The following formula can be used for obtaining the adjusted revenue series. (Agrawal, 1980)

Where,

T_{nr} $= T_r \times T_{r+1}/T_{r+1} - D_{r+1} \times \ldots \ldots \times T_n / T_n - D_n$

Tnr   = Adjusted or net tax in the year r

T_r = Actual tax in year r

T_{r+1} = Actual tax in the following year (r+1)

D_{r+1} = Discretionary changes in year $_{r+1}$

n   = Number of year and reference year

r $= 1, 2, 3 \ldots \ldots \ldots n$

iv) Dummy variable technique

The dummy variable technique does not require data adjustment, however, that may not be a great advantage (Dahal, 2000). If D denotes the dummy variable associated with the discretionary changes, if there is not a discretionary change, then $D = 0$

If there is discretionary change, then $D = 1$, then built-in-flexibility can be given by the equation.

$$\text{Log T} = \text{Log ( ) } + b \text{ Log (Y)} + \sum_{i=1}^{n} C_i D_i$$

Where, T and Y are expressed in aggregate or per capita terms and stands for total revenue and GNP or GDP, Ci can be interpreted as the change in elasticity (b) occurring due to discretionary change. The apparent draw back of this technique is its demand of separate dummy for each discretionary change which would lead to discretionary changes occurs frequently with limited number of observation. In such a condition the estimated coefficients may not be reliable.

c) Divisia Index Approach

In the divisia index method of Choudhary to measure the revenue effects of discretionary change, the latter are considered as analogous to technical change, assuming that the underlying tax function in homogeneous. Choudhary has shown that the tax revenue elasticity can be estimated by adjusting the buoyancy by a simple transformation of a devisia index of discretionary changes. (Dahal, 1985)

This method does not require the prior elimination of discretionary effects in tax elasticity estimation. This is done by first eliminating the effects of discretionary measures on revenue by an index which isolates automatic from total growth of revenue. The buoyancy measure obtained by any standard technique is then adjusted by a suitable transformation of the index of discretionary revenue to find tax yield elasticity. The method which uses historical data does not require past discretionary changes. This method may not give always-give good result and the proportional adjusted information on discretionary changes is available.

The Divisia index of the revenue effects of discretionary tax changes equals the percentage increase in total tax yield divided by percentage automatic increase. The index must possess the invariance property for which the tax function must be continuously differentiable. It is possible to do away rather restrictive particularly because of progressive tax rate structure.

This approach assumes the continuously differentiable aggregate tax yield function given as: - (Monga, 1984)

$$T(t) \quad = \quad f[X_1(t),\ldots\ldots\ldots X_k(t), t]$$

Where, $X_i(t)$ is the proxy tax base with k categories. ($i = 1, 2, 3$……..k) and the time variable t is a proxy for discretionary measures.

If D (t) is the divisia index of discretionary changes, and $D = (dD/d_t)/D$ then $D(t) = f_t/f$ and $B_i(t) = f_i X_i/f$

The index of growth of tax revenue owing to discretionary measures over the period (0, n) is:

$$D(n) = T(n)/T(0) \exp\left[-\sum_1^k \int_0^n B_i(t) X_i(t) d_t\right]$$

Where, $X = (d_x/d_t)/X$

And D (0) is set equal to unity. Assuming $B_i = B = $ constant

$$\ln D(n) = \ln T(n)/T(0) - \sum_1^k B \ln [X_i(n)/X_i(0)]$$

The index D (n) may provide a reasonable measure of the effects of discretionary changes. If the degree of homogeneity of the tax function $T(t) = f[X_1(t)…………X_k(t), t]$ is assumed to be r> 0 and if the growth rates of all the bases are equal to that of GDP or any income variable X (t), then the buoyancy, μ of tax yield can be found from the tax function:

$T(t) = ax^r$, $D^*(t) = ax^\mu$ Where, $D^*(t)$ as a special case of D, denotes an index of revenue growth due to discretionary changes. For the time interval (0, n) we have $D^*(n) = [x(n)/x(0)]^{\mu - r}$, which equals to unity when elasticity is the same as buoyancy in the case of no discretionary change (i. e. when μ = r). If the buoyancy is found from the tax function $T = ax^\mu$, and the index D from the underlying tax function, we get

$$\bar{r} = \mu - \ln D(n)/\ln [x(n)/x(0)]$$

Depending on the index being disaggregates or aggregative there will be two values of 'r' which will be equal if both bases grow at rates proportional to GDP growth rate. This method has two major limitations: (Nepal, 1995) Firstly, despite a sound theoretical underpinning, in application, the divisia index of discretionary tax change can underestimate (or overestimate) the positive (or negative) revenue effects of such measures.

Secondly, if discretionary change produces very large revenue effects, this method does not give satisfactory results.

As discussed above, among the four methods of estimating the adjusted tax revenue series the proportional adjusted method suggested by Sahota (1961), Prest (1962), and Chand (1974) are the most reliable in the context of UDCs where data arrangement system is not sound. It requires less data details thus these methods of estimating the adjusted tax revenue series are more popular in UDCs including Nepal.

2.1.9 Choice of a Suitable Model

For the estimation of elasticity and buoyancy coefficient of any particular tax system, given the historical time series data of actual, adjusted tax receipts and GDP, the most suitable and commonly used model is the double log linear model as of the following types.-(Mansfield-1972)

For Elasticity: $\ln (Ta) = \ln (\ ) + \ \ln (Y_t)$

For buoyancy: $\ln (T) = \ln (\ ) + \text{ß1} \ln (Y_t)$ Where Ta and t refers to adjusted and actual tax receipts respectively; a is the intercept term; Y refers to GDP or GNP; and ß and ß_1 are elasticity and buoyancy coefficients respectively.

2.2 An Empirical Overview

Tax elasticity and Buoyancy are the major concepts used in measuring the responsiveness of tax collection with respect to the changes in national income (Mansfield, 1972).A fairly elastic tax system is said to be desirable, but in most of the cases, the major sources of government revenue may have low elasticity. In such situation, it is a must for any welfare state to introduce new tax proposals (discretionary changes) in which case the growth in tax revenue may cause about through by high buoyancy against the natural growth through elasticity. In the context of Nepalese tax structure, various researchers have found heterogeneous findings. Similarly, in the context of some foreign economy, we have found various researches made on the responsiveness and productivity of tax yield of different countries.

2.2.1   Review of International Empirical Studies

Mansfield (1972) studied the responsiveness and productivity of Paraguayan tax system during the period 1962 to 1970. The period of 1962 to 1970 were considered to be era of conscious tax reform in Paraguay. In his study, Mansfield has raised two major questions: (a) what was the elasticity of the system and its components and how is the size of the elasticity coefficient be explained? (b) What was the buoyancy system relative to its elasticity? He found the elasticity coefficient of the total tax to be (1.14) while the buoyancy coefficient for the same period to be (1.69), which indicate that 1 percent change in GDP will bring about (1.14) percent change in total tax and remaining (0.55) percent (1.69-1.14) change in total revenue due to discretionary changes.

Tanzi (1976) studied the various aspect of individual income tax system of the united state. The basic of his study was to measure the elasticity and in built-in-flexibility of the US individual income tax that had been affected by both the changes and inflation over the period 1963-72 and to make and attempt to relate these changes in the sensitivity of the tax to the events of the period. His study estimated the following: elasticity and

flexibility of tax revenue (T) w.r.t taxable income (T_1); elasticity and flexibility of tax income (T_1) w.r.t. adjusted gross income (AGI); and elasticity and flexibility of taxable revenue (T) w.r.t. adjusted gross income (AGI). These estimates were done using the simple regression equation. The main conclusion of Tanzi study derived from these estimates is that, between 19663 and 1972 the elasticity of the tax increased largely because of the changes in the rate structures. The elasticity of T with respect to Ti rose over the period from about 1.1 to 1.2. This led to an increase in the elasticity of the T with respect to AGI from about 1.4 (in 1963) to about 1.5 (in 1972). It implies that the erosion in the real value of the basic exemption and of the standard deduction associated with a continuation of the recent inflationary pressures, and consequently possible decline of the elasticity of Ti with respect to AGI, should not have much of an effect on the overall elasticity of the tax. In the absence of further tax reforms, the tax yield should continue to grow at a much faster rate than nominal income.

Rao (1979) observed the responsiveness on Indian tax system during the period of 1960/61 to 1973/74. His study seeks to examine the responsiveness of the aggregative union and states, tax structure, and of selected individual taxes and their closest bases. He concluded that the overall trends of revenue from taxation in India showed a steady increase over the first four five year plan periods. However, a close examination of these, especially with relation to national income, disclosed that the revenues' built-in-flexibility was not improved at all. It was of the order of (0.833) for the period of 1951/52 to 1957/58 and (0.8271) for the period of 1960/61 to1973/74. Thus, he concluded from the results that the latter years' change comparison of taxation in particular did not facilitate much to improve the automatic growth.

Choudhari (1979) studied the "Measuring the Elasticity of Tax Revenue: A Divisia index approach" He studied the elasticity and buoyancy coefficient of four different countries: USA, UK, Malaysia and Kenya for the period 1955 to 1975, 1955 to 1974; 1962 to 1974 respectively. The Estimated Buoyancy and Elasticity of tax revenue of four selected countries are as follow: Buoyancy in the USA during the period of 1955 to1975 is (1.04) and elasticity in USA for the same period is (1.04). Buoyancy in United Kingdom during the period 1955 to 1974 is (1.18) and Elasticity in United Kingdom for the same period is (1.24). Buoyancy in Malaysia during the period of 1961 to 1973 is (1.70) and Elasticity in Malaysia for the same period is (1.57). And finally, Buoyancy in Kenya during the period of 1962 to 1974 is (1.42) and Elasticity for the same period is (1.32).

2.2.2 Review of Nepalese Empirical Studies

Reejal (1976) in his research, "Revenue Productivity and Equity of Nepalese Aspects of Nepalese Taxation: A Structural analysis for the period 1964/65 to 1970/71" had found Nepalese tax structure, as a whole fairly elastic having elasticity and buoyancy coefficient for the total tax revenue (1.82) and (2.18) respectively. The study found income tax elasticity as high as (4.39) among the different tax heads. The buoyancy of income tax for the period was (3.13). For this period, the difference between buoyancy and elasticity coefficient of income tax is (-1.26). This result indicates the high elasticity of income tax in Nepal is due to "Exemption effect" and "rate effect". Direct tax as a whole seems to be more progressive than indirect tax having the elasticity

coefficient of (2.24) as compared with the indirect tax elasticity coefficient of (1.52). The tax system as a whole had a buoyancy of (2.17) as compared to an elasticity of about (1.82), which indicates the positive impact of legislative changes on the revenue productivity of the tax system.

Upadhaya (1977) made a research, on the topic of "Elasticity and Buoyancy of taxation In Nepal: Structural analysis of tax responsiveness". His research work had covered the period of 1963/64 to 1977/78. He used the Sheetal K. Chand method to eliminate the discretionary change from total revenue. He also used the double Log-Linear model to evaluate the elasticity and buoyancy coefficients. The elasticity and buoyancy coefficients that he found during the period were (0.96) and (1.31) respectively. Therefore, Upadhyaya concluded that the overall tax structure lags the automatic increase in revenue with the increase in GDP. The net effect of discretionary changes was growing in overall tax revenue, showed a coefficient at (0.35) percent of additional revenue growth. The base to income elasticity for this part of taxation was very higher than tax to base elasticity and buoyancy. The base to income elasticity was (1.97665) while tax to base elasticity and buoyancy were (0.08410) and (0.36156) respectively. Thus, tax administration of Nepal needs an improvement in assessing and having of import duty. In other word, tax revenue from import duty can be raised further only by improving tax administration. Land revenue elasticity was (0.13242) which was very low. The buoyancy and elasticity coefficients for land registration fees were (2.32204) and (1.51360) respectively. Thus the action of discretionary changes had a key role on raising revenue, showing a net coefficient of (0.80844). The elasticity and buoyancy coefficients of income tax were (1.52070) and (1.55707) respectively. Although these values were quite higher but these were not enough for such type of direct taxation. Finally he recommended that tax administration regarding import duty and export duty should be made more developed. As a long term program stress should be much given toward improvements and adoption of modern direct form of taxation like income, property and cooperate income tax. Since agriculture was the dominant sector of the economy and land revenue was the less elastic sources of tax revenue, thus, stress should be much given toward adopting more elastic form of agricultural taxation.

Agrawal (1978) made an extensive study of Nepalese taxation covering the period of 16 years from 1962/63 to 1977/78. He found the elasticity and buoyancy coefficients of different income

tax heads with respect to GDP for the period 1967/68 to 1975/76. Excise tax had the highest value for buoyancy of (2.24) followed by sales tax (2.20), income tax (2.18), custom duties (1.18) and land tax (0.17), (1.74). Similarly income tax has the highest elasticity of (2.18) followed by sales tax (1.74) excise tax (1.287), custom duties (0.86) and land tax (0.12). Since both the elasticity and buoyancy coefficients of income tax are greater than unity, income tax in Nepal in positively responsive to change in GDP. The correlation coefficient of income tax elasticity for the period was (0.94), which indicates the good relationship between GDP and income tax. The difference between buoyancy and elasticity coefficients of income tax is only (0.17). This clearly indicates that more discretionary changes should be made to mobilize additional resources through income tax. The base of buoyancy and elasticity of income tax were (2.25) and (2.08) respectively. This shows highest value among any other major tax heads. The weaknesses that he identified in income tax administration during his research are as follow: failure to locate new taxpayer, collection delinquency, poor tax payer compliance, failure to maintain proper account and records, assessment delay, evasion and avoidance.

Dahal (1984) has studied various aspects of Nepalese tax structure for the period of 17 years from 1964/65 to 1980/84. His study period was divided into two sub groups, the first period consisting of the time series data of F/Y 1964/65 to 1972/73 and the second period consisting of the F/Y 1972/73 to 1980/81. He found that the overall elasticity of the total revenue for the whole period was almost unity (1.01) whereas the same for the first and second study periods were (0.87) and (0.97) respectively. Elasticity of Tax revenue, indirect tax, direct taxes were (0.92), (1.02) and (0.68) for the whole sample period respectively whereas the same for the first and second sample period were (0.86), (0.93), (0.53) and (0.97), (1.04) and (0.64) respectively. Similarly the buoyancy coefficients of total revenue for the whole sample period was (1.52) followed by indirect tax (1.63), total tax revenue (1.52), and direct tax revenue (1.23). The buoyancy coefficients of indirect tax revenue for the first sample period was (2.19) followed by tax revenue (2.01), total revenue (1.93) and direct tax revenue (1.61). For the second sample period, buoyancy coefficient of indirect tax was (1.42) followed by total revenue (1.36), tax revenue (1.34) and direct tax revenue (1.07). He found the elasticity coefficient of direct tax very less as compared with indirect taxes. The elasticity of land tax for the whole sample period was (-0.39) which was due to the reason of non-responsiveness of the land tax to income and this was

our unfortunate because 65% of the total GDP comes from agricultural sector. He concluded that the inelasticity of taxes in the tax structure of Nepal was primarily concentrated on land tax, export duty, import duty, export duty, excise duty and to some extend on income tax. The trouble lies apparently with direct taxes and their premier and lucrative components i. e. land tax and income tax which were distressingly inelastic. Land revenue in Nepal lacked progressivity in rate because it has a flat rate and its base didn't increase at a rate which was anywhere near the growth of national income. To increase the land tax, land tax can be expanded either by bringing up uncultivated land under cultivation or by increasing the productivity of major crops. Tax revenue cannot be increased through land revenue unless the land tax rate is increased.

Guru-Gharana (1993). In an article "Weaknesses of the Tax Policy and Tax Structure in Nepal" He examined the major weaknesses of the tax policy and tax structure in Nepal on the basis of historical data and the recent budget speeches. He compared the Elasticity and Buoyancy of tax yields to GDP during the period of 1974/75 to 1983/84 and 1974/75 to 1988/89. he found that elasticity of tax revenue with respect to GDP in Nepal was extremely low (0.4951) and (0.5866) in comparison with buoyancy (1.36652 and 1.2814) of total revenue with respect to GDP in both sample periods, which indicated that the government concentrated more on introducing various discretionary changes rather than broadening the tax base. Such tax structure is undesirable to support for development activities. Thus, he suggested that the tax policy should have clear-cut direction and consistency with long-run perspective. Tax structure should be as simple as possible, salaried and professional income should be taxed with full administrative force, preferably at the source, and the employers should be strictly made responsible for tax compliance and liable to heavy penalty fro non-compliance. Tax assessment and collection officials should be well- trained, well-remunerated and reasonable reward and severe punishments should be enforced, respectively for honesty and corruption. Government has to win the confidence pf the people that it is not carefully utilizing the public revenue for the maximum benefits of the people and for delivering the services and discharging the social responsibilities, it is entrusted with only then can the government have the requisite political will and public support for strong revenue administration and adequate revenue mobilization.

Acharya (1994) made a research on the topic of "Income Taxation In Nepal, A study of its structure, productivity, and problems." His study period was ranged from 1964/65 to 1989/90. He found that the elasticity and buoyancy of Nepalese income tax revenue with base GDP during the whole period of time were (0.8393) and (1.7969) respectively. Similarly, the base elasticity and base buoyancy of the Nepalese income tax revenue with base GDP from non-agricultural sector were (0.4846) and (1.3507) respectively. In the both cases, the difference was greater than the elasticity. Hence, he observed that the role of discretionary change was greater than the automatic growth in income tax revenue. Therefore, the Nepalese income tax system during that period was buoyant rather than elastic. This study showed that the income tax revenue in Nepal rose from 0.09% to 1.02% of GDP during the period of 1964/65 to 1989/90 with slight fluctuations. During the same period it increased from 3.52% to 12.8% of the total tax revenue and from 10.21% to 64.95% of the total direct tax revenue with slight ups and downs. Then it can be concluded that the share of income tax amount has been increasing gradually of the direct tax revenue. Thus, income tax is the key component of direct tax. He also concluded that many income tax payers favored progressive tax rate but not the sharp progressively. They suggested fixing the rate at 10%, 15%, and 25% for each difference of RS 50,000 for yearly income of individuals over the exemption limit at current prices. The role of discretionary changes in the Nepalese income tax revenue was gradually increasing. During the period 1964/65 to 1989/90, its value seems to be 53.63% of the total income tax revenue. He recommended that employees in the district level of tax offices should be transferred in every two or three years of interval in order to check the unofficial linkages between them and tax payers. Tax department should be develop effective information network among tax offices, train adequately its employees, and publish tax journal at regular interval of time. To raise the income tax revenue, simplification of the tax structure, legal and administrative aspects, and understanding with the consent of tax payers; were recommended. Faithfulness between tax payers and tax officials should be developed.

Ghimire (1994) made an empirical study on the topic of "Measuring Responsiveness and Productivity of Tax Yield in Nepal's Tax Structure. He had submitted his empirical findings as a dissertation to Central Department of Economics, Kirtipur, Kathmandu. He studied during the period of 1972/73 to 1991/92. The elasticity coefficients that he found during the study period

were as follow: Total revenue (0.630), Non-tax revenue (1.147), Tax revenue (0.4995) Direct tax revenue (0.1430), land tax revenue (-0.447), Land registration (0.625), Income tax (0.1727), Indirect taxes (0.59) etc. The elasticity coefficients that he found were not uniform. They ranged from (0.1430) for direct taxes to (1.147) for Non-tax revenue and from (-0.8624) for other direct taxes to (-1.3891) for export duties. Therefore, Nepalese taxes were not responsive to their income during that period. The elasticity coefficient of indirect taxes was marginally higher than the elasticity coefficient of direct taxes. And, the reason for negative elasticity of land tax in Nepal was that the rigidity of tax structure and inflexibility of tax base. The elasticity of major direct taxes (land tax, income tax, and registration fee) which contributed about 16.2 percent of the total tax revenue and 1.3% to total GDP was less than unity (0.1430). Thus it is understood that the share of the direct tax revenue to total tax revenue was very low during that period. Elasticity of the most important component of direct tax, (i.e. income tax) was also less than unity: which contributed 8.7% of total tax revenue and 0.7% of total GDP in 1991/92.

He also found the buoyancy coefficients for some of the major heads of taxes were as follow: Total revenue (1.2468), Non-tax revenue (1.4256), Tax revenue (1.2014), Direct tax revenue (1.0758), Land tax (-0.0845) Land registration (1.3618), Income tax (1.2224) and Indirect taxes (1.234). According to his analysis, it is found that the values of elasticity coefficients of all tax heads were less than unity, meant that it was inelastic in nature during that period. His study also showed that tax revenue pattern was heavily depended upon indirect tax rather than Direct tax but direct tax system is considered to be the best means of progressiveness type of tax system.

Adhikari (1995) empirically measured the elasticity and buoyancy of major Nepalese taxes including total revenue during the period of 1974/75 to 1993/94. This period was further divided into two sub-periods (i) from 1974/75 to 1983/84 (first sample period). He found that buoyancy of overall revenue was much more higher (1.10) in comparison with lower elasticity of overall revenue (0.65) in the whole sample, implying that 1 percent change in national income affects (0.45) (1.10-0.65) percent change in the revenue due to discretion measures. He also found that elasticity of total revenue of first sample period was very low (0.40) in comparison with the elasticity of total revenue of whole sample period (0.68), implying that the built-in-flexibility of the tax system is improving considerably over the first sample period. On the other hand, the

difference the elasticity and buoyancy of second sample period acclaimed (0.37) percent, which was smallest in comparison with both whole sample period as well as first sample period. This implied that Nepal had greater scope for increasing revenue with comparatively lesser degree of discretionary measures in future.

Nepal (1995) made a research, on the topic of "Structure and Responsiveness of Nepal's Tax System". He studied the Elasticity and Buoyancy of Nepalese tax system during the period of 1968/69 to 1992/93. The elasticity of selected group of taxes was rather divergent. They were ranging from (0.14) for direct taxes to (1.14) for the non-tax revenue were less than that of total revenue, the system as a whole could not be considered elastic and responsive to national income. The tax-wise analysis became more significant as the elasticity of indirect tax (0.61) was almost four times greater than that of Direct tax (0.14). This was the greater challenge for Nepalese fiscal authorities, contrary to the general acceptance as direct tax was seemed to be more progressive than indirect tax, which was really a paramount problem for the government also, who wants to increase the share of direct tax in total tax structure. Elasticity of income tax (0.48) was even less than that of total tax revenue. This may be due to the exemption of agricultural income from tax-net which leads to narrow the tax bas, and due to high evasion caused by loopholes in tax-law. The elasticity of land registration tax was higher (0.66) than that of land revenue (-0.51) suggesting that on of the major elements responsible for the sluggishness of direct tax yields was the land tax. Elasticity of the tax revenue was (0.5113) whereas the elasticity of total revenue was (0.6356). The buoyancy coefficients that he found during his research were as follow: Total revenue (1.2094), Tax revenue (1.1634), Non-tax revenue (1.4150), Direct tax (1.002), Indirect tax (1.2099, Custom duties (1.0717), Income tax (1.1971), and Land tax (-0.0585). The buoyancy coefficients of major components of direct tax were less than unity and that of land revenue was even negative (-0.058). The percentage contribution of discretionary measures ranges from 86.48% in direct tax to 17.5% in contract tax. This high buoyancy (1.0) but low elasticity (0.14) of direct tax indicated two things. (a) Government was eager to raise tax revenue through direct tax despite its various implications in Nepal. (b) Direct tax group in particular can mostly be held responsible for the sluggishness of aggregate tax yields.

According to his findings, share of direct taxes were declining due to lack of appropriate tax policies, lack of administrative competence to implement the policies, the exclusion of agricultural income from the ambit of direct tax net and the high exemption limits of income to make it taxable. More than 60% of tax revenue was contributed through indirect taxes implying regressive tax policy of the country. In Nepal, Tax-GDP ratio was 7.1% which was less than one-half of the average tax-GDP ratios of developing economy indicating that Nepal is one of the Low-Tax nations. One of the most important recommendations that he made was "real estate investment was flourishing during the past few years which was an unproductive in the economics sense. So, if capital gains were not taxed, there was an incentive to transfer income into untaxed capital gains which helps to locked up capital in the unproductive investment. Hence, the definition of income tax should be extended to include capital gain which helps to correct distortions in the resource allocation.

Shrestha (2001) Made an empirical study on the topic of "Elasticity and buoyancy of Nepalese taxes with special reference to custom duties in Nepal". He submitted his findings to Patan Multiple Campus. He found that the buoyancy coefficients of the total tax revenue was (3.24), Indirect tax (3.25) Total custom duties (3.26), Import duties (3.19) Export tax (2.49) respectively. Buoyancy coefficient of the custom revenue was the highest in value (3.26). This high value of the coefficient of customs buoyancy and its share in total revenue (for the year 1993/94 it was 34.2%) implied that the customs revenue can be a major source of government finance for coming days also. Similarly, the elasticity coefficient of the total tax revenue was (0.55) followed by Direct tax (0.68), Indirect tax (1.58), Custom duty (-0.77), Import plus DRP revenue (1.29). Import revenue (1.28), Export revenue (-2.46). The coefficients of both buoyancy and elasticity were also low except the buoyancy coefficient of custom duty to base (0.802) indicated a poor relationship between base and tax. That is change in base only cannot bring desire change in the tax revenue and some other factor were also responsible which were to be applied to bring the change in the tax revenue structure. The buoyancy coefficient of direct tax was (3.24) which implied 1% increases in GDP would help raise the direct tax revenue by 3.24% taking into consideration of all efforts of discretionary change. He showed that total tax revenue was affected by other taxes.

Chapagain (2003) Made a research on the topic of "A study of tax structure of Nepal: Elasticity and buoyancy measurement." He submitted his findings to Central Department of Economics, kitipur as a dissertation. He studied the elasticity and buoyancy of Nepalese tax system during the period of 1976/77 to 2000/001. This whole sample period was divided into two sub-divided period (a) from 1976/77 to 1990/91 was the first sample period and (b) from 1991/91 to 2000/01 was second sample period. He found that the direct tax had contributed 19.17% of total tax revenue and indirect tax had contributed had contributed 80.83% of the total tax revenue during his study period. This showed that indirect tax had played a dominant role in Nepalese tax structure. The elasticity of the total revenue for the whole sample period was very low (0.65) in comparison with the buoyancy of the same sample period (1.13). This indicated that the revenue productivity was very low and revenue mobilization for the development activities heavily depended upon the discretionary changes. The elasticity coefficient of direct tax revenue to GDP for the whole sample period from 1976/77 to 2000/01 was (0.57) respectively. Estimated elasticity of income tax revenue to GDP during the same sample period was (0.50), which was also less than unity, indicated less responsiveness to GDP growth. He found the buoyancy coefficients of total revenue to GDP for the whole sample period was (1.13) followed by direct tax (1.19), indirect tax (1.09), and income tax (1.36). Total land registration revenue as a direct revenue contributed (0.74) but land revenue contributed for the same sample period was (-0.90) which was negative due to low rate of tax rate on land. The share of direct tax which was 19.17% of the total tax revenue in the first sample period had increased marginally and become 21.86% of the total tax revenue. But the share of the indirect tax revenue decreased from 80.83% of tax revenue in first sample period to 78.13% in the second sample period. Similarly, the share of the major components of direct tax had increased significantly and become 71.01% of the total direct tax in the second sample period. Income tax, the premier component of direct tax had quite low elasticity of (0.19) in the first sample period of study (1976/77 to 1990/91) but had increased significantly to (1.22) in the second sample period (1991/92 to 2000/001). This implied that the better prospects of Nepalese tax structure can be hoped from this source of revenue. Elasticity coefficient was (0.65) while buoyancy coefficient was (1.13), implied that tax yields were increasing by burdening the existing tax payers rather than increasing the tax bas. Attempts should be made to bring more people to the tax net. High elasticity and buoyancy coefficient of (1.22) and (2.26) respectively in the second sample period for income tax implied that greater tax

revenue came from existing income tax payers. Thus, tax base should be extended to new group of income earners to expand the tax base rather than burdening the existing tax payers. Salaried income, professional-class income and income from private institution, income from doctors, income from private school, collage should be taxed with full administrative efforts.

Sakya (2005) made an empirical study on the topic of "Structure and Responsiveness of Nepalese Tax System during the period of 1976/77 to 2002/03. He submitted his findings to Central Department of Economics as a Dissertation. His study was based on two sub-sample periods. Te first sample period was 1976/77 to 1990/91 and the second sample period was 1991/92 to 2002/03. The buoyancy coefficients that he found during the whole sample period were as follow: total revenue (1.140), Total tax revenue (1.120), Non-tax revenue (1.210), Direct tax revenue (1.137), Indirect tax revenue (1.1041), Land revenue and registration (0.744), Income tax revenue (1.290). Elasticity coefficients for the whole sample period were as follow: Total revenue (0.618), Total tax revenue (0.526) Total Non-tax revenue (0.964), Direct tax revenue (0.378), Indirect tax revenue (0.558), and Income tax revenue (0.423). He also studied comparically classifying between first and second sample period. He found the buoyancy of total revenue in first sample period was (1.148) followed by Total tax revenue (1.139) Direct tax revenue (1.164), Indirect tax revenue (1.123), and income tax revenue (1.336). Buoyancy coefficients for the second sample period were as follow: Total tax revenue (1.092), Direct tax revenue (1.088), and Indirect tax revenue (1.213). Similarly, Elasticity coefficients for the first sample period were as follow: Total tax revenue (0.643), Direct tax revenue (0.829), Indirect tax revenue (0.587) and Income tax revenue (0.944). Elasticity coefficients for the second sample period were as follow: Total tax revenue (0.517), Direct tax revenue (0.623), Indirect tax revenue (0.485) and Income tax revenue (0.733). Data mentioned above revealed that all buoyancy coefficients are higher as compared with their respective elasticity coefficients of Nepalese tax system during the various periods. This indicates that the automatic response of revenue to GDP is discouraging and if there had not been a series of discretionary measures even the present low revenue mobilization would not have been possible. The Share of the Direct taxes was very low as compared to the share of indirect taxes. He finally recommended that tax bases should be expanded because the elasticity of Nepalese tax system is very low. Nepal should not be highly

depended on custom duty only but taxes on profit, property, income tax excise duty, VAT, land revenue and registration etc. must be ensured.

Reejal (2006) Made a research, on the topic of "Income Tax In Nepal, Structure, and Productivity And Problems", during the period of 1988/89 to 2004/05. He submitted his findings to Central Department of Economics, Kirtipur as a dissertation. He studied the elasticity and buoyancy of tax yields by classifying two streams i.e. (a) Elasticity and buoyancy of Nepalese income tax revenue with base GDP and (b) base elasticity and base buoyancy of Nepalese tax revenue with base GDP from Non-agriculture sector. He found that the elasticity and buoyancy income tax with base GDP are (1.00) and (1.74) during the period of 1988/89 to 2004/05 respectively. The elasticity coefficient, which is equal to unity, indicates that one rupee change in GDP causes equal amount change in income tax yield. The buoyancy of income tax is also greater than unity (i.e. 1.74) which indicates that government tried to mobilize the internal resources through built-in-flexibility. The difference between buoyancy and elasticity is (0.74), which indicates that one percent change in GDP causes (0.74) percent change in income tax yield due to discretionary changes, which measure the productivity of tax revenue through discretionary change when there was one-percent change in GDP. Similarly, the base elasticity and buoyancy of Nepalese income tax revenue with base GDP from Non-agricultural sector are (0.89) and (1.54) respectively. The difference between base elasticity and base buoyancy was also significant (0.65). In both of the cases, the difference was less than the elasticity coefficients. The role of discretionary change in income tax revenue was less than the automatic growth. Thus, it can be concluded that Nepalese income tax system in to some extend was elastic rather than buoyant. The base elasticity was (0.89) which was less than unity and it showed that most of the income tax in Nepal during that period came from Non-agricultural sector: according to his research, income tax had contributed 80% of the total direct tax revenue in 2002/03. The contribution of income tax in direct tax was increased significantly and reached about 94% in 2000/01 but thereafter, it began to decrease owing to insurgency as well as implementation of account based income tax act 2002, which had more liberal provisions regarding the deduction of expenses.

To sum up,

It can be concluded through the observation made on the research by various researchers that contribution of direct tax revenue in Nepal is very low as compared with the contribution of indirect tax revenue. Despite the aspect of ability to pay principle that can be met through direct tax, government of Nepal has been heavily dependent on indirect tax revenue. According to the findings of various researchers, Nepalese tax system seems to be more buoyant rather than elastic in that buoyancy coefficients of the all revenue heads are greater than unity where as the elasticity coefficients of the all revenue heads are less than unity. As the value of elasticity coefficient greater than unity then the tax system said to highly responsive. If is greater than unity, government does not need to adopt discretionary measure to increase its revenue. So, these findings collected from various researchers suggest that the government of Nepal has been applying discretionary changes to increase its revenue pattern. Besides this, tax evasions, exemption, weak administrative effort, corruption, lack of modern equipment to keep the data well, lack of well trained tax collection officials are the key negative factors in Nepalese tax environment.

CHAPTER THREE

METHODOLOGY

3.1 Sources of Data

The study is based upon secondary data to fulfill the objectives of the research.

The sources from where the required datas are obtained; are as follow:

i)   Budget speeches of various years (MOF,G/N)

ii)   Economic Survey on various issues (MOF,G/N)

iii)   Statistical abstracts of Ministry of Finance (MOF,G/N)

iv)   Other national publications related to income, property and land taxation in Nepal.

v)   Various Publication of NRB.

This study is based on time series datas for the Nepalese economy from the period of **1989/90 to 2005/06**.

3.2 Variables under study

Although this study is mainly focused on the structure of direct tax revenue from the period of **1989/90 to 2005/06**; but to know the actual structure of direct tax revenue is almost impossible without studying the revenue structure of indirect tax parallel to the study of direct tax. Thus, the revenue share of indirect tax will also be measured besides the purposed one.

Total revenue is divided into two streams.

i)   Total tax revenue and   ii) Non-tax revenue.

Total tax revenue is also divided into two ways:

i) Direct tax   ii) Indirect tax

Under the study of direct tax revenue, four major revenue heads are considered:

i)   Income tax revenue

ii)   Land tax revenue

iii)   House and land registration fees

iv)   Tax on Property: Vehicle Tax and Urban House and Land Tax

The components of indirect tax revenue are as follow:

i)   Custom duties ii) Import duties iii) Excise duties iv) Export duties v) Sales/VAT

We have included Hotel tax, Entertainment tax, Air flight tax and Contract tax, road and bridge maintenance tax in others. In the case of the different heads of indirect tax, they are not studied separately but indirect tax as a whole.

3.3 Method of data adjustments

In order to estimate elasticity and buoyancy accurately, it is necessary to separate discretionary changes from the tax revenue series. Economists have used various methods to obtain adjusted revenue series. Constant structure method, divisia index method, dummy variable method and proportional adjustment method are the four major method used in this respect. But due to the nature of data available in UDCSs like Nepal, proportional adjustment method is the one which is considered to be the best suited for the countries like Nepal. Proportional method comprises three basic methods such as Prest method, Sahota method, and Chand and Chellia method. Among these methods, Sahota method has been used to separate the discretionary changes from the tax revenue series due to its simplicity. Two steps are followed for this process: firstly, a preliminary series of adjusted tax yields is prepared by subtracting from the actual yield. Secondly, the "adjusted" series thus obtained is further refined by using the formula given below to form a "final" series which excludes the continuing impact of each discretionary change on future years so that the elasticity of a given tax structure in the base year may be established.

Symbolically,

$$\text{IT}_t = \frac{\text{AT}_t \pm \text{RT}_t}{\text{AT}_{t-1}} \times \text{IT}_{t-1}$$

IT_t = Adjusted or net tax yield at time t

IT_{t-1} = Adjusted or net tax yield of previous year (t-1)

AT_t = Actual tax yield at time (t)

A_{t-1} = Actual tax yield yield at time (t-1)

RT_t = Actual discretionary change at time 't'

3.4 The Models

The models specified in this study comprise of severable equations to examine the responsiveness and productivity of Nepalese various tax heads. Both single and multiple regression analysis are used to estimate buoyancy and elasticity coefficients of various revenue series. Moreover, regression equations are transformed to double-log-linear to have the estimates of elasticity and buoyancy of various specified relationships. The equations specified to show the relationship between various variables are given below. The equations will also be used for finding the elasticity and buoyancy coefficients of different tax heads.

a) Models for **Buoyancy** coefficient of various tax heads:

$$\ln TR_t = \ln + {}_1\ln Y_t + \mu_t \qquad (1)$$

$$\ln TXR_t = \ln + {}_1\ln Y_t + \mu_t \qquad (2)$$

$$\ln NTR_t = \ln + {}_1\ln Y_t + \mu_t \qquad (3)$$

$$\ln DT_t = \ln + {}_1\ln Y_t + \mu_t \qquad (4)$$

$$\ln INT_t = \ln + {}_1\ln Y_t + \mu_t \qquad (5)$$

$$\ln IT_t = \ln + {}_1\ln Y_t + \mu_t \qquad (6)$$

$$\ln HLRF_t = \ln + {}_1\ln Y_t + \mu_t \qquad (7)$$

b) Models for **Elasticity** coefficients:

$$\ln TR_{at} = \ln + \ln Y_t + \mu_t \qquad (8)$$

$$\ln TXR_{at} = \ln + \ln Y_t + \mu_t \qquad (9)$$

$$\ln NTR_{at} = \ln \quad + \quad \ln Y_t + \mu_t \qquad (10)$$

$$\ln DT_{at} \quad = \ln \quad + \quad \ln Y_t + \mu_t \qquad (11)$$

$$\ln INT_{at} \quad = \ln \quad + \quad \ln Y_t + \mu_t \qquad (12)$$

$$\ln IT_{at} \quad = \ln \quad + \quad \ln Y_t + \mu_t \qquad (13)$$

$$\ln HLRF_{at} = \ln \quad + \quad \ln Y_t + \mu_t \qquad (14)$$

Note: 'a' refers to the adjusted revenue series.

$_1$ = Buoyancy coefficient
= Elasticity coefficient
= Intersect parameter
μ = Stochastic Disturbance term
Y_t = GDP

Dependent Variables	Independent Variable
TR = Total revenue	GDP
TXR = Total tax revenue	GDP
NTR = Total non-tax revenue	GDP
DT = Direct tax revenue	GDP
INT = Indirect tax revenue	GDP
IT = Income tax revenue	GDP
LT = Land tax revenue	GDP
HLRF = Land and House registration fees	GDP
TOP = Tax on Property	
T = Time series data	

3.5 Tools Analysis

3.5.1 Regression Analysis

Coefficient of determination explains how good is the fit of the estimated regression line to the sample observation of variables. So, it is the measurement of dispersion of observation around the regression line.

Coefficient of determination here is taken as a measure of goodness of fit, as it shows the percentage of total variation of the dependent variable that can be explained by the independent variable like X.

r^2 = Explained variation/Total variation or RSS/TSS

Here, ESS = Residual sum of square
RSS = Explained sum of square
TSS = Total sum of square
ESS = TSS – RSS

Another criteria as a measure of a goodness of fit is adjusted coefficient of multiple determination r bar square (simple regression) or R bar square (multiple regression).
It is given by: r square or R bar square = (ESS/n-k)/ (TSS/n-1) – (Aryal, Gautam, 2001)

Where,
TSS = Total sum of square
E SS = Unexplained sum of square
n = no. of observation
k = no. of parameters in the model including intercept term.

3.5.2 T-Test

Student's t-distribution was first developed by W.S Gossel (pen name student) in 1908. Then, this distribution is explained by R.A. Fisher. The small sample test, t-test will be performed in

order to identify the statistical significance of an observed sample regression coefficient and the formula for calculation the value as:

$t = a_i/SE_{ai}$

Where, a_i = estimated value of a_i

$SE(a_i)$ = Standard error of a_i or $\sqrt{var\ a_i}$

3.5.3 F-Test

F-test is used to measure the overall significance of the estimated regression, which is also a test of significance of R^2 because these two vary directly. F-test is also known as variance ratio test, where $R^2 = 0$, F is zero and when $R^2 = 1$ F is finite. This means, larger the value of R^2, the greater the value of F. Therefore, as the value of F-test is large, the overall significance of the estimated regression is good.

The value of F is computed as:

$F = R^2/(k-1)/(1-R^2)/n-k$

Where,

    k = Total number of parameters to be estimated

    n = number of observations

    R^2 = coefficient of determination

3.5.4 Standard error of Regression Line

The standard error of regression line (estimate) is a measure of precision in the reduction of value of dependent variable base on the regression equation given the value of independent variable.

CHAPTER- FOUR

STRUCTURE OF DIRECT TAXATION IN NEPAL

4.1 The History of Taxation in Nepal.

Although, Reliable records about taxation in ancient and medieval Nepal are not available, however, it takes its earliest form in the actions of petty rulers, scattered in various parts of the country which extracted levies and to us from the travelers and merchants.

4.1.1 Taxation during Ancient period

In the Lichhavi period, taxes were known as "Trikar" which means three kinds of taxes. They were "Bhaga" "Bhog" and "Kara". Among them Bhaga tax was levied on agriculture, the Kara tax was levied on business income and Bhoga was on animals. Although land tax was the major source of government revenue in ancient Nepal, however, there were existed other form of taxes such as irrigation tax and religious movement preservation tax in the time of king Amsuvarma of Nepal. In ancient Nepal, taxes were levied in the form of kind, cash, and labor. Specific portions of agricultural products were payable to the king as tax. Taxes were also paid in the form of gold during that period. Fixed taxes were levied in village. Compulsory manual work from all artisans and laborers was also common way of paying taxes. The taxation was temporary and taxes were raised for special purposes. (Agrawal, 1980)

4.1.2 Taxation during Unified Nepal (1768-1816)

Taxation during the period of unification, the key sources of revenue in Nepal were land and homestead taxes, monopolies customs, transit and market duties, mines mints, the export of forest products, birds, animals and various levies and fines. Maximization of revenue was the main objective of the tax policies during that period. Local administrators were directed "to take whatever is paid willingly by people." The taxes were usually collected at three levels.

a) Royal Palace: To finance occasional and ceremonial needs. The taxes were broad based and progressive.
b) Government: To finance the administrative military, and other purpose, assessed on

official functionaries, occupational groups and other people.

c) Local: Perquisites of local officials given on contracts. In some parts of Terai region, taxes were collected at specific rates on jewelers, textiles, falcons, horses, elephants, homespun, cloth, yarn, blankets, borax, wax paper, iron, paper, tobacco, herbs, drugs, cotton, salt, yak's tail, musk, sheep and goats.

The various taxes levied during that period were narrow in base and were imposed primarily on occupations and economic activities, not on income and property. The system of direct taxation was confined to land tax and special levies like "Darshan Bhet", "Salami", "Walak", etc. There was no taxation of income in the modern sense of income tax.

4.1.3 Taxation during Rana Regime in Nepal (1847-1951)

Imposition and collection of taxes during the 104-year oligarchic rule of the Rana family in Nepal prior to 1951 was the prerogative of the feudal rulers. Only those taxes were imposed to suit the objectives, needs and whims of the then ruling prime minister. Income and expenditure of the state were not made public. No budget was over framed during the Rana regime. There was no difference between the income of the state and the income of the then prime minister.

The major sources of revenue in Nepal till 1951 were land tax, custom and excise duties in the form of lump sum contrasts, royalties on felling of trees, royalty on supply of porters and soldiers, entertainment tax, and a few other minor taxes, there was no direct tax in the county except land tax collected on a contractual basis and 'salami' which the government employees used to pay out of their salaries at a very small percentage. The "salami" was abolished in 1951. Since most of the revenue in Rana Regime was collected by award of periodic contracts; the need was not felt for the development of effective revenue administration system. The Rana rule was side lined in 1951. Since then, no taxes are levied and collected in Nepal except in accordance with law.

4.2 History of Income, House & Land Tax in Nepal

The History of house and land tax is not so long. Finance Act. 2016 had empowered the government of Nepal to levy property tax at first. After the enactment of property tax act. 2017 house and land and property tax was governed by this act. In 2047, property tax act 2947 came into existence with repealing of property tax act 2017. Local self governance (LSG) act came into existence in 2055. This act has replaced village development committee act 2048, municipality act 2048, district development Act 2048 and decentralization act 2039. Local self governance act has a broad coverage. Local self governance rules, 2056 have been framed by the government. LSG act 2055 has empowered village development committee and municipality to levy house and land tax. House and land tax have been collected by VDC and municipality as per the LSG act, 2055 and LSG rules 2056.

Income tax was imposed in Nepal by the first parliamentary Government in 1959. Income tax Act 1962 was enacted in 1962 replacing Business, Profit and remuneration tax act, 1974, which was amended for eight times and existed for a period of 28 years. The income tax act, 1974 and all the income tax related provisions made under other special enactment have been replaced and the existing income tax act, 2058 became effective since Chaitra 19, 2058 (01, April 2002). The act governs all income tax matters and it's applicable throughout the kingdom of Nepal. It is also applicable to residents residing wherever outside Nepal.

4.3 Existing Structure of Municipal Taxes in Nepal

The Local Self-Governance Act 1999 and the local self-governance Regulations 1999 govern the existing structure of the municipal taxes which is as follows: Land Revenue/Bhumi Kar: Municipalities are authorized to levy land revenue/Bhumi Kar. These taxes are levied on land. Land revenue is levied on land other than the land that i.e subject to Bhumi Kar. On the recommendation of municipalities, His Majesty's Government of Nepal specifies the land that is subject to Bhumi Kar.

For the purpose of land revenue, land is divided into four categories, on the basis of the

productivity of land viz. Abal, Doyal, Seem, and Chahar. For the purpose of the Bhumi kar, urban land is divided into six categories on the basis of residential and commercial importance of land.

Rate of land tax revenue is fixed on the basis of a specific unit of area. Land revenue rates are graduated according to the type of land. The highest land revenue rate is levied on Abal land, then on Doyam land, Seem land, and finally on Chovar land. Similarly, rates of Bhumi Kar vary considerably by categories of land.

In the case of land revenue, maximum and minimum rates are fixed and municipalities can fix rates within these ranges as per their local conditions. But no such limits are fixed in the case of Bhumi Kar, meaning that municipalities have to adopt the given rates of Bhumi Kar.

House and land tax: Municipalities may levy house and land tax on each house and land within their jurisdiction on the basis on the size, type, design, construction and structure of the house and area covered by the house, as approved by the municipal council.

The base of the house and the land tax is the capital value of house and land property and the tax is levied on the basis of a graduated rate schedule. The rate is fixed on lump sum basis on the first slab of taxable value (i.e. Rs.300 on the first taxable value of Rs.1million) and 4 progressive rates (0.05 percent, 0.25 percent, 0.50 percent and 1.50 percent) are fixed for the higher values.

Integrated property tax: Municipalities are also empowered to levy an integrated property tax on land and buildings under their area of jurisdiction. For the purpose of this tax, a municipality shall have to stratify its area as per necessary, and a separate statement of integrated property of the residents or such stratification of each ward shall be prepared in the specified format. Upon the preparation of such statement, the municipality shall continue a Valuation Committee for maximum period of one-year consisting of specialists and competent persons for the valuation of integrated property.

The value fixed by the municipality and the rate of the tax fixed by the municipal council to be

levied thereon shall have to be published and the municipality shall have to send a bill within the month of Mansir (mid-November to mid-December) for the payment of tax. The tax must be paid as per the bill by the concerned taxpayer to the municipality within the same fiscal year.

No land revenue/Bhumi Kar, and house and land tax shall be levied on the property subject to the integrated property tax.

Rent Tax: Municipalities are empowered to levy a rent tax on the amount of rent in cases where any house, shop, garage, godown, stall, shed, factory, land or pond is rented wholly or partially within their jurisdiction. The rent tax may be levied at a rate not exceeding **2 percent** of rent.

On the other hand, municipalities can also levy a **Tenancy tax** on municipality-operated shops or permission granted to operate temporary shops in public places, unregistered land (Aailani) or roadsides at the rate of Rs. 2 to Rs. 20 per square feet.

Professional tax: Municipalities are empowered to levy a professional tax on the specified industry, trade, profession or occupation. Minimum and maximum rates for each categories of profession are fixed and the municipality can fix rates according to their local conditions.

Vehicle Tax: Municipalities are also authorized to levy an annual vehicle tax on the specified vehicles within their areas of jurisdiction and a per entry tax on all kinds of vehicles entering into their area.

Municipalities can also levy per **Entry tax** on the use of the road constructed by them or transferred to them from other organizations. Municipalities can levy registration tax on carts, Riksha and Tanga at rates ranging from Rs. 15 to Rs. 50.

Entertainment tax: Municipalities can levy entertainment tax at the rate of 2 to 5 percent of entrance fees on the means of entertainment such as cinema halls and cultural show halls permitted within the municipal area. Similarly, municipalities can levy entertainment tax on the circus and magic shows at the rate of Rs.200 to Rs.500 per day.

Commercial Video tax: Municipalities are may levy the tax at the rate of Rs. 200 to 500 per annum on per video, projector, cable etc used any person or organization for commercial view.

Advertisement tax: Municipalities can levy an advertisement tax at rates ranging from Rs.200 to 500 on signboards, globe boards, stall etc permitted to be placed by roads, junctions, public places etc. under their jurisdiction. (Khadka-2002)

4.4. The special Features of Income tax act 2002

- The act has broadened the tax base. Tax rates are spelled out in the act itself and the tax rates and concessions are harmonized on equity grounds.
- A full fledged self-assessment system is implemented and the presumptive taxation and current year taxation systems are strengthened.
- The scope of discretionary interpretation of the tax administration is drastically reduced ensuring simplicity, uniformity and the transparency. The act has also defined the power and authority of the tax administration.
- The act has separated administrative and judicial responsibility by distinguishing civil liabilities of the tax payers from criminal liabilities.
- The appeal system is further strengthened by making it mandatory for the taxpayers to file an objection with Inland Revenue Department for administrative review before appealing to the revenue tribunal.

4.4.1 Income Heads

- The act imposes tax on those activities contributing toward the creation of wealth. Wealth is created with the help of factors, capital and a capital-labor mix activity that generate income from employment, investment and business activities respectively. The act makes broad classification of income encompassing almost all income-earning activities. They are:

a) Employment (an individual's remuneration income from an employment for an income year)

b) Investment (profits and gains of a person conducting an investment for an income year)

c) Business (profit and gains of a person from conducting a business for an income year)

d) Income and gains are ascertained only after deducting the corresponding expenses. The income from each business and investment needs to be calculated separately.

4.4.2 Taxing Subjects

- The taxpayers on whom income tax is imposed are persons. A person can be a natural person, who is an individual or a couple but includes also a proprietorship, or it can be an artificial person, i.e. equity. Equity means a partnership, trust, company, and foreign permanent establishment of government body.

- The act distinguishes between resident and non-resident persons. A resident person is an individual whose normal place of abode is in Nepal and who is present at any time of the year, or who is present in Nepal fro 183 days or more, or who is an employee of government of Nepal posted abroad at any time during the year.

- A trust is a resident person if it is established in Nepal, or has a resident person as a trustee, or is controlled by a resident person. A company residing in Nepal and if it is incorporated under the laws of Nepal or has its effective management in Nepal. Partnerships are always resident persons. Permanent establishments are places where a person carries on a business and are subjects to tax if they belong to a non-resident person and are situated in Nepal.

4.4.3 Income year

- For every person the tax is imposed and calculated for an income year. The individual income year corresponds with Government's fiscal year, i.e. the period from the start of Shrawan of a year to the end of Ashad of the following year (mid-July to mid July).

4.4.4 Assessable Income

- The assessable income of a person from an income year from any employment, business, or investment is:
  a) In the case of a resident person, the person's income from the employment, business, or investment of the year irrespective of the location of the source of the income and
  b) In the case of a non-resident person, the person's income from the employment, business, or investment of the year but only to the extent the income has a source in Nepal.
- The assessable income does not include any income exempt under sections 11 or 64 of the act (such as income from non-business agriculture and agriculture business conducted in the land of the type that is mentioned in clauses (d) and (e) of section 12 of the land act, 2021; income of cooperative society from business mainly based on agriculture and forest products and cooperative saving and credit scheme based on rural community; and income of approved retirement fund)

4.4.5 Taxable Income

- The taxable income of a person for an income year is equal to the amount as calculated by subtracting reduction, if any, claimed for the year under section 12 (gifts to an exempt organizations) or 63 (retirement contribution to an approved retirement fund) from the total of the person's assessable income for the year from each of the following heads; Business, Employment, and Investment.

4.4.6 Tax Rates

-According to the budged speech 2064/65, the taxable income of a resident individual for an income year will be taxed at the following rates:

Up to Rs.115, 000- Not taxable

From Rs.115, 000- upto Rs.190, 000- @ 15%

Above Rs.190, 000-@ 25% plus Rs.11250.

-The taxable income of the couple, if they chose to be treated as a couple will be taxed at the following rates:

Up to Rs.140, 000-Not taxable

From Rs.140, 000- upto Rs.215, 000- @ 15%

Above Rs.215, 000- @ 25% plus Rs.11250

- Any individual or couple having pension income can enjoy 25 percent of the normal exemption limit as an additional basic exemption.

- Any individual working in prescribed remote area is entitled to deduct prescribed amount as remote area allowance from taxable income.
- Any individual is entitled to deduct the following amount from taxable amount, if he is having investment insurance policy:
  "Rs.10, 000 or 7% of insured or the actual premium paid, which providing shipping, air transport or telecommunication services in Nepal will be taxed at the rate of 5%.
- The taxable income of an equity wholly engaged in the projects conducted by any equity so as to build public infrastructure, own operate and transfer it to the HMG/N in power generation, transmission, or distribution for an income year shall be taxed at the rate of 20%.

4.4.7 Business Exemption, Exempt Amounts and Other Concessions

- Amounts derived by a person entitled to privileges under a bilateral or a multilateral treaty

concluded between government and foreign country or an international organization.

- Amounts derived by an individual from employment in the public service of the government of a foreign country, provided that, the individual is a resident person solely by reason of performing the employment or is a non-resident person, and the amounts are payable from the public funds of the country.

- Amounts derived from public funds of the foreign country by an individual who is not the citizen of Nepal or by a member of the immediate family of the individual.

- Amounts derived by an individual who is not the citizen of Nepal from employment by Government on terms of tax exemption.

- Amounts derived by way of gift, bequest, inheritance, or scholarship, except as required to be in calculating income under this act.

- Amounts derived by an exempt organization by way of gift; or other contributions that directly relate to the organization's function, whether or not the contribution is made in return for consideration provided by the organization and

- Pension received by a Nepalese citizen retired from the army or police service of a foreign country provided that the amounts are payable from the policy fund of that country.

- An agricultural income derived from sources in Nepal during an income year by a person, other than the income from an agricultural business derived by a registered firm, or a company, or partnership, or a cooperate body, or through the land above the land holding ceiling as prescribed in the land act, 2021, is exempt from income tax.

- Income derived by cooperative societies, registered under Cooperative act, 2048 (1991), from business mainly based on agriculture and forest products such as sericulture and silk production, horticulture and fruit processing, animal husbandry, diary industries, poultry farming, fishery, tea gardening and processing, coffee farming and processing, horticulture and herb processing, vegetable seeds farming, bee keeping, honey production, rubber farming, floriculture and production and forestry related business such as lease-hold forestry, agro-forestry, cold storage established for the storage of vegetables and business of agricultural seeds, insecticide, fertilizer and agricultural tools (other than machine operated) and rural community based saving & credit cooperatives are exempt from tax. Dividends distributed by such societies are also exempt from tax.

4.4.8 Deductions

- Depreciation allowances are granted from depreciation assets, which are categorized in 5 classes. The classes are based on the average useful life of the assets belonging to one class. The assets of each class are placed in a pool and a depreciation rate applies to each pool.
- Allowable limit for repair and improvement cost of owned and used depreciable asset is raised to 7% of depreciation bases.
- No deductions are granted for the expenses that are of a domestic personal nature, income tax, government penalties costs in deriving exempt amounts or final withholding payment, dividends distributed by an equity, cost of a capital nature and cash payment above Rs.50,000 under prescribed;
- Bad debts are allowed to be written off if a debt claim of a bank or financial institution has become bad debt as determined in accordance with the prescribed standards.
- Inclusions and deductions under a long-term contract are calculated according to the percentage of the contract completed during the year.
- Special duty on taxable income is reduced to 1.5%.
- For the purposes of that act, net gains from the disposal of non-business chargeable assets will be taxed at the rate of 10%.
- The presumptive tax for individuals conducting small business (who have a strong turnover of Rs.1.5 million or an income of Rs.150,000) in the Metropolitan or Sub-metropolitans , municipalities and anywhere else in Nepal amounts to Rs.2,000 Rs.1,500 and Rs.1,000 respectively.
- The taxable income of a non-residents individual is taxed at the rate of 25%.
- The taxable income of the bank, or financial institution, or general insurance business, or en equity conducting petroleum work under petroleum act, 2040 for an income year is

taxed at the rate of 30%.

Gain from Lump sum retirement payment made by an approved retirement fund or HMG/N is taxed at the rate of 6% as a final withholding tax. Gain is calculated by deducting 50% of the payment or Rs.500, 000 whichever is higher from the total

4.5 Direct Tax in the international perspective

Income tax is the key components of Direct tax in the context of Nepalese direct tax revenue contribution. It contributes more than 70% in the total direct tax revenue of Nepal. Existence of the income tax smiles with the story of war, confrontation, and resistance. Great Britain was the first nation in the globe to introduce successful income tax in 1799 Wars with France had led England to adopt income tax measure to meet the financial needs of the government. Several German states introduced income tax during 1840. Until 1920, German income taxes were exclusively state taxes, which became federal taxes in 1945. At the end of the war II, they again became state taxes and now have been regulated by federal law. The United States of America had followed income tax in 1862. This time also income tax was taken as a measure to collect adequate revenue for financing civil wars expenditures. Similarly, Italy adopted income tax in 1844 as one of the first product of its unification. It was not until 1925 that a national wide tax on total family income was imposed with graduated rates. France efforts began to enact income tax in 1870; the income tax bill was enacted as an emergency measures two week prior when it began in 1914. But it was another three years before a permanent income tax system was adopted. Similarly, Norway introduced the income tax in 1892 and made its rates progressive in 1896.Sweden accepted modern income tax on the permanent basis in 1910. New Zealand adopted income tax in 1891. Both Canada and Australia adopted income tax in 1917 and 1915 respectively. (Rijal, 2006)

After World War I the income tax became a key source of tax revenue even in many developing nations. By 1939, it had made an appearance in many developing nations also. India had introduced income tax in 1860, which was discontinued until few years. But it was reintroduced in 1886 on the permanent basis.

4.6 Direct Tax-GDP Ratio

The table given below shows the ratios of Total tax, direct tax and Indirect tax with respect to GDP. Tax-GDP ratio was remained the value between 7.3% to 9.5% from the period of 1989/90 to 2005/06. The highest Tax-GDP ratio was reported to be 10.14% in the period of 2003/04. Similarly, Direct Tax-GDP ratio ranged the value between 1.4% to 2.3 percent from the period of 1989/90 to 2005/06. This mark suggests that the percentage share of Direct tax revenue in GDP growth has been increasing slightly but not smoothly. Indirect Tax-GDP ratio seems to be higher than that of Direct tax. Indirect Tax-GDP ratio was ranged the value between 5.8% to 7.1% from the period of 1989/90 to 2005/06. This ratio dispersion between Direct tax and Indirect tax revenue suggests that the government of Nepal has been heavily relied on Indirect tax revenue rather than direct tax. Thus, on the ground of equity, government effort should be focused on increasing the Direct Tax-GDP ratio.

Table – 1

Direct tax GDP-Ratio

(Rs. In Million)

F. Y.	GDP	TXR	TXR-GDP	DT	DT-GDP	INT	INT-GDP
	Amount	Amount	Ratio (%)	Amount	Ratio(%)	Amount	Ratio(%)
1989/90	99702	7283.9	7.3	1435.1	1.4	5848.8	5.8
1990/91	116127	8176.3	7.0	1369.7	1.1	6806.6	5.8
1991/92	144933	9875.6	6.8	1595.2	1.1	8280.4	5.7
1992/93	165350	11662.5	7.0	2036.2	1.2	9626.3	5.8
1993/94	191596	15371.5	8.0	2855.3	1.4	12516.2	6.5
1994/95	209974	19660	9.3	3849.3	1.8	15810.7	7.5
1995/96	239388	21668	9.0	4655.9	1.9	17012.1	7.1
1996/97	269570	24424.3	9.0	5340	1.9	19084.3	7.0
1997/98	289746	25939.8	8.9	6187.9	2.1	19751.9	6.8
1998/99	330018	28752.9	8.7	7516.1	2.2	21236.8	6.4
1999/00	366251	33152.1	9.0	8951.5	2.4	24200.6	6.6
2000/01	394052	38865.1	9.8	10159	2.5	28705.7	7.2
2001/02	406138	39330.6	9.6	10598	2.6	28733.1	7.0
2002/03	437546	42587	9.7	10106	2.3	32481.2	7.4
2003/04	474913	48173	10.1	11913	2.5	36260.4	7.6
2004/05	548485	54104.7	9.8	13072	2.3	41032.9	7.4
2005/06	603673	57430.4	9.5	13968	2.3	43462.3	7.3

Source: Economic Survey on various Issues 1999/2000 and 2006/07, MOF, G/N.

GDP= Gross Domestic Product, TXR = Total Tax Revenue, DT = Direct Tax Revenue, INT = Indirect Tax Revenue,

4.7 Composition of Total Revenue

Total revenue is divided into two streams i.e tax revenue and non tax revenue.

The table given below shows the percentage contribution of tax revenue and non-tax revenue to compose the total revenue. Tax and non-tax revenue are the two basic streams to sum up the total revenue of Nepal. During the period of 1989 to 2005/06, tax revenue had played a greater role for the contribution of total revenue. Over that period, the maximum contribution from tax revenue was 80.4% in the fiscal year of 1996/97 whereas the lowest contribution was 73.08% in the fiscal year of 1991/92. Thus the contribution of tax revenue to total revenue seems to be more satisfactory than that of non-tax revenue. Similarly, the maximum percentage contribution from non-tax revenue was reported to be 26.9% in the fiscal year of 1991/92 where as 19.5% was reported be the lowest one in the fiscal year of 1996/97.

Table-2

Composition of Total Revenue

(Rs.in Million)

| F.Y	TR Amount	TXR Amount	% on TR	NTR Amount	% on TR
1989/90	9287.5	7283.9	78.4	2003.6	21.5
1990/91	10729.8	8176.3	76.2	2553.5	23.7
1991/92	13512.7	9875.6	73.0	3637.1	26.9
1992/93	15148.4	11662.5	76.9	3485.9	23.0
1993/94	19580.9	15371.5	78.5	4209.4	21.4
1994/95	24605.1	19660	79.9	4945.1	20.0
1995/96	27893.1	21668	77.6	6225.1	22.3
1996/97	30373.5	24424.3	80.4	5949.2	19.5
1997/98	32937.9	25939.8	78.7	6998.1	21.2
1998/99	37251	28752.9	77.1	8498.1	22.8
1999/00	42893.7	33152.1	77.2	9741.6	22.7
2000/01	48893.9	38865.1	79.4	10028.8	20.5
2001/02	50445.6	39330.6	77.9	11115	22.0
2002/03	56229.7	42587	75.7	13642.7	24.2
2003/04	62331	48173	77.2	14158	22.7
2004/05	70122.7	54104.7	77.1	16018	22.8
2005/06	72282.1	57430.4	79.4	14851.7	20.5

Source: Economic Survey on Various issues, 1999/00 and 2006/07, MOF, G/N.
TR = Total Revenue, TXR = Total Tax Revenue, NTR= Non-Tax Revenue

The composition of total revenue is also shown graphically in figure 1 which clearly indicates the increasing contribution of tax revenue to total revenue in Nepal.

Figure – 1

(Rs. in Million)
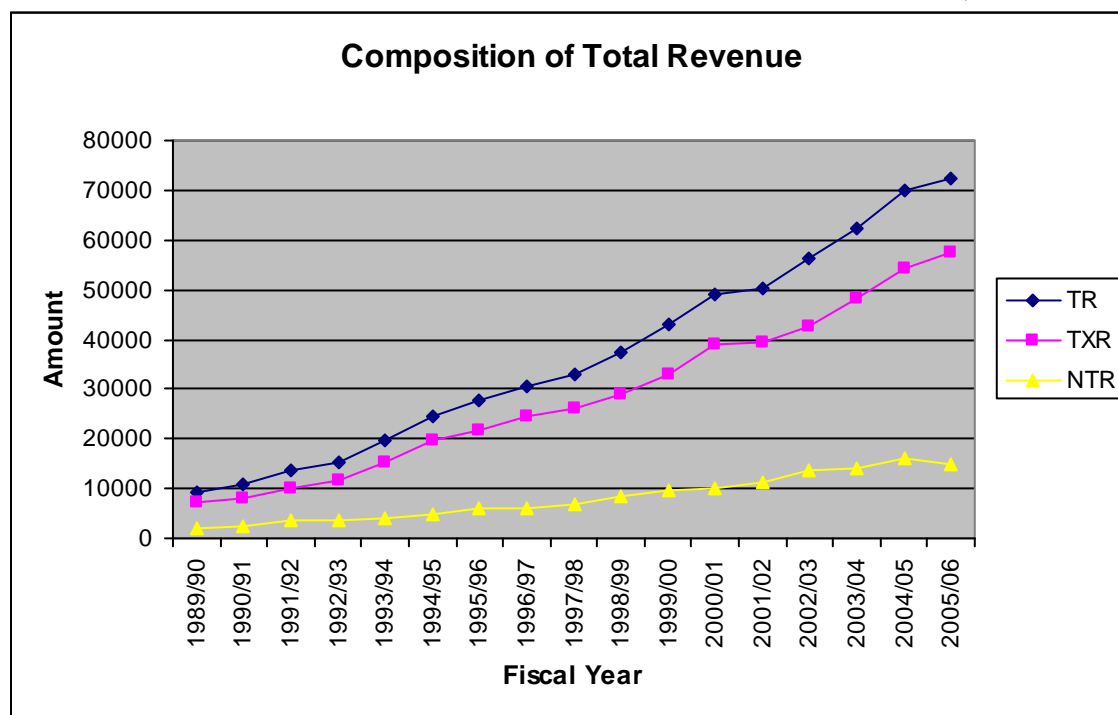
4.8 Contribution of Direct tax revenue in total tax revenue

Total tax revenue is divided into two part i.e. direct tax and indirect tax revenue.

The table given below shows the contribution of both direct tax and indirect tax revenue to sum up the total tax revenue. During the study period of 1989/90 to 2005/06, the percentage contribution from direct tax seems to be far lesser than that of indirect tax. The volume of collected amounts through both of the taxes seems to be increasing simultaneously from the period of 1989/90 to 2005/06. In 1989/90, the amount collected through direct tax was Rs.1435.1 million while the amount collected through indirect taxation during the same year was Rs.5848.8 million. But the amount was increased simultaneously to reach Rs.13968.1 and Rs.43462.3 million respectively in the fiscal year of 2005/06. This increment was due to the expansion of tax base and rate to both deep and wide and increment in the general economic activities in the country. During the period of 1989/90 to 1996/97, the contribution of direct tax was three times lesser than that of indirect tax but from the period of 1996/97 to 2005/06 the contribution of direct tax is increasing slowly and that remains almost constant (

in 24%) during the period of 2003/04 to 2005/06. Although direct tax system has been considered as the aspect of ability to pay principle in nature however, due to unequal distribution of income in Nepal, government of Nepal has not been able to collect adequate amount of money through this source.

Table-3

Table-3
Composition of Total Tax Revenue

(Rs. In million)

F.Y	TXR Amount	DT Amount	% on TXR	INT Amount	% on TXR
1989/90	7283.9	1435.1	19.7	5848.8	80.2
1990/91	8176.3	1369.7	16.7	6806.6	83.2
1991/92	9875.6	1595.2	16.1	8280.4	83.8
1992/93	11662.5	2036.2	17.4	9626.3	82.5
1993/94	15371.5	2855.3	18.5	12516.2	81.4
1994/95	19660	3849.3	19.5	15810.7	80.4
1995/96	21668	4655.9	21.4	17012.1	78.5
1996/97	24424.3	5340	21.8	19084.3	78.1
1997/98	25939.8	6187.9	23.8	19751.9	76.1
1998/99	28752.9	7516.1	26.1	21236.8	73.8
1999/00	33152.1	8951.5	27.0	24200.6	72.9
2000/01	38865.1	10159.4	26.1	28705.7	73.8
2001/02	39330.6	10597.5	26.9	28733.1	73.0
2002/03	42587	10105.8	23.7	32481.2	76.2
2003/04	48173	11912.6	24.7	36260.4	75.2
2004/05	54104.7	13071.8	24.1	41032.9	75.8
2005/06	57430.4	13968.1	24.3	43462.3	75.6

Source: Economic Survey On various Issues 1999/00 and 2006/07, MOF, N/G.
Direct tax includes Land revenue and Registration and tax on property, profit and income
Indirect tax includes custom duties and tax on consumption and production of goods and services
TXR = Total Tax Revenue, DT = Direct Tax Revenue, INT = Indirect Tax Revenue

The proper share between direct tax revenue and indirect tax revenue to total tax revenue is presented on graph below:

Figure- 2

Composition of Total Tax Revenue
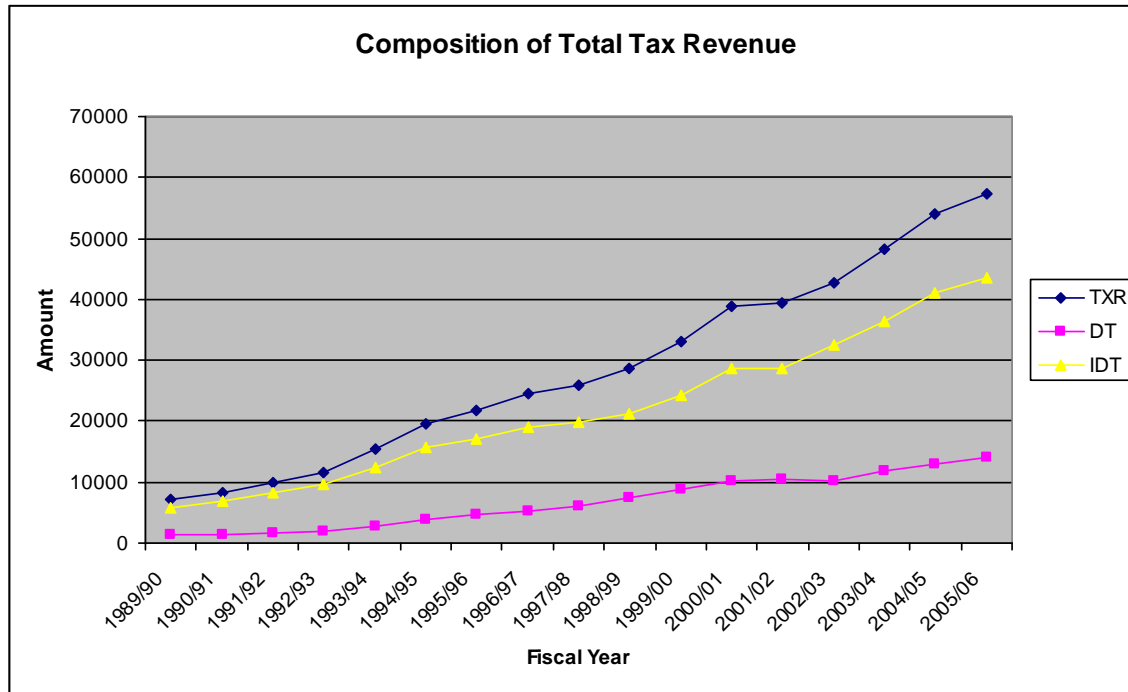
4.9 Contribution of Direct tax Revenue in Total revenue

Contribution of direct tax revenue as percent of total revenue is not so high as compared with the contribution form indirect tax revenue. The table below clearly shows that that the highest percentage contribution made by the direct tax to total revenue was reported to be 21% during the fiscal year 2001/02 where as the lowest was 11.8% during the year 1991/92. Even during the period of 2005/06, the contribution of direct tax to total revenue is 19.3% which is not good percentage from the ground of equity. The contribution of indirect tax to total revenue has dominated the contribution of direct tax revenue throughout the study period. The percentage contribution from indirect tax to TR does not fluctuate much throughout the study period that ranges from 56% to 64 %. This percentage clearly indicates that the government of Nepal has been heavily dependent on indirect tax revenue.

Table-4
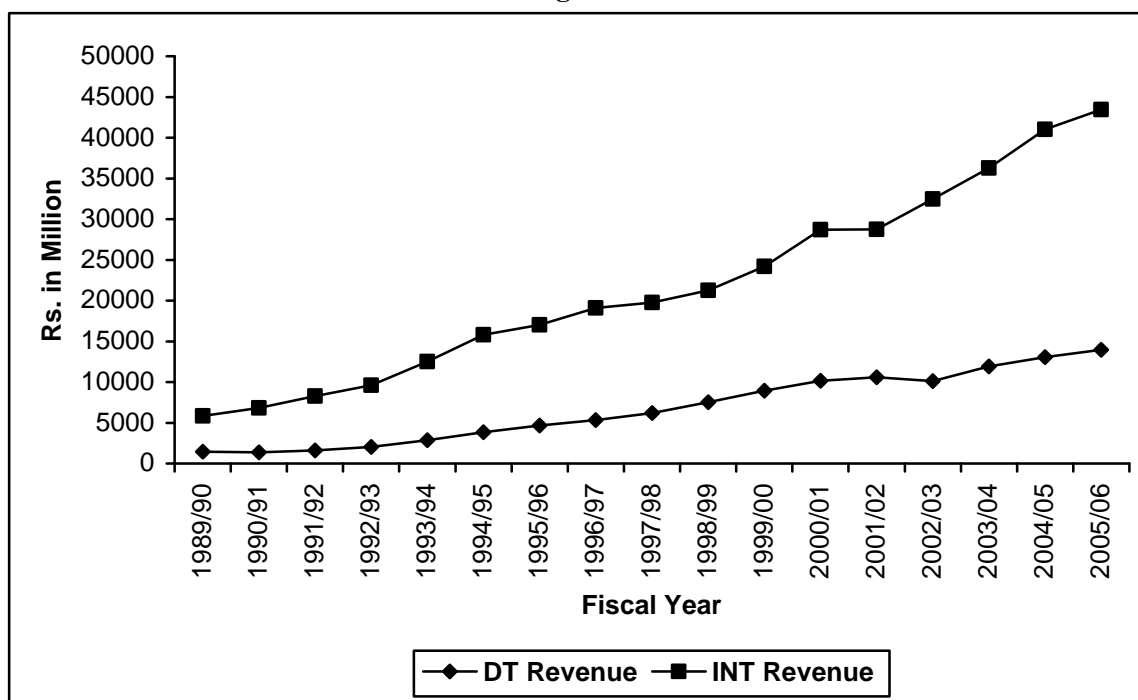**Contribution of Direct Tax revenue to Total Revenue**

(Rs. In million)

F.Y	TR Amount	DT Revenue Amount	% on TR	INT Revenue Amount	% on TR
1989/90	9287.5	1435.1	15.4	5848.8	62.9
1990/91	10729.8	1369.7	12.7	6806.6	63.4
1991/92	13512.7	1595.2	11.8	8280.4	61.2
1992/93	15148.4	2036.2	13.4	9626.3	63.5
1993/94	19580.9	2855.3	14.5	12516.2	63.9
1994/95	24605.1	3849.3	15.6	15810.7	64.2
1995/96	27893.1	4655.9	16.6	17012.1	60.9
1996/97	30373.5	5340	17.5	19084.3	62.8
1997/98	32937.9	6187.9	18.7	19751.9	59.9
1998/99	37251	7516.1	20.1	21236.8	57.0
1999/00	42893.7	8951.5	20.8	24200.6	56.4
2000/01	48893.9	10159.4	20.7	28705.7	58.7
2001/02	50445.6	10597.5	21.0	28733.1	56.9
2002/03	56229.7	10105.8	17.97235	32481.2	57.765202
2003/04	62331	11912.6	19.11184	36260.4	58.173942
2004/05	70122.7	13071.8	18.64132	41032.9	58.515859
2005/06	72282.1	13968.1	19.32442	43462.3	60.128718

Source: Economic Survey on Various Issues 1999/00 and 2006/07, MOF, G/N.
TR = Total Revenue, DT = Direct Tax Revenue, INT = Indirect Tax Revenue

The proper share between direct tax revenue and indirect tax revenue to total revenue is presented on graph below:

Fig. – 3

4.10 Composition of Direct tax Revenue in Nepal

The table 5 given below how the components of direct tax such as income tax, land tax, house and land registration fees, property tax and others contribute to sum up the total direct tax. The contribution made through income tax has dominated significantly to other revenue heads of direct tax. The percentage contributed by income tax in the year of 1989/90 was 64% while land tax and house and land registration fees had covered 5.12% and 26.27% respectively. The contribution from land tax has been nil since the period when the local authority was given full rights to collect the land tax revenue within the local area in 2002/03. The contribution of house and land registration fees was reported to be satisfactory till the year of 1995/96 but since then the contribution from those fees started falling to 35% to 10% at the end of the year of 2001/02. Similarly, the highest percentage contributed by income tax was 89.7% in the year of 2000/01. Thus, it can be understood that income tax revenue has dominated to other components of direct tax throughout the year from 1989/90 to till date. The lowest contribution of income tax was reported to be 54.8% in the year of 1991/92 while the contribution from house and land registration fees was at peak in the same year. Tax on property is the other component of direct tax but its contribution to direct tax revenue seems to be somewhat negligible. Its contribution could not cross 6 percent. The lowest contributions from property tax were 1.75% and 1.74%

during the period of 1990/91 and 1993/94 respectively. But since the period of 1996/97, the contribution from property tax seems to be increasing but not more than 6.16%. Finally, other taxes also have contributed to direct tax but their contribution is very low .Their contribution seems to be negative in the year of 1994/95

Table-5
Composition Of Direct Tax Revenue

(Rs in Million)

F.Y.	DT Amount	HLRF Amount	% on DT	IT Amount	IT % on DT	LT Amount	LT % on DT	TOP Amount	TOP % on DT	Others Amount	Others %on DT
1989/90	1435.1	377.1	26.2	932.1	64.9	74.6	5.2	51	3.5	0.3	0.0
1990/91	1369.7	456.6	33.3	783.8	57.2	82.1	6.0	24.1	1.7	23.1	1.7
1991/92	1595.2	571.3	35.8	875	54.8	64.8	4.1	67.7	4.2	16.4	1.0
1992/93	2036.2	685.5	33.6	1198.2	58.8	69.4	3.4	80	3.9	3.1	0.2
1993/94	2855.3	772.2	27.0	1921.2	67.2	61	2.1	49.8	1.7	51.1	1.7
1994/95	3849.3	902.8	23.4	2823.4	73.3	34.9	0.9	88.2	2.2	-0.08	-0.0
1995/96	4655.9	1048.4	22.5	3431.4	73.7	18.2	0.4	157.9	3.3	0	0
1996/97	5340	1009.5	18.9	4123.4	77.2	5.9	0.1	201.2	3.7	0	0
1997/98	6187.9	1000.6	16.1	4898.1	79.1	3.6	0.1	285.6	4.6	0	0
1998/99	7516.1	1001.8	13.3	6170.2	82.0	1.4	0.0	342.7	4.5	0	0
1999/00	8951.5	1011.3	11.2	7420.6	82.8	4.6	0.1	515	5.7	0	0
2000/01	10159.4	607.8	5.9	9114	89.7	5.1	0.1	432.5	4.2	0	0
2001/02	10597.5	1131	10.6	8903.7	84.0	0.8	0.0	562	5.3	0	0
2002/03	10105.8	1414.3	13.9	7966.2	78.8	0	0	559.5	5.5	165.8	1.6
2003/04	11912.6	1697.54	14.2	9245.9	77.6	0	0	700.6	5.8	268.6	2.2
2004/05	13071.8	1799.2	13.7	10159.4	77.7	0	0	806.5	6.1	306.7	2.3
2005/06	13968.1	2181.1	15.6	10373.7	74.2	0	0	847.6	6.1	565.7	4.0

Source: Economic Survey on Various Issues 1999/00 and 2006/07, MOF, G/N.
DT = Direct Tax Revenue, HLRF = House and Land Registration Fees, LT = Land Tax, TOP = Tax on Property

Income tax includes Income tax from Public Enterprises, semi-public enterprises, income tax from private corporate bodies, income tax from remuneration and tax on interest

Property Tax includes Urban House and Land Tax and Tax on vehicle

Figure – 4   (Rs. In million)

Composition of Direct Tax
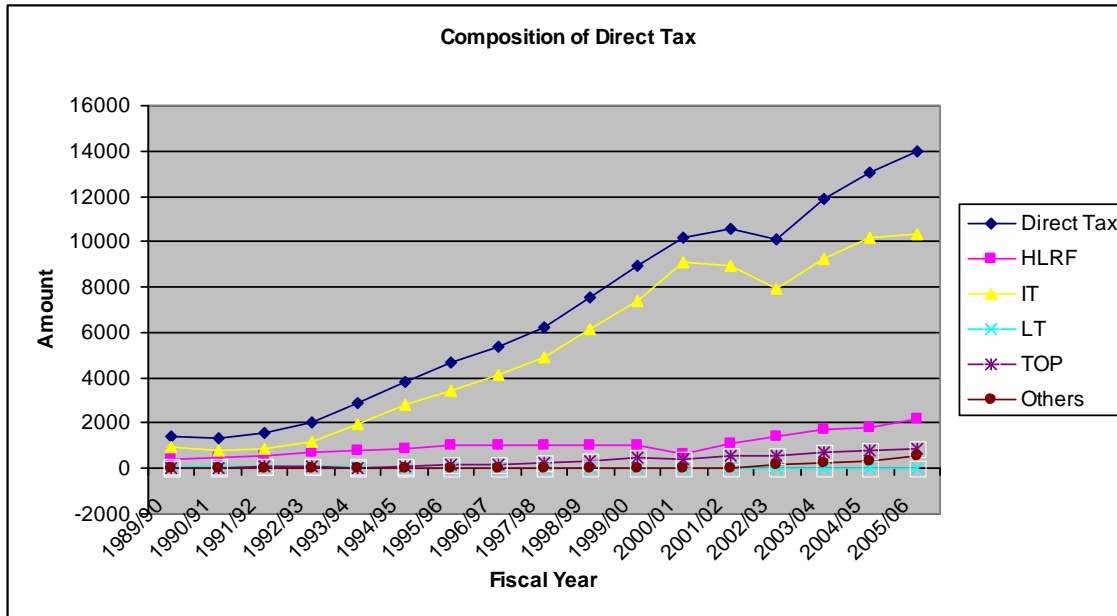
4.10.1 Composition of Income tax revenue

The table below shows the composition of income tax revenue in Nepal. Income come tax has been the key contributor of direct tax revenue thus it will be always meaningful to review about the composition of income tax revenue separately. Both cooperate income tax and individual income tax sum up to be the total income tax revenue. Table clearly shows that the contribution from individual income has dominated the contribution of cooperate income tax to total income tax throughout the study periods. The amounts of income tax revenue in obsolete term has increased from Rs. 932.1 million in 1989/90 to Rs. 10373.7 million in 2005/06. This amount clearly indicates that the government of Nepal can mobilize adequate resources through income tax. Similarly, income tax revenue is heavily dependent on individual income tax revenue. The highest contribution of individual income tax revenue is reported to be 79.09% during the year 1991/92 while the lowest one is reported to be 49.3% in 1996/97. The maximum contribution from cooperate income tax is reported to be 50.6% in the same year.

Table-6
Composition of Income tax Revenue

(Rs. In million)

| F. Y.	IT Amount	CIT Amount	% on IT	IIT Amount	% on IT
1989/90	932.1	243.3	26.1	688.8	73.8
1990/91	783.8	164.9	21.0	618.9	78.9
1991/92	875	182.9	20.9	692.1	79.1
1992/93	1198.2	267.4	22.3	930.8	77.6
1993/94	1921.2	555.9	28.9	1365.3	71.1
1994/95	\2823.4	1300.3	46.0	1523.1	53.9
1995/96	3431.4	1708.4	49.7	1723	50.2
1996/97	4123.4	2089.5	50.6	2033.9	49.3
1997/98	4898.1	2242.9	45.7	2655.2	54.2
1998/99	6170.2	2681.5	43.4	3488.7	56.5
1999/00	7420.6	3538.3	47.6	3882.3	52.3
2000/01	9114	4852.3	53.2	4261.7	46.7
2001/02	8903.7	3181.3	35.7	5722.4	64.2
2002/03	7966.2	2487.3	31.2	5478.9	68.7
2003/04	9245.9	3587.9	38.8	5658	61.2
2004/05	10159.4	3800.2	37.4	6359.2	62.5
2005/06	10373.7	3600.0	34.7	6773.7	65.2

Source economic on Various issues 1999/00 and 2006/07, MOF, G/N.
cooperate income tax includes income tax from Public Enterprises, income tax from semi public enterprises, income tax from private cooperate bodies,
Individual income tax includes income tax from individuals, income tax form remunerations, and tax on interest
IT = Income Tax, CIT = Cooperate Income Tax, IIT = Individual Income Tax

Figure-5

Composition of Income Tax
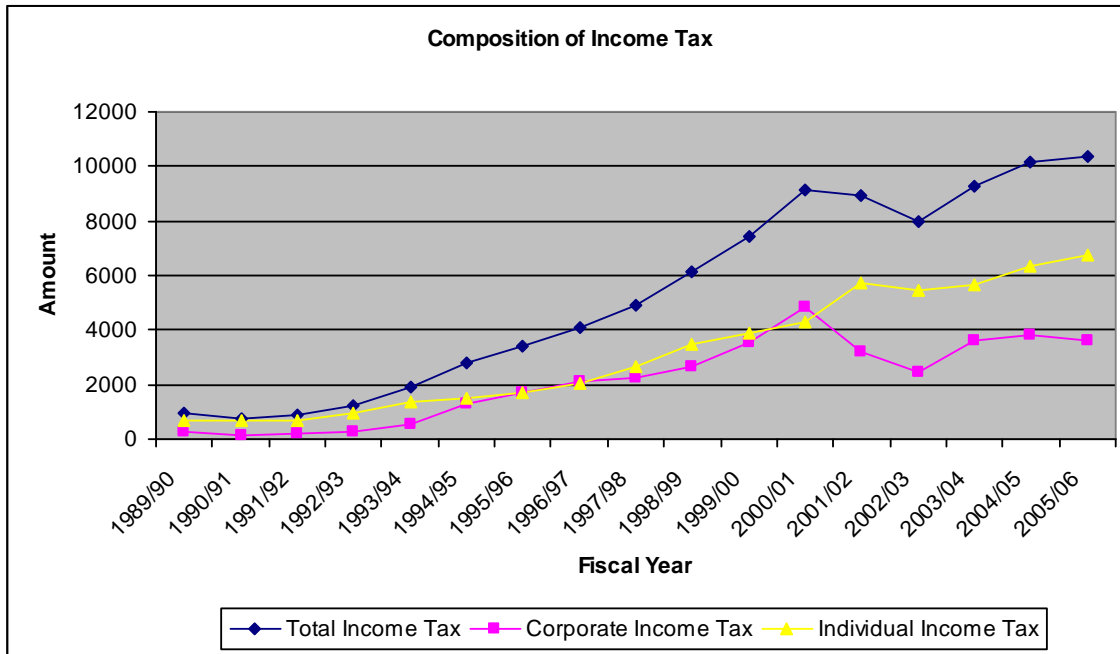
4.10.2 Composition of property tax

Property tax is also one of the contributors of Direct tax. This comprises urban house and land vehicle tax. The table below shows that amount collected through property tax has been increasing slowly. In the year of 1989/90, total amount collected through property tax was Rs.51 million only while this amount was reached on Rs.847.6 million in 2005/06. The contribution of urban house and land tax to Total property tax is said to be very low as compared with the contribution from vehicle tax. Onward 2002/03, amount from urban house and land tax is nil while al amount of property tax is coming from vehicle tax alone. The highest contribution from urban house and land tax was reported to be 55.22% in 1995/96.

Table-7
**Composition of Property Tax in Nepal**

(Rs.in million)

F.Y.	TOP	UHLT		VT	
	Amount	Amount	% on TOP	Amount	% on TOP
1989/90	51.0	19.1	37.4	31.9	62.5
1990/91	24.1	0.2	0.8	23.9	99.1
1991/92	67.7	22.3	32.9	45.4	67.0
1992/93	80.0	16.7	20.8	63.3	79.1
1993/94	49.8	8.4	16.8	41.4	83.1
1994/95	88.2	34.2	38.7	54	61.2
1995/96	157.9	87.2	55.2	70.7	44.7
1996/97	201.2	95	47.2	106.2	52.7
1997/98	285.6	110.7	38.7	174.9	61.2
1998/99	342.7	123.3	35.9	219.4	64.0
1999/00	515.0	118.5	23.0	396.5	76.9
2000/01	432.5	2.9	0.6	429.6	99.3
2001/02	562.0	2.3	0.4	559.7	99.5
2002/03	559.5	0	0	559.5	100.0
2003/04	700.6	0	0	700.6	100
2004/05	806.5	0	0	806.5	100
2005/06	847.6	0	0	847.6	100

Source: Economic Survey on Various Issues 1999/00 and 2006/07, MOF, G/N.
TOP = Tax on property, UHLT= Urban House and Land Tax, VT = Vehicle Tax

This is also shown graphically below.

Figure – 6   **Rs in Million**

Composition of Property Tax in Nepal
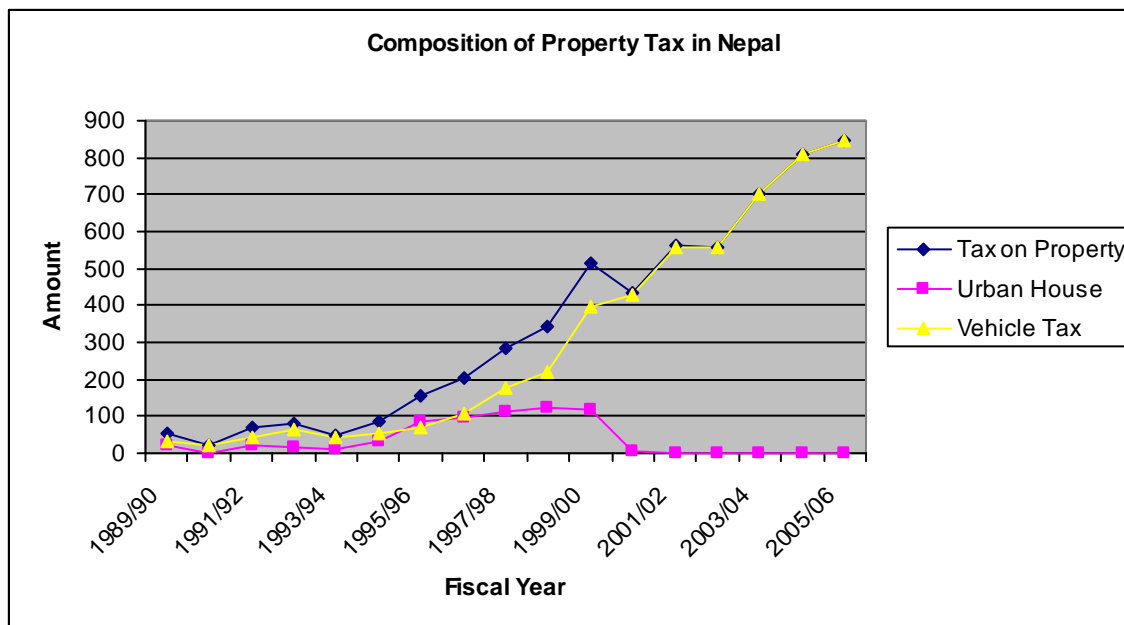
4.11 Government expenditure

The table given below shows that the total government expenditure is split into two parts i. e. regular expenditure and development expenditure. Development activities in particular depend upon the extent or resource mobilization of the economy. Revenue surplus is necessary to implement the development project successively. Government can apply its revenue surplus in development activities after meeting the regular expenditure. The Table no. 8 given below shows the continue declination of development expenditure from the period of 1998/99 to 2005/06. Regular expenditure pattern of the government Nepal seems to be increasing gradually from the period of 1989/90 to 2005/06. This concern stands as a serious threat in the process of socio and economic development of Nepal. During the period of 1989/90, regular expenditure had covered 33.9% of the total expenditure while in 2005/06 this increased to reach 73.3%. This statistics clearly indicates that government of Nepal has been keen for mobilizing its recourses in unproductive expenditure.

Table-8
Revenue Expenditure Pattern

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F.Y.	Total Exp. Amount	Reg. Exp. Amount	% on Total Exp	Dev. Exp. Amount	% on Total Exp.
1989/90	19669.3	6671.8	33.9	12997.5	66.0
1990/91	23549.8	7570.3	32.1	15979.5	67.8
1991/92	26418.2	9905.4	37.4	16512.8	62.5
1992/93	30897.7	11484.1	37.1	19413.6	62.8
1993/94	33597.4	12409.2	36.9	21188.2	63.0
1994/95	39060.0	19265.1	49.3	19794.9	50.6
1995/96	46542.4	21561.9	46.3	24980.5	53.6
1996/97	50723.7	24181.1	47.6	26542.6	52.3
1997/98	56118.3	27174.4	48.4	28943.9	51.5
1998/99	59579	31047.7	52.1	28531.3	47.8
1999/00	66272.5	34523.3	52.0	31749.2	47.9
2000/01	79835.1	42769.2	53.5	37065.9	46.4
2001/02	80072.2	48590.0	60.6	31482.2	39.3
2002/03	84006.1	54973.1	65.4	29033	34.5
2003/04	89442.6	66347	74.1	23095.6	25.8
2004/05	102560.4	75219.7	73.3	27340.7	26.6
2005/06	110889.2	81282.6	73.3	29606.6	26.6

Source: Economic Survey on Various Issues 1999/2000 and 2006/07, MOF, G/N.

*Development Expenditure includes capital expenditure while regular expenditure includes recurrent expenditure and principal repayment from FY 2003/04.

Figure 7

Revenue Expenditure Pattern
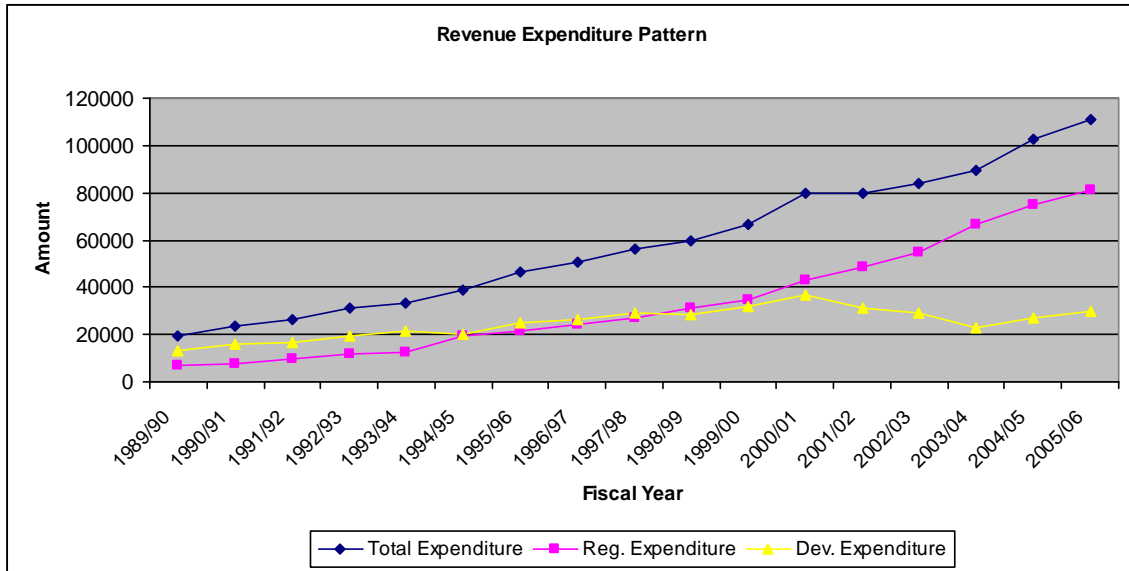
RESPONSIVENESS AND PRODUCTIVITY OF DIRECT TAX YIELDS IN NEPAL: AN EMPIRICAL ANALYSIS

5.1 Estimation of Elasticity coefficient

Elasticity indicates what the size or the magnitude of a tax would have been over the period of time when there would be no change in the tax rates and the legal bases. It is a static concept of the measurement of responsiveness of the taxes in tax system. A tax system is said to be elastic, if its coefficients is greater than unity. For instance: > 1, then the tax system is highly responsive with change in GDP. Elasticity greater than unity implies that the percentage change in tax revenue will be less than the percentage change in GDP and the tax system is said to be elastic. Elasticity coefficient which is lesser than unity implies that the percentage change in tax revenue will be less than the percentage change in GDP and the tax system is said to be inelastic. An elastic tax system is always desirable on the theme of equity, growth and efficiency. An elastic tax system is hoped in any economy as it is highly advantageous for the public expenditure activities.

The table (5.1) has given below shows the elasticity coefficients of major Revenue heads from the period of 1989/90 to 2005/06. It has already been understood through the observation made on the empirical study of various researchers that the elasticity coefficients of all revenue heads are found to be lesser than unity. So my calculation also found the value of elasticity coefficients of TR, TXR, NTR, DT, INT, IT and HLRF lesser than unity. Thus Nepalese tax system is said to be inelastic in nature since <1.

The elasticity coefficient of total revenue is found to be (0.53) which is far lesser than unity. This implies that one percent change (i. e increase in GDP) followed by only 0.53 percent increases in total revenue. This statistics indicates that government of Nepal is not able to collect adequate revenue through taxation unless discretionary measures are introduced in tax system. Among the seven heads that are presented below, the highest elasticity coefficient is (0.74) which deals with income tax thus, income tax being a major contributor of direct tax, better possibility can be

hoped through income tax in Nepal. The elasticity coefficient of tax revenue is also less than unity that is (0.51). This suggests that one percent increase in GDP is followed by only 0.51 percent increase in tax revenue. This is very dismal. Elasticity coefficient of direct tax revenue is to some extend satisfactory as compared with the coefficient of indirect tax revenue in that the elasticity coefficient of direct tax revenue is (0.63) while indirect tax gives only (0.48). Thus, it can be understood that direct tax is some what elastic than the indirect tax in Nepal. Similarly, the elasticity coefficient of House and land registration fee is found to be (0.42) which is far lesser than unity. So, Nepalese tax system is also inelastic in the case of HLRF.

R^2 is known as unadjusted multiple correlation coefficients. Although both R-square and R-bar square are used as a measure of goodness of or are the overall measure of how the chosen regression model fits a given sets of data. The coefficient of determination (R^2) measures the goodness of fit in regression line. Its value ranges between Zeros to Unity. The value of R^2 cannot be negative but the value of R-bar square can be negative but in such a case, R-bar square should be interpreted as being equal to zero. If the R^2 is equal to 1, the fitted regression line explains 100% of the total variation in y. on the other hand, if it is 0, the model does not explain any of the variation in y. the higher the R^2 the greater the percentage of the regression plane, that is, the better the 'goodness of fit' of the regression plane to the sample observations.

The values of R^2 of the all heads except House and Land Registration fees (HLRF) are near unity. R^2 coefficient of direct tax is (0.99) which clearly suggests that 99% variation of direct tax revenue is explained by regression line. So there is good relationship exists between the dependent variable (DT) and independent variable (GDP). So, the value of R^2 in the case of remaining tax heads seems to be near unity, thus this is the indication of high degree of relationship between these revenue heads and the change in GDP (Y).

Correlation can be defined as the degree of relationship existing between two or more variables. Correlation may be positive or negative based on the range i. e. -1 to +1 of correlation coefficient. The value of partial correlation coefficient lies between -1 to +1 while the value of multiple correlation coefficients lies between zeros to 1.

The correlation coefficients of all revenue heads except HLRF lies between the value of 0.89 to 0.95 thus there is strong co-relationship exist between the dependent and independent variables. But the co-relationship between independent variable GDP and dependent variable HLRF seems to be weak because the value of R is only 0.67 which is slightly lesser.

Since the value of standard error is smaller than half the numerical value of the parameter estimate i. e. se (b_i) $<b_i/2$, this estimate is statistically significant.

If $b < 0.5$ then it is significant.
If $b > 0.5$ then it is not significant.
If, on the other hand, the standard error of the parameter estimate is greater than half its numerical value (that is if Se. $(b_i) > (b_1/2)$; the least square estimate is not statistically significant. Standard errors shows that the all coefficients calculated are less than half or 0.5 thus, the all estimations are statistically significant.

Similarly, both F and t statistics are significant at 0.0 percent level which implies the model is best fitted and the relation is reliable.

Table 5.1
Estimation of Elasticity coefficients

Dependent Variables	Independent Variable	Elasticity ( )	(R^2)	Correlation coefficient (R)	Standard errors	t-test	F-test
TR	GDP(Y)	0.53	0.9	0.95	0.09	11.9	141
TXR	GDP(Y)	0.51	0.9	0.93	0.1	10.4	109.2
NTR	GDP(Y)	0.57	0.9	0.94	0.1	11.3	126.8
DT	GDP(Y)	0.63	0.9	0.93	0.1	10.4	108.9
INT	GDP(Y)	0.48	0.9	0.92	0.1	9.48	89.92
IT	GDP(Y)	0.74	0.8	0.89	0.2	7.92	62.69
HLRF	GDP(Y)	0.42	0.5	0.67	0.2	3.53	12.44

Source: Calculated based on the data in appendix (IV).

5.2 Estimation of Buoyancy coefficients

As the major sources of government revenue generate low amount of revenue in which case the authority must seek additional revenue by introducing discretionary changes. The growth in tax revenue may come about through high buoyancy including growth through discretionary changes as opposed to natural growth through elasticity. Discretionary changes is defined as the change in tax rate and base, introducing new taxes, increasing tax rates and improved administrative efforts to collect as much revenue as it possible. The buoyancy coefficient of a tax system is given by the ratio of percentage changes in the tax revenue to the percentage changes in the national income. Thus, the buoyancy estimate of the tax system gives an idea about overall increase comprising the effects of both automatic growth and the growth with the effort of discretionary changes. Buoyancy coefficient measures what actually happen in the tax system. Thus the value of Buoyancy coefficient is always higher than that of Elasticity coefficient. A tax system is considered to buoyant as the value of buoyancy coefficient is greater than unity.

Table 5.2 shows the buoyancy coefficient of direct tax revenue from the period of 1989/90 to 2005/06 followed by total revenue, total tax revenue non-tax revenue indirect tax revenue, income tax revenue and house and land registration fees. The buoyancy coefficient of total revenue is found to be (1.2), which is greater than unity, implies that one percent increase in GDP or national income is associated with 1.2% increase in total revenue. This also clarifies that the Nepalese tax system is buoyant. The buoyancy coefficient of direct tax revenue is found to be (1.48). This suggests that one percent change in GDP is followed by 1.48 percent increase in Direct tax revenue. Thus Nepalese direct tax system is heavily buoyant because additional government efforts are focused on changing the tax base and rate structure. Similarly, the buoyancy coefficient of income tax revenue is found to be (1.68) which is the highest value of the calculated ones. This suggests that one percent increase in GDP is followed by 1.68 percent increase in income tax revenue. As income tax is the major component of direct tax, better prospect of Nepalese tax system can be hoped through Direct taxation, which is considered to be helpful to bridge the gap between haves not and have not. Administrative efforts to collect ample amount of money through income taxation in Nepal is high that is why the buoyancy coefficient of income tax is higher than those of other heads. Similarly the buoyancy coefficient of indirect tax revenue is (1.14) which is lesser than that of direct tax heads. This suggests that the administrative effort to collect adequate revenue through indirect tax is slightly lesser than that

through direct tax. The buoyancy coefficient of house and land registration fees is found to be (0.78) which is lesser than unity. Thus this is not buoyant. This suggests that the government effort is not significant to increase the revenue through HLRF in Nepal. The buoyancy coefficients of both tax and non-tax revenue are found to be (1.21) and (1.17) respectively. So, both of the values are buoyant in nature.

The R^2 coefficient of direct tax revenue head followed by TR, TXR, NTR and INT ranges from (0.97) to (0.99) except the R^2 of income tax and House and land registration fees are (0.94) and (0.79). This clearly suggests that there is high degree of relationship between these revenue heads and the change in GDP (Y). As the direct tax value of R^2 is (0.97), the percentage of the variation of DT explained by the regression plane is 97%. Thus, it can be concluded that all the calculated values of R^2 are near unity, therefore, there is high goodness of fit of data to assumed model. But the value of R^2 in HLRF is only (0.79), this implies that only 79% of the total variation in y is explained by regression plane.

According to the table presented below the value of R in the case of direct tax (0.98). This suggests that there is strong co-relationship between direct tax revenue and the change in GDP (y). Similarly, the values of R of the remaining Heads are also near unity, thus the relationship between the heads and GDP is strong.

The tables given below shows that all the values of standard errors in the case of all heads are lesser than half or (0.5) thus this estimation is statistically significant. Moreover, both F and t statistics suggests that the model of all major revenue heads are significant at 0.0 percent level which implies that model is best fitted and relation is reliable.

Table 5.2
Estimation of Buoyancy Coefficients

Dependent Variables	Independent Variable	Buoyancy ($_1$)	(R2)	Correlation Coef.(R)	Standard Errors	t-test	F-test
TR	GDP(Y)	1.2	0.99	0.99	0.05	48.6	2362.2
TXR	GDP(Y)	1.21	0.99	0.99	0.06	41.132	1691.9
NTR	GDP(Y)	1.17	0.98	0.99	0.08	31.124	968.72
DT	GDP(Y)	1.48	0.97	0.98	0.1	23.764	564.73
INT	GDP(Y)	1.14	0.99	0.99	0.06	40.358	1628.7
IT	GDP(Y)	1.68	0.94	0.97	0.2	16.359	267.61

| HLRF | GDP(Y) | 0.78 | 0.79 | 0.88 | 0.2 | 7.51 | 56.407 |

Source: Calculated based on the data in appendix (I)

5.3 Comparison between Elasticity ( ) and Buoyancy (₁) coefficients

The difference between the buoyancy and elasticity is presented below in table no. 5.3. The difference between the buoyancy and elasticity in the case of total revenue is fount to be (0.67) which implies that one percent change in GDP is followed by 0.67 percent change in total revenue due to discretionary effects. Thus the discretionary change in total revenue is greater than automatic growth (0.53). Similarly, the difference between the buoyancy and elasticity in the case of Total Tax Revenue is found to be 0.70 which is also higher than the automatic growth (0.51). In the case of non-tax revenue the difference between buoyancy and elasticity is found to be (0.60) while the automatic growth is only (0.57). There is an almost similar effort from both discretionary efforts and automatic growth. Similarly, the difference between buoyancy and elasticity coefficient in the case of direct tax revenue is found to be (0.85) which implies that there is significantly high discretionary changes made in direct tax revenue. In the case of direct tax, the coefficient of automatic growth is (0.63) while the coefficient of discretionary effort is (0.85). Thus, the Nepalese direct tax system is highly buoyant rather than elastic. In the case of indirect tax, the difference between buoyancy and elasticity coefficient is found to be (0.66) which implies that there is also significantly high discretionary effort is made to increase the indirect tax revenue. This also suggests that the value of elasticity coefficient is (0.48) which is far lesser than that of discretionary efforts (0.66). Although the discretionary efforts of the both direct tax and indirect tax are significantly high but the discretionary effort is lower in indirect tax than that in direct tax.

Income tax is the major source of direct tax which contributes more than 70% of the total direct tax revenue that is why the change in condition of the income tax system in Nepal will definitely influence the change in direct tax system. The difference between the buoyancy and elasticity coefficient in the case of income tax is found to be (0.94) which implies that one percent change in GDP is followed by 0.94 percent change in income tax revenue. The automatic growth of income tax is (0.74) while the value of discretionary effort is (0.94). So, the value of automatic growth is lesser by (0.20) than that of discretionary effort. Finally, the difference between the buoyancy and elasticity coefficient of house and land registration fees is found to be (0.36) which is lesser than that of automatic growth (0.42). This statistics suggests that there is less discretionary measures are followed to increase the house and land registration fees. Thus, it

seems that it is better for the government of Nepal to increase the tax rate of the HLRF enough to overcome the insufficient revenue through direct tax in Nepal.

Table 5.3
Difference between Buoyancy and Elasticity coefficients

Heads	Elasticity	Buoyancy	Disc.Effec.
TR	0.53	1.2	0.67
TXR	0.51	1.21	0.7
NTR	0.57	1.17	0.6
DT	0.63	1.48	0.85
INT	0.48	1.14	0.66
IT	0.74	1.68	0.94
HLRF	0.42	0.78	0.36

Source: Calculated Based on the data in table 5.1 and 5.2

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

 Nepal being one of the least developed countries in the world lacks adequate revenue enough to meet its developmental and regular expenditure in the country. The stage of development of Nepal is still at the stage of pre-take-off. Thus, to open the way for smooth development, GN has to finance large amount of money in preparing infrastructure. GN needs to invest large amount of money in building infrastructures like road, canal, schools, hospitals, pure drinking water and education etc. for this, government of Nepal lacks ample amount of resources. Taxation, therefore, is an effective measure to collect ample amount of money for government expenditure. Taxation is not only the measure for getting higher revenue but also the medium to eliminate undesirable effects in the economy and introducer of desirable effects. This means to say, taxation can be considered as having two weapons in one hand. Taxes like income tax, and property taxes have been considered to be the best instrument to reduce gap between haves or have not in the country. As the taxes are applied on the theme of progressiveness, then equitable distribution of income in the economy can be maintained to some extend.

Although this study has mainly focused on the status of direct tax revenue in Nepal from the period of 1989/90 to 2005/06, however, it is impossible to judge the exact status of direct tax revenue without knowing the share of indirect tax revenue. Thus the revenue share of indirect tax is also measured besides the purposed one. According to the study, the major components of direct tax are income tax, house and land registration fees, land tax and property tax. Income tax, the key component of direct tax, also carries various sub-components to sum up total the income tax such as income tax from public enterprises, income tax from semi-public enterprises and income tax from private cooperate bodies, tax on remuneration, individual income tax and tax on interest. Similarly, property tax includes urban house and land tax and tax on vehicles.

This study shows that the contribution of tax revenue in total revenue is significant. The contributions of tax and non-tax revenue were 79.45% and 20.54% respectively in 2005/06. This

statistics shows that government of Nepal has been heavily dependent on tax revenue as compared with non-tax revenue. Similarly, the contribution of income tax has increased significantly after the adoption of partial self-assessment system in 1993/94. Income tax stands as a key contributor in direct tax revenue. The share of income tax revenue in total direct tax revenue was 74.26% in 2005/06 while the share of house and land registration fees, property tax and land tax were 15.61%, 6.06% and nil respectively in the same year. Individual income tax occupies the key role in shaping the total income tax. Individual income tax carries 65.29% while the cooperate income tax carries 34.7% in 2005/06 respectively. Indirect tax revenue has covered the significant share in total tax revenue throughout the study periods. The contributions of direct tax revenue and indirect tax revenue in total tax revenue were 24.32% and 75.67% respectively. This statistics clearly shows that the government of Nepal has been heavily dependent on indirect tax revenue despite its repressiveness in nature. Thus, the tax structure in Nepal is not justifiable on the grounds of equity and progressiveness. Similarly, the share of direct tax revenue in total revenue is also significantly low as compared with the shared of indirect tax revenue. The percentage share of direct tax to total revenue is 19.32% while the percentage share of indirect tax revenue to total revenue is 60.12%. Property tax also contributes in total direct tax but its contribution is significantly low as compared with other contributors. Vehicle tax revenue contributes whole amount of property tax alone since 2002/03.

The overall trends of revenue from taxation in Nepal shows the contribution of tax revenue in GDP has been increasing from 7.3% to 9.5% from 1989/90 to 2005/06 respectively. However, the contribution of direct tax revenue in GDP was so low as compared with the contribution from indirect tax revenue. Direct tax-GDP ratio was 2.3% while indirect tax-GDP ratio was 7.32% in 2005/06 respectively. However, direct tax-GDP ratio has been increased steadily from 1.4% to 2.3% from 1989/90 to 2005/06 respectively. Similarly the contribution of direct tax revenue in total revenue has been increasing slowly by 15.45% to 19.32% from 1989/90 to 2005/06 respectively. But its contribution is very low as compared with the contribution from indirect tax revenue (60.12%) in 2005/06.

Government expenditure on developmental activities has been decreased simultaneously by 66.08% to 26.69% from 1989/90 to 2005/06 respectively. This is certainly due to the unrest

condition of the country government of Nepal was keen on regular expenditure rather than productive one during that period. Regular expenditure was 33.91% of the total expenditure in 1989/90 while this increased to 73.3% of the total expenditure. The rate of income tax to some extend is predictable. The rate of income tax has been in the fourth chapter income tax act. 2002. The income tax rate is made flat as well as progressive depending on the nature of the tax payers. According to this act. 2002, tax rate for individual is 15% and 25% and flat rate of 25% for the entity. The single flat rate fro banking, insurance and financial institution is 30% and simultaneously the facility of carry back of losses up to previous 5 years and deduction of loan loss provision fund up to 5% of bad debt.

Regarding the responsiveness and productivity of taxation in Nepal, the elasticity coefficients of all revenue heads including direct tax and income tax revenue are less than unity. This is the indication of inelastic tax system in Nepal. Similarly the buoyancy coefficients of all revenue heads except that of house and land registration fees are greater than unity. This is the indication of buoyant tax system rather than elastic in Nepal. Government of Nepal has been heavily relied on increasing tax rates and tax bases for the revenue increment. The share of direct tax revenue in total tax revenue is found to be very low as compared with that of indirect tax revenue because this is due to the exclusion of agricultural income into the direct tax net. Land holdings in Nepal has been considered as having the social status and taxing the agricultural income has become a political matter rather than economic. Both the then and the present government of Nepal have been failed to take necessary measures in order to tax agricultural income.

6.2 Conclusions

Taxation is not only to collect the revenue but also to reduce inequality in wealth and income and proper allocation of available resources. The status of direct tax revenue seems to be dismal as compared with the status of indirect tax revenue in Nepal. Although, indirect tax system is considered to be a regressive tax system by its nature, however, government of Nepal has been heavily dependent upon it for the last many years. But from the side of equity, and progressiveness, direct tax can be the best source of government revenue. As the authority

imposes VAT on every stage of production, price of the product increases more than the charged tax amount and such product are consumed equally by both richer and poorer people. In such condition, people having lower income also will be paying same amount of tax in the course of buying consumable goods as the higher income receivers do. As a result poor people are burdened indirectly.

So, if progressive types of income and property tax are followed effectively with the best effort then, authority can have received the large amount of money and majority of people will not feel tax burden indirectly. But this mean is not to say that indirect tax should not be introduced in Nepal. But most of the developing countries like Nepal are heavily dependent on indirect tax because in such countries records of the income cannot be found accurately and the most of the people in such countries are so ignorant that they have no idea about keeping the income account accurately. In such countries people do show the factual income also. Majority of people in Nepal are still low income recipients. But, agricultural income in Nepal is still tax free thus; income from agricultural sector should be taxed in a progressive rate. These are the problems of effective income tax implementation of Nepal.

I)   Tax –GDP ratio in Nepal is 9.5 which is less than one half of the tax effort-ratio of developing countries. This clearly indicates that Nepal is a low-taxed country.

II) Direct tax GDP ratio is quite low as expected it to be necessary. In 2005/06 this ratio was 2.3 percent. Thus, the share of direct tax to GDP has been increasing in a slow pace while the share of indirect tax to GDP has been increasing rapidly.

III) Share of direct tax revenue is declining due to lack of appropriate tax policies, lack of administrative competence to implement the policies and the high exemption limits of the income to make it taxable.

IV) There is wide difference between elasticity and buoyancy estimates of almost all taxes suggesting that increase in revenue productivity has come through new tax measures with upward revision of rates having narrow base.

V)   Nepalese tax system is regressive in nature as more than 75% of the total tax revenue is contributed by indirect taxes.

VI)   Main problems and weakness of Nepalese tax administration are lack of trained employees, lack of cooperation in tax administration, lack of transparency and accountability, corruption and lack of motivation by administration.

VII) Tax exemption limit in income tax is also another reason for low direct tax revenue.

VIII) The composition of direct tax is made up of income tax, land tax, property tax and house and land registration fees where the share of income tax to direct tax has been increased significantly but the share of land lax has been decreased and reached to nil. The share of house and land registration fees has also been decreased and reached in 15.61% of the total direct tax. The share of property tax to direct tax has also been increasing slowly but not significantly that is 6.06% in 2005/06. The whole amount of property tax is contributed by vehicle tax alone since 2003.

6.3 Recommendations

Based on the findings and overall research, the following suggestions can be recommended for a sound, efficient and effective tax administration in the country.

I)   Sound administrative capacity is one of the major bottlenecks that are to be over come for increasing the built-in-flexibility of Nepalese tax system. Therefore, personnel tax assessment and collection should be well- prepared, well-trained and well-remunerated. There should be the provision of reward for honesty so that people will be motivated toward punctuality. There should be strict law and order to punish those ones who involve in corruption. Political protection for such corrupted individuals should be uprooted. At the same time tax evaders should also be punished accordingly.

II) Income tax base should be increased. For this holding PAN should be made compulsory for every income generating transaction whatever the scale and size of the business, investment and employment and the different program for it should be launched as a campaign i. e. PAN week and others. Many potential tax payers are still outside the tax net such as social and educational institution thus, a separate research

and analysis section in the IRD should be established and it should be well equipped with skilled and professional human, financial and other resources.

III) Income from the agricultural sectors should also be taxed at progressive tax rate since almost 37 percent of the total GDP comes from agriculture sector but this sector is still out of tax net so that revenue deficiency through direct taxation will be uprooted permanently.

IV) House and land registration fees contribute for the direct tax revenue so, fee collecting officials should be well trained and collection procedures should be efficient so that the authority can collect adequate revenue through this source.

V) There is high probability of increasing the revenue through more extensive taxation of rapidly growing potential bases such as salaried income; professional-class, Income from private educational institutions and income from privately run medical clinic income of the doctors should be taxed with full administrative efforts so that the revenue deficiency through direct tax will be eliminated.

VI) The difference between the elasticity and buoyancy coefficient is (0.94) which is almost near to the value of automatic growth (0.74) thus, it does not seem to increase the tax rate of income tax, rather is better to stretching the income tax base so that tax burden will not be felt by the existing income tax payers.

VII) Nepalese tax system is heavily dependent on indirect tax despite its repressiveness by nature. But the lacks of progressive tax system in Nepal, disparity in the distribution of income and wealth is widening. Thus, progressive-natured tax like property tax and income tax should be followed effectively enough to narrow the gaps between poorer and richer. For this, prudent wealth tax should be imposed on unproductive accumulation of wealth but giving tax free for productive investment.

VIII) Since the discretionary effort in House and land registration tax is found to be very low as compared with others' efforts thus, it is better for the authority to increase the tax rate in the task of house and land registration so that the revenue deficiency through direct tax head will be uprooted to some extend.

IX) Tax reformation should be motivated towards broadening tax bases and lowering tax rates in the long run.

X)   Tax policy should be directed toward clear-cut and consistent with the long run policy. Tax policy should be oriented toward optimum resource mobilization without leaving the impact of heavy tax burden on the masses.

Based on the recommendation given above, the relationship between an appropriate tax policy and economic development of any country is understood to be fairly close. Thus the tax system should be well fitted on the social and economic circumstances of the country.