FINANCIAL PERFORMANCE ANALYSIS
OF
NEPAL ELECTICITY AUTHORITY

A THESIS

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VIVA-VOCE SHEET

We have conducted the viva voce examination of the thesis presented by

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and found the thesis to be original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for Master of Business Studies (M.B.S).

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has been prepared as approved by this department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.

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DECLARATION

Hereby, I declare that the work reported in this thesis entitled **Financial Performance Analysis of Nepal Electricity Authority** submitted to Research Department of Nepal Commerce Campus, New Baneshwor, T.U, is my original work done in the form of partial fulfillment of the requirements for the Master's Degree of Business Studies (MBS) under the guidance and supervision of Prof. Dr. Bihari Binod Pokhrel and Mr. Umesh Kumar Koirala, Nepal Commerce Campus.

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ABBREVIATIONS

Asis	= Assistant Level
CA	= Current Assets
CL	= Current Liabilities
DSO	= Days Sales Outstanding
FAT	= Fixed Assets Turnover
FY	= Fiscal Year
HI	= Higher Level Officer
HMG/N	= His Majesty's Governments of Nepal
i.e.	= that is
KW	= Kilo Watt
LTD	= Long Term Debt
LO	= Lower Level
MW	= Mega Watt
NEA	= Nepal Electricity Authority
NPC	= National Planning Commission
Off	= Officer
PEs	= Public Enterprises
TAT	= Total Assets Turnover
TD	= Total Debt
WSSC	= Water Supply and Sewage Corporation

CHAPTER I

INTRODUCTION

1.1 General Background

Situated in the lap of Mother Nature with abundance potential to nurture itself, Nepal has remained still a child. Nepal's economic status at a glance is not exciting. It is considered to be economically less developed among the countries in the world with amount 240 US dollar per capita income. Recently Nepal has adopted the path of economic development through liberalization for the economic growth of the nation. However it is a known fact that any strategy for economic development requires a steady of funds for productive enterprises. Thus, for the development of the country, many of the business firms have been established as public enterprise as well as private under company act 1964.

Economy is the determining factor of national development. The primary goal of any nation, including Nepal, is rapid economic development to promote welfare of the people and nation as well. This requires productive activities, which in turn is the result of the investment venture in productive enterprises. The establishment of these enterprises needs a huge amount of funds. Existing enterprises and companies within the economy can be viewed as productive enterprises that operate with equity and debt funds. The decision making process of choosing funds with the best financial mix among various alternatives plays a crucial role in the capital investment decision of the firm.

The capital structure concept has an important place in the theory of financial management. The tram capital structure is also known as financial structure or financial plan or leverage. The financial decision of a firm relates to choice of proportion of debt and equity to finance the investment requirement. A proper balance between debt and equity is necessary. A firm should select such a financing mix, which maximizes the shareholders mix. A capital structure with reasonable proportion of debts and equity is called optimal capita; structure. However, the capital structure decision affects the total value of firm. The optimal capital structure and its implication are more noticeable.

In almost all public enterprises, capital structure continues to remain a very indeterminate problem in view of lack of guided criterion determining it. The various reports and official documents relating to public enterprises reveal that neither the government nor the public enterprises themselves have been serious in the appropriate determination of capital structure.

Nepalese companies have not adopted proper combination of capital structure policy. The firm's objective to maximize the wealth of shareholders or return on equity is not met by Nepalese companies. In most of the companies, there is no existence of debts in their capital structure and equity capital is only source of financing. In some cases the proportion of debt is very low in some cases for instance, 9 companies out of 43 listed have used ling-term debt in capital structure.

From the above presentation, we can say Nepalese companies do not take capital structure concept seriously. Therefore, some of the companies went into bankruptcy and some of the companies have been suffering from losses due to huge amount of interest payment. Thus appropriate capital structured should be managed for sound health of the company with proper combination of capital structure components. In the context of Nepal, public utility service organization like Nepal Electricity Authority is playing major role in the development of country.

1.2 Meaning of Public Enterprises

Public Enterprises have assumed significant role in almost every country of the world, yet there has so far been no standard definition of its own. The term 'public enterprise' has been defined differently by different peoples, agencies and government to suit their own respective situation.

"PEs are autonomous bodies which are owned and managed by the government and which provide goods or services for a price. The ownership with the government should be 51 percent or more to make an entity PE." according to Laxmi Narayan.

UN has defined PE as government enterprises and mode of operation are classified as industries. Public enterprises play a major role in achieving the twin objective of social and economic development imagined in the national policy.

Public enterprises play a very important role in most of developing countries. The role of public enterprise differs from country to country, basically due to political philosophy of existing governments. Public enterprise comes into existence either by the way of deliberate policy of the government to bring certain activities under new institution or by nationalizing them from private sector. When we see the history of PES, we find that most of them well created by the government themselves to manage certain key sectors of the economy.

1.3 Public Enterprises in Nepal

Public enterprises come into existence either by the way of deliberate policy of the government to bring certain activities under strict government control by creating new institution or by nationalizing them from private sector. Reviewing the history, we can find most of the PEs is well created by the government its self to manage certain key sectors of the economy.

PEs in Nepal constitutes a vital instrument for the socio-economic development for the country. It enjoys a strategic and crucial position in our mixed economy. They have been established in many sectors for the overall development of the country with different goals and objectives. Nepal Bank Ltd., a commercial bank was the first PE to have a separate legal status in Nepal. During world war second, some other PEs were established, however, they could not make substantial progress. Nepal started its planned economic development in 1956 with the launching of first five years plan. Since then, the number of PEs has increased substantially in the various fields of national economy.

There ware 64 PEs before the privation program of Nepal Government and now there are 43 PEs. The PEs is dominant in production of supply of sugar, cement cigarettes, agricultural tools, petroleum products and other public utilities.

Among 43 existing PEs Nepal Electricity Authority is a public utility public enterprises.

1.4 Historical Background of Nepal Electricity Authority

Nepal Electricity Authority Established under the Nepal Electricity Corporation Act in acted in 2019 B.S was in operation through the Bijuli Aada under electricity department of HMG/N earlier. New act (2019) was brought forward to facilitate and improved the supply of electricity at the nationwide level. Initially electricity being supplied from Sundari Jal, Farping, Sano Gaucharan, Kathmandu Teku (diesel), and Bhakatpur center. Later on the act was extended, put into action in 2024 B.S. Another step in the campaign was the establishment of eastern zonal corporation in Biratnager; a separate entity to facilitate electricity supply to the eastern part of country. Later, in 2039 B.S. this zonal electricity corporation and Nepal Electricity Corporation were merged in to a single organization. Before 2039 B.S there were department of electricity of HMG/N and several other electricity division committees for the supply and facilitation of electricity and construction and distribution works. Such different types of organization working on the same services not only created hindrances and impediment handling administrative work but also burdened the single purpose of supplying electricity with additional expenditure. An urgent need was felt for a unified organization that could supply and distribute electricity services smoothly without any administrative hindrances. For this purpose another electricity act 2041B.S was brought forward which was put into affect from 1 Bhadra 2042 B.S. and all the previously existing departments, division and committees concerning production of electricity, supply and distribution were amalgamated in to Nepal Electricity Authority under this new act. Marsangdi Electricity Center was also handed over to NEA after the completion of construction work. The specific objectives of establishing Nepal electricity authority are as given below:

1. To utilize and develop huge amount of water resources in more co-coordinated way.

2. To established single organization that will work in all sector of electricity planning, survey, production, operation, maintenance and distributaries of electricity.

3. To overcome the duplication of works being practice formerly by the existence of several electricity agencies.

4. To provide equal and extensive skills development opportunities for all employees working in the field of electricity.

The major hydropower supplying electricity now are Trisuli, Sunkoshi, Gandaki, Kulekhani, Devighat , Marsangdi, Puwakhola, Modi Khola, Kali Gandaki “A”. Total capacity of which is 389150 KW. Chamaliya (30000kw), Kulakhani Third (14000kw), etc are project under construction. There are over two dozen purposed projects. There are dozen of small hydropower projects - grid connected and isolated. As per the government policy to bring the private sector investment in NEA, there are already a dozen of private sector plan amounting the capacity of 152713 KW and power purchase agreement (PPA) has already been concluded with 16 companies.

1.5 Statement of the Problem

Nepal, as one of the least developed countries, having low per capita income of 280 US dollar and of total population majority are below the poverty line. In this context, NEA has been established to reduce the dependency on agriculture sector, improve the national economy and to make self-sufficiency in electricity. So it is beneficial to evaluate the financial performance of NEA. In order to evaluate the financial performance of NEA, this study seeks to find out the answers of the questions through various method of analysis.

It is very difficult to assess the efficiency of PEs in view of their economic as well as socio-development goals. The difficulty is further complicated by the involvement of interest parties with PEs. Different interest parties involve with their own objectives. All these objectives of different diverse interest parties ought to be fulfilled in a competitive environment by the management of respective PEs. Public enterprises in Nepal have been created to build infrastructure for development and to supplement private sector and operate as a model for efficient use of resources and to generate surplus for self expansion and contribution to national treasury. In order to realize these objectives, PEs has to be efficient in the utilization of their resources.

One of the most important financial areas of an enterprise is finance. It is concerned with generation, transmission, distribution and other functions of any PEs including NEA. International lending agencies, HMG/N financing and self-financing are the major sources of finance mobilized by NEA. NEA is the largest government enterprise in Nepal. Being a PE, it has been financed by government and several bilateral and multilateral donor agencies. In this current pace of privatization, government still holds the good rational to keep it under public sector. The government plan clearly states that it will gradually privatize PEs except those where the government undertaking is inevitable. Thus NEA becomes one of the main sectors of PEs, which the government will privatize, in later stage. However, the introduction of private sector will not be prevented from participation in these areas. The government will not control the price of goods and services produced by such enterprises. At this juncture, it is understandable that NEA, although is a government undertaking and has a possibility to remain as it is in future, may not remain untouched by this new environment. NEA must be able to generate fair rate of return and surplus on its own. For this purpose it becomes imperative to be financially sound and independent at least in terms of paying interest on debts, operation and maintenance expenditures, administrative expenses and generating desirable rate of return on capital employed.

It is very difficult to imagine industrialization without electricity. At this situation, NEA has to play great role than other Peps. As most of the industries depend on power supply, in this sense Nepal Electricity Authority has no difficulty in selling its product and service as the demand of power supply is always growing. Nepal Electricity Authorities gets the highest potential for further growth and expansion, as it does have no market competitions. Despite these facts, the performance of NEA is not satisfactory. In the context, the study of NEA primarily focuses on the financial obligation, generating rate of return on capital investment and internal revenue generation. This study confines to the problems in financial operation and management of NEA. The present study will make a modest attempt to have an insight over the problem of financial management of NEA as well as to recommend some concrete suggestion for the improvement in overall financial performance through financial analysis. The study tries to seek answer the following questions.

1. Is Nepal Electricity Authority in a position to meet its current obligations?

2. What sources of long-term finance does Nepal Electricity Authority have employed and what is the relationship among them?
3. How efficient has Nepal Electricity Authorities been able to use its assets?

1.6 Objectives of the Study

Normally, the objectives mean the further plan of performing task. The study basically aims to evaluate the financial position of Nepal Electricity Authorities and to suggest recommendation based upon it. The specific objectives of this study will be:

- To analyze the financial performance of Nepal Electricity Authorities through financial analysis.
- To evaluateb major weakness and strength of Nepal Electricity Authority.
- To examine the present challenges undergone by Nepal Electricity Authorities.
- To provide suggestions and recommendations based on the major findings.

1.7 Significance of the Study

During the tenth five years plans HMG/N has given high priority to the energy sector. Apart form the medium/mega hydropower projects; emphasis has been laid for the development of small Hydro Power projects. Development of small Hydro Power is essential not only for reducing regional imbalance in development but also for arresting the migration of population from the hills to Tarai.

Among the different natural resources available in Nepal, water resource is the most important. By possessing nearly 2.27% of the world's water resources, Nepal is the second richest country in the world. The theoretical hydropower potential of Nepal is 83000 MW of which an estimated 43000 MW is economically feasible. One of the major reasons for the rampant poverty and backwardness of the Nepalese economy is power deficit. Shortage of power creates multifarious problems in the development of agriculture, industry, trade and other sector's of the economy.

Analysis of financial position and statement is a crucial part of financial decision making process of a business enterprise. Poor financial management affects adversely on liquidity, turnover and profitability. It is required to measure the financial position of the enterprise periodically in order to ensure smooth functioning of an enterprise. Nepal Electricity Authority is an enterprise of great national concern. Thus this study is made to evaluate the financial position of Nepal Electricity Authority.

Nepal Electricity Authority is one of the largest enterprises in Nepal. It is a capital intensive institution and cannot implement its own investment plan with its internal resources. Its financial position has a significant impact upon the electricity generation in Nepal. Theoretically, the Nepal Electricity Authority is a monopolistic institution and it had enjoyed the monopoly power all over the years. As a firm it should generate profits. However, being a public-utility-concerned, it should be service oriented as well. Besides, Nepal Electricity Authority should earn some surplus for the sake of repairing and maintenance. There should be trade-off between cost and service.

This study is believed to be an important effort to identify and actual trend of financial position of Nepal Electricity and is expected to provide some appropriate measure to solve financial problems of Nepal Electricity authority, if any. This study concerns with financial statement analysis of Nepal Electricity Authority.

This study will be useful to provide information and to draw the attention of Nepal Electricity Authority managements regarding what can be done for further strengthening the financial position of Nepal Electricity Authority. This study is expected to be helpful to the private and non-governmental agencies, which are willing to invest in hydropower project in Nepal.

1.8 Limitations of the Study

This study has certain limitation and constraints, which are listed below:

- As the title specifies the study covers only the financial position of NEA.
- Study being heavily dependent on secondary data; deficiency in the data of the secondary sources exists
- Only limited primary data are used in the study in the form of personal interview and questionnaire method.
- Research is based on the data provided by Nepal Electricity Authority from its official records. Thus the data are not verified.
- Since the study mainly concerned with NEA, the conclusion drawn from the study, findings and suggestions may not be applicable to any other private or public enterprises.
- Because of resource constraints, this study is not comprehensive neither extensive.
- The study will cover a period of 10 years fiscal year 1997/1998 to 2007/2008.

1.9 Organization of the Study

The aim of the dissertation is to explain the financial position of Nepal Electricity Authority. The study has been divided in to five chapters. Each chapter will devote to some aspects of the study. The major chapters of the study are as follows:

Introduction

It entitles "Introduction Chapter". The reading material in this chapter are general background of the study, brief introduction of the company, statement of the problem, objectives of the study, need/scope or significance of the study, limitation of the study and organization of the study.

Review of Literature

This chapter is concerned with review of literature reading materials. In this chapter are conceptual review and review of previous related studies.

Research Methodology

The chapter consists of research methodology adopted for the study and includes research design, data collection procedures and data analysis tools.

Presentation and Analysis of Data

This chapter comprises data presentation, analysis and interpretation of tables and charts.

Summary, Conclusion and Recommendations

This chapter is concerned with the output of the study in the form of summary, conclusion and recommendation.

And finally, list of bibliography, appendix and viva-sheet sheet have been included at the end of the study.

CHAPTER - II

REVIEW OF LITERATURE

No research can be complete without having gone through the relevant works or literature. The main purpose of literature review is to find out what works have been done in the area of the research problem and what have to be done in the field of the research study being undertaken. Every research requires a clear-cut idea on the problem of study and its solution, which emerges from the review of literature. Scientific research must be based on post knowledge. The previous studies cannot be ignored because they provide the foundation of the present study.

This chapter reviews the available literature relating to Nepal Electricity Authority and the views expressed by various scholars and researchers on the financial performance of public enterprises. So far as analysis of financial performance in the context of Nepalese enterprises is concerned, some studies have been undertaken by the management experts and students describing the financial performance of public enterprises.

Power plays significant role in the sustainable development of an economy that drives society towards the path of modernization. Nepal being one of the rich countries in hydropower sector, many important literatures are available in this field. Some of the notable literatures relevant to the study are reviewed in this study to identify the relevance of the present study.

2.1 Conceptual Framework

For the review purpose, the researcher has undergone conceptual aspect of financial performance and different relevant pilot works. Therefore, the objectives of this

chapter are to provide the essential knowledge of financial performance, financial statement and tools of financial statements analysis.
Textual support and pilot studies are presented as follows.

2.1.1 Textual Support

- Financial statements
- Financial statements analysis and interpretation
- Tools for financial statement analysis

2.1.2 Financial Statements

"Financial statements depict the actual position of a firm in terms of monetary value at particular point of time. Financial statement such as income statement and balance sheet are the two most important statements that business firms prepare at regular intervals. The public companies are required to publish these statements at least once a year. Besides, these are other special types of statements such as statement of retained earnings, changes in financial position, cash flows and sources and use of funds."[1]

A firm communicates financial information to the users through financial statement and reports. Financial statements contain summarized information of the firm's financial affairs, organized systematically. They are the means to present the firm's financial situation to the users.

Preparation of the financial statements is the responsibility of top level management. As these statements are used by investors and financial analysis to examine the firm's

1 *Pradhan Surendra*, (2000) **Basics of Financial Management**, Kathmandu Educational Enterprises, p.45

performance in order to make investment decisions, they should be prepared very carefully and contain as much information as possible.

Two basic financial statements prepared for the purpose of external reporting to owners, investors and creditors are: (i) balance sheet or statement of financial position and (ii) profit and loss account or income statement. These statements are contained in a company's annual report. A typical annual report also includes the chairman's speech, the director's report, the auditor's report and accounting policy changes. For internal management purposes, i.e. planning and controlling, much more information than that contained in the published financial statement is needed. Therefore, the financial accounting information is presented in different statements and reports in such a way as to serve the internal needs of the management.

2.1.3 Objectives of Financial Statements

Financial statements are prepared from the accounting records maintain by the firm. The generally accepted accounting principle procedures are followed to prepare these statements. As stated earlier, the basic objectives of financial statement is to assist in decision making. The other objectives are:

- Resources and obligations: to provide reliable financial information about economic resources and obligation of business enterprises.
- Change in net resources: to provide reliable information about changes in net resources have an enterprise that results from the profit-directed and other activities.
- Earnings potential: to provide financial information that assists in estimating the earnings potential of the enterprises.
- Full disclosure: to disclose, to the extent possible, other information related to the financial statement that is relevant to statement users.

2.1.4 Financial Statement Analysis

"The term financial statement refers to the two statements-balance sheet or statement of financial position and profit and loss statement which the accountants prepare at end of the period of time for a business enterprise."[2]

Financial statement provides the summary of the accounts of business enterprises. The balance sheet reflects the assets, liabilities as of the certain data. The income statements show the results of the operations during the certain period.

Financial statement analysis refers to the indication of proportionate relationship of various components of statement with aggregate figures, proportion within them in the same period and proportional changes from one year to another.

- **Balance Sheet**

The balance sheet is a document that reports the financial position of a company as of specific point of time. It is one of the significant financial statements for analysis of financial performance.

More specially, the balance sheet contains information about the resources and obligations of a business entity and about its owner's interest in the business at the particular point of time. Thus, it is used to prepare in the end of financial year and reveals the firm's financial position on a specific date.

In the language of accounting, the balance sheet communicates information about assets, liabilities, and owner's equity for a business firm as on a specific date. It provides a snapshot of financial position of the firm at the close of the firm's accounting period.

2 *Major N. John* (1974**) Financial Statement Analysis** Prentice Hall Publication

According to Mr. Khan & Jain, "The balance sheet provides information about the financial position of a particular point of time, say, as on Dec 31st. It can be visualized as a snapshot of the financial status of company.[4]

Likewise, balance sheet is a screen picture of financial position of a going business at certain moment. It is also known as statement of financial condition, position statement or statement of resources and liabilities or statement of worth etc.

In this way, it can be said that balance sheet is a summary statement and comparative record of the progress as downfall of the business. It shows the clear picture of the financial position of business as well as the assets and liabilities of business, the relative proportion of borrowed and ownership capital, etc. which are necessary to analyze and evaluated their financial position of particular period. Hence, this is one of the important resources to examine financial weakness or strengths using different tools of any business firm especially the banks.

- **Profit and Lost or Income Statement**

The second major statement for sources of financial information is income statement. It is also known as profit and loss account. It may be defined as any systematic array of a revenues, expenses and other deductions, and net income of a business for a stated period. Furthermore, income statement is an abstract portrayal of the dynamic life of the business presenting a longitudinal picture of the gains and losses of the business, its fortunes and misfortunes. [5]

In the words of Khan and Jain, "Income statement is of great importance and interest to end-users of financial statements because it enables them to ascertain whether the

4 *Khan, M.Y and Jain, P. K.* (1993) **Management Accounting**, Tata McGraw Hill Pub. Company, Delhi

5 *Kumar Pradip*, (1994) **Element Of Management Accounting,** Kedar Nath Ram Nath, Meerut(U.P.),p 15

business operations have been profitable or not during the specific accounting period."[6] In addition, it shows whether enterprise has earned profit or losses within the particular period, so it is a statement of the profit earned or loss incurred. This statement is extremely useful to analyzer to evaluate financial positions as well as profitability of the business operation.

Hence, an income statement is classified record of the gain and loss to the business for a period of time. It is prepared from the various balances of subsidiary nominal account given in the shape of trial balance.[7]

In conclusion, these two financial statements i.e. balance sheet and income statement or profit and loss account of a business firm contain useful information. So they are very helpful to know the financial strengths and weaknesses by analyzing those statements comparatively. They are not separate and independent statements, but are related to each other. Thus, both have vital role in the field of financial performance analysis.

2.1.5 Meaning and Purpose of Financial Statements Analysis

Analyzing financial statement is a process of evaluation relationship between component parts of financial statements to obtain a better understanding of a firm's position and performance.[8]

The financial statements of the business enterprises are initiated to provide much basic data used for decision making and in general evaluation of performance by

6 Op.Cit.p34

7 *Suvash And Sharma Vithal M.p.* (1980) **Financial Accounting of Management** , Macmillan India ltd.

8 *R.W Metcalf and P.L. Titard* (1976), **Principles of Accounting**., Philadelphia. W.b. Saunders, P. 157.

various people such as current owners, potential investors, creditors, government agencies and in some interested competitors.[9]

Because of various natures in published financial statement used for a wide variety of uses, it is often necessary for a particular group to extract the information in which they are particularly interested from the statement. For example owners and potential investors are normally interested in the present earning; a future earning prospect of business of the similar case may be different to the other parties. Thus the detailed analysis and interpretation of financial statement is usually required in order to obtain the information which may be relevant for the specific prospects of particular user.
The following procedures can be used to analysis the financial statements.

- Percentage increases and decreases in an item in comparative financial statements.
- Percentage relationship in an individual component to an aggregate total in single financial statement.
- Ratios of one amount to another in the financial statement.

These above mentioned methods can be applied by various ways i.e. horizontal analysis, vertical analysis and common size statements analysis etc.[10]

2.1.6 Tools of Financial Statement Analysis

In order to ascertain actual financial position of any firm, various analytical tools can be used. It is true that suitable or appropriate tools, according to the nature of statement and data, make the analysis more effective and significant for achieving this objective, basically two sorts of tools can be used: financial and statistical. The researcher has, therefore, applied these tools extensively.

9 *James J.et . Al Benjimin* Opt cit. p. 412.

10 *James J.et. Al Benjmin* Opt cit p.413.

2.1.6.1 Ratio Analysis

Ratio analysis has been major tool used in the interpretation and evaluation of financial analysis. The term ratio refers to the numerical quantitative relationship between the two items/variables. A ratio is calculated by dividing one item of the relationship with the other base. In financial analysis, a ratio is used as a yardstick for the evaluation of financial performance of the firm. The analysis of financial ratio involves two types of comparison. First, the present ratio may be compared with the past and expected future ratios for the same company and second, the method of comparison involves comparing the ratios of one firm with those of similar firm or with industry average at the same point, in time. Such comparison gives insight into the financial performance of the firm. Ratio analysis is widely in use. Ratios themselves are not conclusion they are only the means. The ratios are calculated form data available in the financial statement of the enterprise.

The ratio completed from the available data are numerical, there should not be the tendency to regard them as a precise portrayals of a firm true financial status. For some firms, accounting data may closely approximate economic reality, for others, it is necessary to go beyond the figures in order to obtain their financial condition of performance.

Types of Ratio Analysis

Liquidity Ratio

The ability of enterprise to pay its current liabilities is called Liquidity. Liquidity implies the utilization of funds of the firm that are idle or they are very little. A proper balance between the two contradictory requirements i.e. liquidity & profitability are required for the efficient financial management. The more current assets associates with high liquidity & the low profitability & the less current assets associate with low liquidity and high profitability. Quick ratio is the most widely used ratios for the general purpose to measure the liquidity position of an enterprise.

Capital Structure/ Leverage Ratios

The long-term solvency of an enterprise is related to capital structure or leverage ratio. The long term creditors would judge the soundness of a firm on the basis of long term financial strength measured in term of its ability to pay the interest regularly as well as repay the installment of principal on due dates or in one lump sum at the time of maturity. Leverage ratios show how much of an enterprise's fund are financed by debt & equity. This also shows the prospects for future financing.

The capital structure ratio indicates the soundness of capital structure of an enterprise. It can be calculated on two ways. The first approach is to examine what proportion of borrow capital occupies in the capital structure i.e. calculate the debt to total capital ratio. The second approach is to examine the number of times the interest earned covered by earning & to calculate the times fixed charges covered by earnings.

Activity Ratio

The activity ratio is defined as the test of relationship between sales & various assets of the firm. Depending upon various types of assets there are various types of activity ratios. Activity ratios are employed to evaluate the efficiencies with which the firm manage & utilizes its assets. These ratios are called turnover ratios because they indicate the speed with which the assets are being covered or turned over into sales. So, activity ratios presume that there exists an appropriate relation between sales & various assets. The more important activity ratios for general purpose analysis are inventory turnover, total assets turnover ratio, fixed assets turnover ratio, capital employed ratio, etc.

Profitability Ratio

Showing the overall performance of an enterprise, Profitability is very important aspects of managements of any enterprise. The profitability ratios are calculated to measure the operative effectiveness of the enterprise. Besides management of the company, creditors and owners are interested in the profitability ratios of the firm. Profitability ratios calculated in relation to sales gross profit margin and operating profit margin. Similarly the important profitability ratios calculated in relation to investment, return on shareholders equity, return on capital employed and return on fixed assets. Together these ratios indicate the firm's efficiency of operation.[11]

2.2 Review of Previous Studies

"Analytical studies of an enterprise pertaining to the financing position are essential to know their profit potentiality operative efficiency and decision making technique."[12] In our country as well, the financial position of different corporations are measured by using various analytical tools.

HMG/N auditors in "Annual report of auditor's journal of Nepal kingdom -2044" has expressed about their opinion that the economic condition of NEA is unfavorable. There is no clear record of fixed assets. There is much amount locked in debtors that might be a wrong planning incase the corporations couldn't successfully recovers the electricity tariff in future.[13].

A dissertation entitled "Pricing in Nepal Electricity Corporation-1975" was prepared for TU by Miss Ishwari Karki. She found that NEC's tariff has not been adjusted with the fluctuation of cost and demand. Loan capital of the corporation was more than its

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11 *Pandey, I.M*, **Financial Management,** p 133

12 *Sherestha M. K.*(1980), **Financial Management Theory and Practice**, p220

13 HMG/N Auditor Journal Office(2044) " **Annual Report of Auditors Journal of Kingdom**" Babar Mahal, vol.3 pp 107-112.

equity. The electricity tariff was lying below the break-even point. Internal rate of return was negative. It was below the prevailing market rate of return.[14]

Another dissertation was submitted to TU by Mr. Om Krishna Shrestha entitled "An evaluation study of NEC with special reference to financial aspect" in 1979. In the study he found that NEC has a highly fluctuating type of financial situation. Profitability was fluctuating: funds were mainly collected through share capital and loans. Depreciation funds were mainly used in expanding fixed assets. He concluded that net working capital position was not profitable. The trend of utility was satisfactory and contribution to the national economy was remarkable.[15]

A dissertation was submitted to TU by Mr. Rabindra Dev Bhatta entitled "An evaluation of financial position of NEA" in 1997. According to him,

- NEA is not properly utilizing its assets.
- A lot of debit is outstanding. Rate of return is very low; rather sometimes possesses negative profitability too.
- Overhead cost is very high, loan is accumulating every year.
- Cost of NEA is increasing in each fiscal year. Therefore tools and technique of cost control are not satisfactory.
- Theft and Leakage of electricity remains same as in previous years.
- High maintenance expenditures seen in the profit and loss accounts. It is the most important factor in reducing the profitability of NEA.

A dissertation was submitted to TU by Mr. Jogindar Goet entitled "Revenue planning and management in Nepal: A case study of Nepal Electricity Authority" 1999. His points are as follows:

14 *Karki Ishwari*, **Pricing in Nepal Electricity Corporation.**

15 *Sherestha Om Krishna* (1979), **An evaluation study of NEC**, (with special reference of financial aspect), Thesis submitted to the Institute of Management,T.U.

- NEA's fixed cost is very high which has lowered its profit potential.
- Apparently, it has no clear-cut boundary to separate whether the cost is fixed or variable.
- Classification technique of cost is not scientific and systematic. Therefore, NEA has not been able to make a realistic budget. Operating cost has not been controlled effectively.
- NEA has not adopted the practice of preparing monthly budget, which would support in planning and control. While preparing central budget of NEA, suggestions from its branches and sub-branches are generally ignored.[17]

A dissertation was submitted to TU by Mr.Laxman Raj Kandel entitled "An appraisal of financial performance of Nepal Electricity Authority" in 2001. He has pointed out some major issues which are as follows:

- There is no effective utilization of assets in NEA.
- A lot of debt collection is outstanding. The account receivable in NEA is high. Average collection period is also high in each fiscal year.
- The rate of return is very low.
- High maintenance expenditures seen in the profit and loss accounts which reduce profitability of NEA.[18]

His opinion about NEA is very similar to the opinion of Mr. Rabindra Dev Bhatta. He has also pointed out the same issues that Mr. Rabindra Dev had mentioned. He says there is no proper utilization of assets in NEA. A lot of debt collections are outstanding. The rate of return is very low and sometimes the profitability becomes

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17 *Goet Jogendra* (1999), **Revenue Planning and Management in Nepal: A case study of NEA**, Thesis submitted to Shanker Dev Campus, Faculty of Management. T.U.

18 *Kandel Laxmi Raj*, (2001) **An Appraisal of Financial Performance of Nepal Electricity Authority** Thesis submitted to Shanker Dev Campus, Faculty of Management. T.U.

negative too. Overhead cost is increasing every year. There are no scientific techniques of cost control. Theft and leakage of electricity remains same as in the previous years.

A dissertation was submitted to T.U. by Mr. Dipak Kumar Lamsal entitled "Budgeting and its impact on profitability of NEA" on 2008. His points are as follows:

- NEA has the practice of operating two types of managerial budgeting, which are tactical and strategic. Tactical plan prepared for external purpose but strategic plan is made only for top level management or internal purpose.
- NEA is not achieving sales target.
- Actual sales revenue is increasing in every fiscal year.
- NEA has vast gap between actual sales and actual production. It proves that it has not been success in selling its available production completely.
- The actual overhead of NEA is in increasing trend due to higher amount of fixed cost. Interest on long term loan and other those expenses rounding together with the name of distribution and administrative expenses. As well as it has not segregated its cost systematically that is suggested by accounting standard.
- Operating cost has not been controlled effectively.
- NEA bears huge units of power losses and is increasing year by year.
- NEA has been suffering from loss in every year.
- NEA is not utilizing its capacity fully and effectively due to the lack of adequate fund and the traditionalism.
- NEA has no practice of preparing monthly budget, which is assumed to be the key of overall managerial budgeting.

Thus the review of previous studies clearly pointed that majority of corporations in our country showed poor performance and the management does not seem to be satisfactory.

In the studies, it is also pointed out that net worth is artificially kept low and there is dangerous liquidity position. Sales are inadequate and average investment in working capital declined. There is fewer inventories turnover due to high possession of which is the indicative of inefficient inventory management.

The evaluation and analysis of financial results with a view to take corrective actions were hardly made. There is much to do in the employment of analytical tools to study many PEs to evaluate their financial position. There have been quite a few studies and attempts to evaluate the financial performance of NEA some one and half decade ago. However, not much attempts were noticed in the recent past. NEA has undergone significant changes and has become the largest public enterprises in the country in terms of assets and investments. It was felt necessary to conduct assessment of financial performance of NEA and the present effort is in this very direction.

2.3 Review of Related Articles

Any book has its underline principles and international practices. Entire book is the collection of principles and practice in different circumstances and contexts. The balance sheet and income statement of a business can be taken as the yard stick of the financial position at a given point of time and summary of revenue and expenses during the accounting period. Ratio analysis is a technique of analysis and interpretation of financial statement. To evaluate the performances of an organization by creating the ratios from the figures of different accounts consisting in balance sheet and income statement is know as Ratio Analysis.

R.M Dangol, in his book Management Accounting says that the ratio analysis is very helpful in financial forecasting and planning. The ratio calculation of past years works as a guide for future. From the information provided by ratio analysis with the help of financial statement are very useful for making decision on any financial activity.[19]

As per Weston and Copeland, financial structure refers to the way the firm's assets are financed. It is represented by the entire right hand side of the balance sheet that includes short-term debt as well as shareholder's equity. Capital structure or the capitalization of the firm is the permanent financing- a part of financial structure- represented by long term debt, preferred stock, and shareholder's equity.[20] If management is to maximize the firm's value, it must take advantage of firm's strength and correct its weakness. Financial statement analysis involves a comparison of the firm's performance with that of other firms in the same industry. This helps management identify deficiencies and then taken action to improve performance.

Weston and Brigham argue that financial statement report both on a firm's position at a point in time and on its operation over some past period. However, the real value of financial statements lies in the fact that they can be used to help predict the firm's future earnings and dividends. From an investor's standpoint, predicting the future is what financial statement analysis is all about. While from management's standpoint, financial statement analysis is useful both as a way to anticipate future condition and more important as a starting point for planning actions that will influence the future course of events.[21]

19 *Dangol R.M.* (1995), **Management of Accounting**, Taleju Prakashan, p. 369

20 *Weston.J.Fred and Copeland*, **Managerial Finance**, The Dryden Press, p. 78

21 *Weston.J.Fred and Brigham, Fugene F*, **Managerial Finance**, The Dryden Press p.79

The research on "Performance of PEs in Nepal" jointly conducted by ISS and CCC as a part of the research project entitled "Performance of PE in Asia" jointly sponsored by international development research Centre, Ottawa, Canada and HMG/N made in mid 1975, is the first comprehensive research work in public enterprises in Nepal.[22] In the study it was found that the main criteria for providing financial assistance by HMG/N was not based on normal corporate portfolio structure and needs, but on crisis policy of adequate working capital had been instrumental in bringing about a circular consolation of property in many PEs. Absence of sufficient equity cushions has led to the poor performance of many PEs.

Management Consultant Company conducted a study on the performance of PEs of Nepal. In the study it was conclude that the assets management in general and current assets managements in particular were the weakest points in Nepalese PEs.[23] The report also pointed out that because of the lack or operational objectives, applications of the long run planning, use of modern management tools, capital budgeting and efforts towards cost control had not been made so far.

The Auditors report, presented by HMG Auditor General Office, mentioned that the irregularity in the payment of advance is increasing in case of WSSC. There is no effective financial control within the corporation and there is no effective provision and control in respect to water tariff and new top connection. The report pointed out that there seems violation of rules and regulations in the acquisition of fixed assets and other goods. More over the report pointed out that there is no proper utilization of machines and other fixed asset and purchase of goods is made only for the purpose of purchase.[24]

22 "**Performance of PEs in Nepal: A Managerial Analysis**" HMG N.CCC and ISS, 1980

23 *Management Consultant Company "***Economy and Management Study of PEs in Nepal***"*

24 **Annual Report of auditors Journal of Nepal Kingdom**, HMG N Auditor Journal Office, Babar Mahal 2044

Similarly, the auditor's report concerning Nepal Electricity Corporation, mentioned that the economic condition of corporation had been seen unfavorable in view of the economic increase in corporation's liability due to merging of Electricity Corporation into Electricity Authority and not maintaining the provisions that had to be maintained regularly past years. There was no detail information of fixed assets and due to the lack of control in inventory and purchase; the real position of corporation could not be identified. The report also pointed out that there was more amounts locked in debtors as the corporation was not successful in recovering electricity tariff which had an adverse effect in the corporation's financial position and this has also increased the risk for creation of higher doubtful debt.[25]

In this analysis of capital structure in selected PEs, Dr. Manohar Krishna Shrestha found that NEA and WSSB are not escaping from public criticism for not providing satisfactory services. The capitalization rate of the selected PEs was less that satisfactory and only a few recorded positive EBT.[26] The study also pointed out that there was no proper consistency maintained between EBT and the overall capitalization rate.

According to Mr.Surya Nath Bastola in "Water Resources Development of the Highly Mighty Himalayan Rivers", geographical and geological conditions of the country have given rise to such a river system in country. It surveys that some of the cheapest hydropower stations in the world can be developed in the country. Revealed by upto date study, 15 million KW of hydropower potentiality is much greater compared to our consumption. It can be inexhaustible for our economic upliftment and we must search for power market, external inputs for industry, traction, rural electrification etc.[27]

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25 Ibid P.P 112-116

26 *Shrestha Manohar Krishna* , **Analysis of Capital Structure in selected PEs**. The Nepalese Journal of Public Administration year 16 No. 2

27 Bastola Surya Nath.(2004), **Water Resources in Development on Mighty Himalayan Rivers** Lalita Printers P..Ltd, p. 44

In “Nepal Hydro Power Strategy and Options”, the main points are that although the country is well endowed with great bio-mass and hydropower resources, recently the place of industrialization has been severely constrained by the lack of energy and power. Unless the power constrains are moved, much industrial growth cannot be achieved, even agricultural growth likely to be constrained due to the lack of energy for lift, irrigation and processing of agricultural commodities.[28]

28 **Nepal Hydro Power Strategy and Options**, Prepared for HMG of by PEs Agency for international Development 2002, p.19

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Introduction

The main objective of this study is to find out the true financial performance of NEA. To achieve the objective the study requires an appropriate research methodology. This chapter looks in to the research design, population and sample, sources of data, techniques of data collection, and tools for analysis and limitation of the methodology. A suitable research methodology of the study is designed and followed in this study to fulfill the stated objective as well as to make it easier in visualizing the total study work clearly. The research methodology used in the present study is briefly mentioned below.

3.2 Research Design

A planned structure and strategy of investigation conceived so as to obtain answer to research questions is called research design. The research is based on recent historical data. The study will explore the financial position of NEA. The financial position refers to the amount of resources i.e., assets and liabilities of the company on the specific period and the results of their utilization. To conduct the study both descriptive and analytical research approach has been adopted. Descriptive approach is utilized for conceptualization, problem identification, conclusion and suggestion of the study where as analytical as well as exploratory in nature. The data have been analyzed on the basis of standard financial formulas used in the book of financial management.

3.3 Population and Sampling

The large group about which the generation made is called the population under study, or the universe and small portion on which the study is made is called the sample of the study.

The hydropower companies are population. Among them, the oldest hydropower company is Nepal Electricity Authority. It is taken as a sample.

3.4 Period Covered

The study covered the period of 10 year from 1999 to 2008. Data are taken from Nepal electricity authority's balance sheet and income statement and the analysis is basically made on the basis of these ten year data.

3.5 Sources of Data and Data Collection Techniques

The published financial statements of Nepal electricity authority are the main sources of data for this study. Basically, last ten years data (i.e. since 1999 to 2008) are collected. The study is mainly based on the secondary data. However in some cases primary data are also obtained on discussion with high officials of NEA. Many data have also been collected from other sources like government report, bulletin, and annual reports of NEA and also from some studies carried out on the subject by various researches.

Secondary sources of data have been collected in order to achieve the real and fact data as far as available. Mainly the study will be based on secondary data. The secondary sources of data are the information received from books, journals, newspaper, and annual report of NEA, financial statement of NEA, report of National Planning Commission, Central Bureaus of Statistic and other sources. The review of theory relating to this study is based on textbooks, official publication, journals and previous research studies.

The significance of research depends on the nature, availability and accuracy of information. Data collection is the major task of the research work. The data is collected from the secondary sources. Those sources used to collect the secondary data are as follows:

- Published and unpublished relevant document of NEA.
- Magazine and booklets published half yearly, yearly by NEA etc.
- Official records and similar other dissertations.
- Center Bureau of Statistics.

3.6 Methods of Analysis

In order to make an analysis of available data, following methods have been applied.

- Related data from secondary sources are selected, grouped and tabulated for the proposed of this study.
- Various books, journals, publications and other related literatures are studied.
- In order to process the data, first of all financial statements and other economic status are reviewed. They are grouped into various tables and charts with their nature. Then the condensed balance sheet and income statement are prepared.
- On the basis of financial statement, balance sheets and profit and loss accounts, different tables are prepared and analyzed.
- From the collected sources, ratios were analyzed.
- With the help of analysis, conclusions are drawn and required recommendations are prepared.

3.7 Tools of Analysis

Various analytical tools can be used in order to ascertain actual financial position of any firm. It is true that suitable or appropriate tools, according to the nature of statement and data, make the analysis more effective and significant. For achieving this objective, basically two sorts of tools can be used: financial and statistical. The researcher has, therefore, applied these tools extensively.

3.7.1 Financial Tools

The study being related to the financial performance analysis, financial tools are very important to the purpose of the study. They help to identify the financial strengths and weaknesses of the firm. In spite of various financial tools available, the researcher has primarily stressed on ratio analysis assuming it the most suitable tool. Financial analysis refers the indication of proportionate relationship of various components of statements with aggregate figure, proportion within them in the same period and proportional changes from one year to another. In financial analysis, the basic tool used is ratio analysis. So the tool used is only ratio analysis.

Ratio Analysis

Ratio analysis is a powerful tool and technique of financial analysis, which helps in identifying the sound financial structure of the organization. It is widely used tool for financial analysis. In other words, ratio analysis helps the analyzer make quantitative judgment of the firm's financial position as well as its performance.

An arithmetic relationship between two figures is known as ratio. In financial analysis a ratio is used as an index or yardstick for evaluating the financial position and performance of firm. The absolute accounting figures reported in the financial statement do not provide meaningful understanding of the performance and financial position of a firm. An accounting figure conveys meaning when it is related to some other relevant information. Ratios help to summarize the large quantities of firm's financial performance.

Types of Ratio Used

It is already mention that the parties, which generally undertaken financial analysis, are short-term creditors, their main interest lies in the liquidity position. However, long-term creditors on the other hand are more interested in the long term solvency of the firm. Similarly, owners are more concentrated on the firm for profitability and financial conditions. Management is interested to evaluate overall activity of the firm. Looking at the requirements of various users, the ratio can be classified in following major categories:

a. Liquidity Ratio
b. Turnover Ratio
c. Profitability Ratio
d. Leverage/Solvency Ratio

Liquidity Ratio

Liquidity ratios measure the firm's ability to fulfill its short-term commitments. These ratios focus on current assets and current liabilities and are used to ascertain the short-term solvency position of a firm. Two ratios are mainly used to measure the liquidity position.

- Current Ratio
- Quick Ratio / Acid-Test Ratio

Current Ratio

A current ratio is the quantitative relationship between current assets and current liabilities. So, this ratio is calculated by dividing current assets by current liabilities.

Here, current assets are those items, which can normally be converted in to cash with in an accounting cycle. These normally include cash, stock, debtor, bank balance, prepaid expenses, marketable securities, etc. On other hand; current liabilities refer to those obligations which must be paid within an accounting cycle. These normally include creditors, bank overdrafts, bills payable, outstanding, etc.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Although there is no hard and fast rule, conventionally, a current ratio of 2:1 (current assets twice of current liabilities) is considered satisfactory.

Higher the current ratio, greater is the profitability of timely and full payment for current liability. Low ratio value indicates the firm will not be able to pay its future bills. For an instance, 2:1 ratio is considered acceptable for many firms.

Quick Ratio/ Acid Test Ratio

Quick ratio is the proportion of quick assets to current liabilities, which is more accurate measure of liquidity than the current ratio. This ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is considered to be most liquid asset. Other liquid asset includes bills receivable, sundry debtors and short-term investments. Inventories and prepaid expenses are considered to be less liquid as the emphasis is on ready availability of cash. The quick ratio is calculated by dividing the total quick assets by current liabilities.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Quick Assets = Current Assets – Inventory

Quick ratio is considered to be better than current ratio for the test of financial soundness of a firm. Generally, a quick ratio of 1:1 is considered to represent a satisfactory current financial condition. Higher ratio indicates that the firm has excessive quick assets and indicates inefficient management. A low ratio is the indicator of difficulties in the timely payment of future bills.

Turnover Ratio

Turnover ratio indicates the speed with which assets are being converted or turned in to sales. These ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets. Turnover ratio involves comparison between high level of sales and investment of various assets account. Following four turnover ratios are used in this study.

1. Fixed Assets Turnover Ratio
2. Total Assets Turnover Ratio
3. Inventory Turnover Ratio
4. Average Collection Period

Fixed Assets Turnover Ratio

Fixed assets turnover ratio measures the efficiency with which the firm is utilizing its investment in its net fixed assets. It is calculated as:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Net Fixed Assets}}$$

[Net fixed assets are defined by difference between gross fixed assets and cost of deprecation. Generally, high fixed assets turnover ratio indicates efficient utilization of fixed asset while inefficiency in utilization is shown by low fixed asset turnover ratio.]

Total Assets Turnover Ratio

Similar to the fixed asset turnover ratio, asset turnover ratio indicates sales generated by a rupee of investment over the total asset ratio, which is calculated as:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

Total assets constitute fixed asset, current assets and total investment of the firm. Generally, higher turnover ratio shows the firm is efficient to utilize the scarce resources and vice versa

3. Inventory Turnover Ratio

Inventory turnover ratio is defined as sales divided by inventory.

$$\text{Inventory Turnover Ratio} = \frac{\text{Sales}}{\text{Inventory}}$$

Inventory turnover ratio shows how rapidly the inventory is turning into sales. Generally, high inventory turnover is the indication of good inventory management. But a relatively high inventory turnover means low level of inventory which may result frequent stock-out and is costly for the firm.

4. Average Collection Period

The average collection period is computed in two steps:

- Annual sales are divided by 360 (number of days) in a year to get the average daily sales.
- Daily sales are divided into account receivables to find out the number of days sales tied-up in receivable.

$$\text{Sales per day} = \frac{\text{Sales}}{\text{Days in year}}$$

$$\text{Average Collection Period} = \frac{\text{Receivable}}{\text{Sales per day}}$$

Short average collection period shows the timely payment of debt but it may suggest an excessive and restrictive credit policy of the firm. Too long average collection period indicates inefficiency of the firm in collection of receivables.

Profitability Ratio

Profitability ratio measures success of a firm to achieve return of the total sales or of the investment. It gives information regarding how effectively the firm is being managed. Profitability ratio can be classified into following major groups:

I. Net Profit Margin
II. Operating Expenses Ratio
III. Return on Total Asset

I) Net Profit Margin

The net profit margin provides relationship between the net profit and sales as follows:

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Sales}}$$

Net profit here is defined as the profit of firm after taxes but not extra ordinary charges such as dividend and other provisions. The ratio measures ability of the firm whether it changes each sale into net profit or not. Higher value of the net profit margin represents more satisfactory result of the investment.

II) Operating Expenses Ratio

Operating expenses ratio the yardstick of operating efficiency which can be computed by dividing operating expenses with sales as:

$$\text{Operating Expenses Ratio} = \frac{\text{Operating expenses}}{\text{Sales}}$$

Operating expense ratio constitutes administration and selling expenses excluding interests. In general, higher operating ratio exhibits inefficiency due to higher operating cost in term of sales. Lower operating ratio is favorable since it will generate higher operating income, which will be sufficient to meet interest, dividend and other expenses of the firm.

III) Return on Total Asset

Return on total assets ratio is the proportion of the sum of net income after taxes and interest to the total asset (total investment):

$$\text{Return on total assets} = \frac{\text{Net income after tax + Interest}}{\text{Total assets}}$$

It is the rate of return earned by the firm including loan and the total investment. Higher return on total asset ratio possesses higher earning of the firm in terms of its total asset. Lower ratio indicates relatively poor financial position based on the rate of return.

Leverage/Solvency Ratio

Financial leverage or capital structure ratios are calculated to judge the long-term financial position of the firm. This ratio indicates the mix of fund provided by owners and lenders. The short-term creditors like bankers and suppliers of raw material are more concerned with the firm's current debt paying ability. On the other hand, long term creditors like debenture holders; bondholders etc. are concerned with the firm's long-term financial strength. In fact, a firm should have a strong short as well as long-term position. As a general rule, there should be an appropriate mix of debt and owner's equity in financial mix of the firm's assets.

The manner in which assets are financed has a number of implications. Debt is considered to be more risky in compare to equity. The firm has a legal obligation to pay interest to debt holders, irrespective of the profits made losses incurred by the firm. If the firm fails to pay the debt holders in time, they can take legal action against to get payments and in extreme cases can forces the firm into liquidation. On the other hand, employment of debt is advantageous for shareholders in two ways; they can retain control firm with a limited stake and secondly their earning will be magnified when the firm earns a rate of return on the total capital employed. The process of magnifying the shareholders return through the employment of debt is called financial leverage.

The leverage ratio consists of:

- Total Debt to Total Assets Ratio
- Debt-Equity Ratio

Total Debt to Total Assets Ratio

The ratio between total and net assets is called total debt ratio. Total debt will include short and long-term borrowings from financial institutions, debentures/bonds, deferred payment arrangements for buying capital equipments, and bank borrowings, public deposits and other interest-bearing loan.

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Debt-Equity Ratio

The ratio between total debt and net worth is called debt-equity ratio.

$$\text{Debit- Equity Ratio} = \frac{\text{Total Debt}}{\text{Net worth}}$$

3.6.2 Statistical Tools

Regression Analysis

Regression is the statistical tool, which presents the linear relationship between two or more variables. If one or more independent variable is changed, then it results in the change in the value of dependent variables. Statistically, such variables can be presented in mode of linear equation. This analysis is done with multiple regression analysis to find out the existence or non-existence of any relationship between dependent and independent variable.

Regression analysis provides us an opportunity to estimate the line of best fit and also studies the percentage contribution of each independent factor, which explains the total variation in dependent variable. In regression analysis, total variation in dependent variable is broken down in to explained variation, which is explained, by explanatory variables (independent variables) and the unexplained variation, which is represented by error term. Thus, the total variation has two components so that,

Total variation = Explained variation + Unexplained variation.

Regression Equation Y on X_1, X_2 & X_3 be

$Y = a_1 + b_1 + x_1 + b_2x_2 + b_3x_3$

Their normal equations are;

$\sum Y = na_1 + b_1\sum x_1 + b_2\sum x_2 + b_3\sum x_3$ – Equation -1

$\sum x_1y = a_1\sum x_1 + b_1\sum x_1^2 + b_2\sum x_1x_2 + b_3\sum x_1x_3$ – Equation – 2

$\sum x_2y = a_1\sum x_2 + b_1\sum x_1x_2 + b_2\sum x^2 + b_3\sum x_2x_3$ – Equation – 3

$\sum x_3y = a\sum x_3 + b_1\sum x_1x_3 + b_2\sum x_2x_3 + b_3\sum x_3^2$ – Equation – 4

Then, the general formula for calculating these variations is as follows:

Total variation = $\sum\left(Y + \hat{Y}\right)^2 = \sum Y^2 - n(\hat{Y})^2$

Explained Variation = $\sum(\hat{Y} - \hat{Y})^2 - b_1\left[\sum x_1 Y - n(\hat{Y})(x_1)\right] +$

$b_2\left[\sum x_2 Y - n(\hat{Y})(x_2)\right]$

Unexplained Variation = $\sum(Y - \hat{Y})^2$

Also, the unexplained variation can be obtained as follows

Unexplained variation = Total variation – Explained variation

The coefficient of multiple determinants based on explained variation, unexplained variation and total variation is the ratio of explained variation to total variation and is given by:

$$R^2 y.123 = \frac{\text{Explained Variation}}{\text{Total Variation}}$$

$$= \frac{SSR}{SST}$$

Where, SSR = Regression sum of square

SST = Total Sum of Square

Also, $R^2 y.123 = 1- \frac{\text{Unexplained Variation}}{\text{Total Variation}}$

- To establish a regression equation which provides estimate of the dependent variable from the value of two or more variable.
- To obtain measure of error involved in using the regression as a basis of estimation of a dependent variable.
- To measure the coefficient of multiple determination of the proportion of variation in dependent variable which is explained by the independent variable.

Multiple Regression Analysis or Study Model

In order to examine the financial performance and profitability, the two multiple regression have been formed.

1. First model

$y = a + x_1b_1 + x_2b_2 + x_3b_3$

Where, y = dependent variable or profitability.

A = intercept or constant variable.

b_1 = partial regression coefficient between y and x_1 , when x_2 and x_3 remain as constant.

x_1 = capital employed

b_2 = partial regression coefficient between y and x_2 when x_1 and x_3 remain as constant.

x_2 = long term debt.

b_3 = partial regression coefficient between y and x_3 when x_1 and x_2 remain as constant.

x_3 = sales.

2. Second model

$y = a + x_1b_1 + x_2b_2 + x_3b_3$

Where y = dependent variable or profitability.

A = intercept or constant value

b1 = partial regression coefficient between y and x1 when x2 and x3 remain as constant

x1 = current assets.

b2 = partial regression coefficient between y and x2 when x1 and x3 remain as constant

x2 = current liability

b3 = partial regression coefficient between y and x3 when x1 and x2 remain constant.

x3 = gross revenue

CHAPTER-IV

PRESENTAION AND ANALYSIS OF DATA

4.1 Analysis of Financial Performance

This chapter highlights the financial position of NEA. The tools used for the purpose of analysis have been discussed in detail in the research methodology. Financial tools in particular have been used to evaluate the financial position of NEA. Under financial tool, Ratio analysis has been used as the yardstick of trend analysis. Our analysis is based on the data of past 10 consecutive years.

NEA being the large scale PSU, working in the area of energy, its financial performance cannot be judged only on the ground of consistency. It may have a mega project investment for three years and whose return may continue to spread over a number of years. So, application of any statistical tools in course of analysis was found irrelevant as it would not give the real picture. For the same reason we haven taken the data over 10 years so that we can arrive into the correct conclusion.

4.1.1 Liquidity Position

Liquidity ratios are used to judge an organization's ability to meet its short term obligations. Essentially, these ratios are comparison of short term obligation with resources available and are measurement by current ratios and quick ratio.

I) Current Ratio

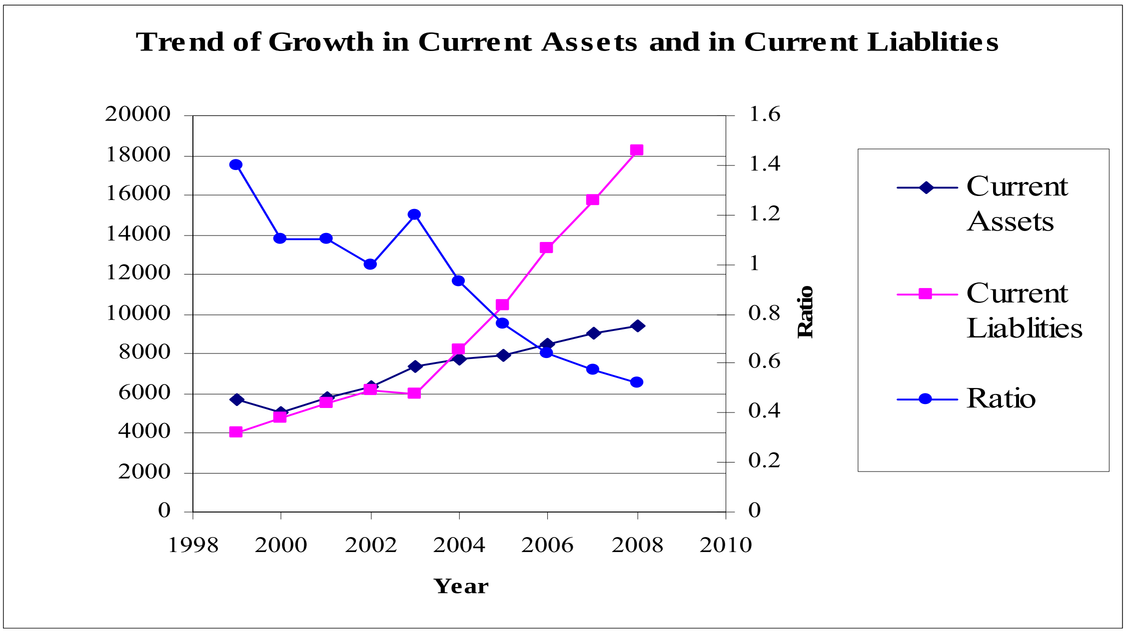
The current ratio of NEA has already been defined in the third chapter, Research Methodology. Here, we are analyzing the liquidity position of NEA targeted 10 years data of current assets and current liabilities.

Table 4.1 Calculation of Current Ratio (Rs. in Million)

Year	Current Assets	Current Liabilities	Ratio
1999	5692.2	4005.0	1.40
2000	5053.2	4786.3	1.10
2001	5761.1	5477.2	1.10
2002	6313.6	6113.8	1.00
2003	7322.0	5948.1	1.20
2004	7690.5	8198.1	0.93
2005	7883.4	10389.2	0.76
2006	8491.6	13317.5	0.64
2007	8995.3	15705.3	0.57
2008	9391.8	18227.1	0.52
AVERAGE	7259.5	9216.8	0.79

Sources: NEA Balance Sheet and Income Statement of FY 2007/2008

Figure 4.1 Current Assets and Current Liabilities of NEA from 1999 to 2008



Looking over the trend of Current ratio of NEA over the period of ten years, it can be observed that NEA's current ratio has always been less than the standard norm of 2. Financial years 2004, 2005, 2006, 2007 and 2008 seem very poor compared to the other years as far as the ratio is concerned. In these 5 years, current ratio is very low compared with average current ratio. It means that NEA was not in auditor's position to meet current obligations without delay during this period. In the year 2002, the organization has just been able to meet its short term obligations. These types of critical situations are often detrimental for the organization.

The organizations current assets have grown from NPR 5692.2 Million to NPR 9391.8 Million over the study period whereas the current liabilities have grown from NPR 4005.0 Million to NPR 18227.1 Million. The shoot up position in current liabilities of NEA in the above-mentioned period is primarily because of the time and cost over run of Kaligandaki Hydro Electric Project which was one of the major projects done by the organization. NEA had to arrange short term borrowing to reverse its unintended obligations. The position of current assets to current ratio has not been consistent and by and large, NEA has been carrying out risky business. With regards to its overall liquidity position there is a poor trade off between current assets and current liabilities except for the first five years i.e. the year 1999, 2000,2001,2002,2003. Current assets of NEA were not adequate to pay off its current liabilities for these years.

II) Quick Ratio:

The Quick ratio is auditor's more accurate guide to measure the liquidity position of the firm. The ratio establishes the relationship between quick or liquid assets and current liabilities. Liquidity of an asset can be measured by its virtue of immediate conversion into cash without the loss of value. Cash is the most liquid asset. Book debt and marketable securities are relatively liquid whereas prepaid expenses are considered relatively less liquid. So, the calculation of quick ratio include only three types of assets those are relatively more liquid. It can be found out by dividing the total of quick assets by the total of current liabilities. The quick ratio of NEA is presented in the table.

Table 4.2 Calculation of Quick Ratio (Rs. in Million)

Year	Current Assets	Prepaid Expenses	Inventory	Quick Assets	Current Liabilities	Quick Ratio
1999	5692.2	1709.6	914.9	3067.7	4005	0.77
2000	5053.2	1634.2	740	2679	4786.3	0.56
2001	5761.1	1932	982.3	2846.8	5477.2	0.52
2002	6313.6	2634.9	960.9	2717.8	6113.8	0.44
2003	7322	3314.4	1058.1	2949.5	5948.1	0.50
2004	7690.5	2216.9	1017.2	4456.4	8191.1	0.54
2005	7883.4	2063.3	1048	4772.1	10389	0.46
2006	8491.6	2098.6	1372.7	5020.3	13318	0.38
2007	8995.3	2292.9	1354.8	5347.6	15705	0.34
2008	9391.8	2489.1	1130.3	5772.4	18227	0.32
AVG	7259.5	2238.6	1057.9	3963	9216.1	0.48

Source: NEA, Balance Sheet and Income Statement of FY 2007/08

Figure 4.2 Quick Assets and Current Liabilities of NEA from 1999 to 2008

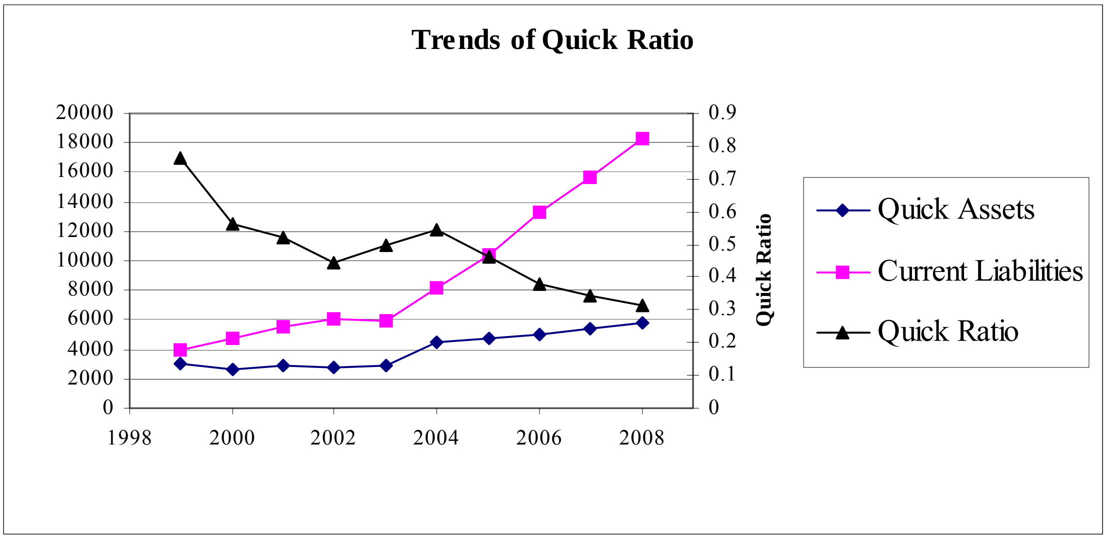


Table 4.2 shows the Quick Ratio of NEA from year 1999 to 2008. The year 1999, 2000, 2001 and 2004 are quite better than other financial years but they are less than desirable because the general rules of quick ratio being 1:1. So the quick ratio of all the years clearly indicates that NEA does not have the ability to pay immediate current debt from current assets.

Financial years from 1999 to 2008 manifest the aberration in the business process as far as quick ratio is concerned. Throughout all these years, NEA is considered unable to meet its short term obligations and can not pay immediate current debt which may lead to unfavorable circumstances to the business.

It can be observed from the table that, the quick assets have not grown at par with current assets primarily because NEA has accrued a lot of less liquid assets like inventory and prepaid expenses. As such, prepaid expenses have increased by more than 50 percent and inventory has increased by more than 25 percent.

There was not much difference between the trend of quick and current ratios. If inventories were tied up in the working capital of NEA the case would be different.

The analysis showed the comparison of these two quick ratios. The position of quick ratio was better than current ratios.

4.1.2 Turn-Over Ratio

How effectively the assets are utilized can be judged by using the turnover ratios. Here, we have conducted the study of Fixed Assets Turnover Ratio, Total Assets Turnover ratio, Debtors Turnover ratio and Average Collection Period.

I) Total Assets Turn Over Ratio

According to the table shown below, the gross revenue has increased each year. The investment on assets has increased each year as compared with the revenue generating ability. Investment on assets has varied from Rs. 46637million to Rs.83202 Million over the study period.

Total assets are the sum of fixed assets and current assets of the firm. Fixed assets have direct effect on the generation of the sales revenue. But there are also other assets that contribute to the production and sales activities of the firm. Therefore, firm must manage its assets efficiently and generate maximum sales revenue through the utilization of these assets.

Total assets turnover ratio of NEA has been computed by taking ten years data of net sales from the sale of electricity services.

Table 4.3 Calculation of Total Assets Turnover Ratio (Rs. in Million)

Year	Sales	Total Assets	TAT Ratio
1999	5082.5	46637	0.11
2000	5396.8	49230	0.11
2001	6856	56479	0.12
2002	8160.8	62561	0.13
2003	9476.2	66230	0.14
2004	11013	66347	0.17
2005	11875	68019	0.17
2006	12605	73674	0.17
2007	13332	78034	0.17
2008	14798	83202	0.18
AVG	9859.5	65041	0.15

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.3 Fixed Assets and Sales of NEA from 1999 to 2008

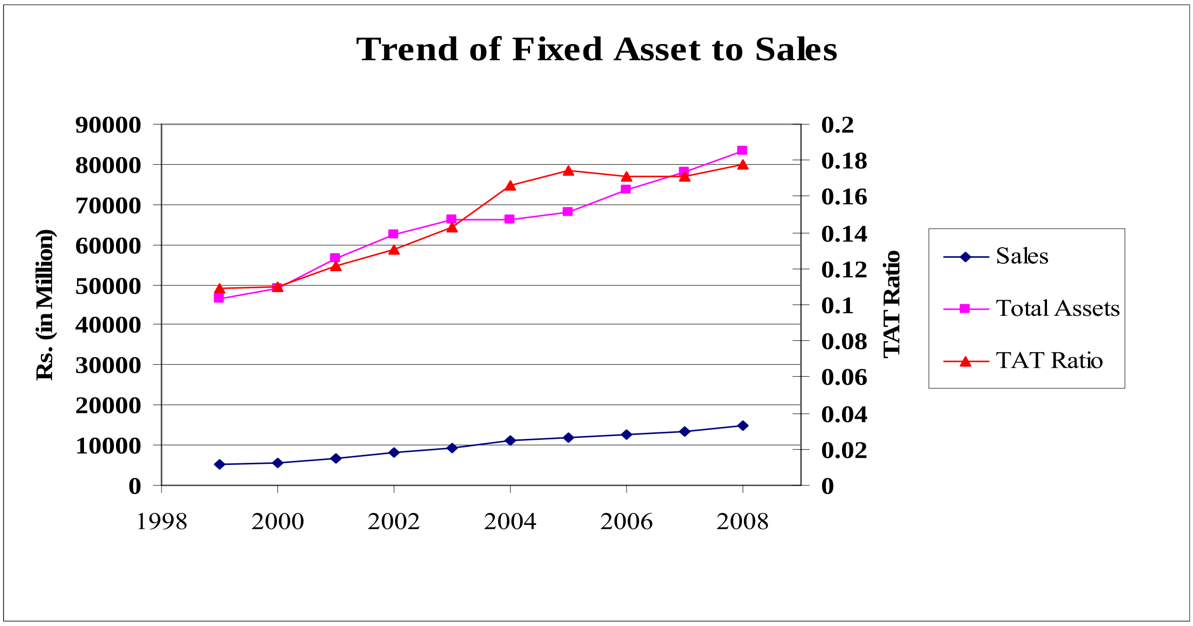


Table 4.3 shows a consistent growth in sales revenue of NEA over the years. NEA has also increased its assets base from NPR 46637 Million to 83203 Million, which is also consistent growth as far as the acquisition of assets is concerned. The assets here mean the sum of fixed assets and the current assets.

Total assets turnover ratio showed the NEA's ability of generating revenue from all the financial resources committed to the NEA. Total assets turnover ratio indicated the sales generated per rupees of investment in total assets. However, total assets turnover has not been equally consistent. NEA has earned Rs. 0.11 of sales revenue only for a rupee of investment in its total assets in the year 1999. Like wise NEA has earned only Rs. 0.18 sales for its one rupee investment in the total assets in year 2008. However, except the years 2004 to 2007, total assets turnover ratio seems to be consistently increasing. The constant ratio on those years could be because of purchase of some mega projects which are yet to be utilized at their best. In other words, the poor status of ratio showed that NEA has not effectively utilized its fixed assets. The main cause of decrease in total assets turnover ratio was in the low volume of sales in comparison to the investments made. The sales volume however seemed to be growing each year and it has almost become 2.9 times more in the year 2008 than in 1999. But the increase in total assets was 1.8 times more. So there do not exist any relationship between investment in total assets and the earning of revenue from them.

Finally, the average ratio of NEA is 0.15 which is very poor return on investment. This means, NEA has gone on acquiring assets to generate additional revenue over the years but the utilization of the existing fixed assets does not seem up to the mark. This is not considered good for any organization. It indicates that NEA has idle assets or they were not properly utilized. It is also possible that there are many old outdated assets which are not in position to provide desirable yield.

II) Fixed Assets Turnover Ratio

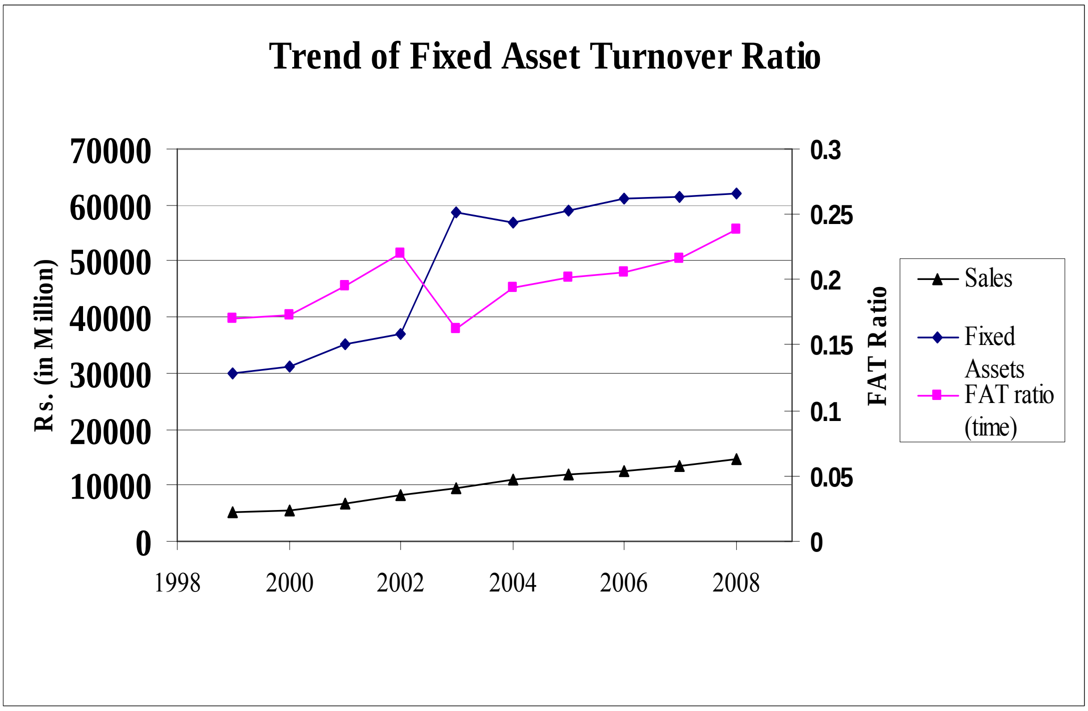
Financial position of an enterprise can not be sound if there is no effective utilization of fixed assets. To know how effectively the fixed assets are utilized in NEA, the fixed assets turn over ratio has been calculated by taking ten years revenue from sales and total fixed assets as in the following table.

Table 4.4 Calculation of Fixed Assets Turnover Ratio (Rs. in Million)

Year	Sales	Fixed Assets	FAT ratio (time)
1999	5082.5	29891.3	0.17
2000	5396.8	31222.8	0.17
2001	6856	35195.7	0.19
2002	8160.8	37103.7	0.22
2003	9476.2	58538.2	0.16
2004	11012.6	56949	0.19
2005	11874.7	58963.4	0.20
2006	12605.2	61286.8	0.21
2007	13331.9	61573	0.22
2008	14798.3	62121.3	0.24
Average	9859.5	49284.52	0.20

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.4 Sales and Fixed Assets of NEA from 1999 to 2008



Along with increase in the net sale of electricity, the fixed assets of NEA have also increased every year except in the year 2004. It has varied from Rs. 29891.3 Million to Rs. 62121.3 Million from the year 1999 to 2008. NEA has been expanding its electricity services in the different parts of the country. Out of the 75 districts, NEA has provided its service to the all districts. For this, NEA purchased additional fixed assets i.e. land and building, plant and machinery, power plant, transmission line, substation etc. Therefore the fixed assets of NEA have increased every year with new plants and additional power generation capacity.

The fixed assets turnover ratio of NEA showed poor utilization of fixed assets of NEA. A rupee investment in fixed assets was able to generate sales worth of Rs. 0.17 in 1998. The ratio is increasing by very little amount except in case of year 2003 and 2004 where it has decreased. The average ratio was 0.2. This meant that a rupee investment in fixed assets of NEA has been generating sales worth of Rs. 0.2 only. It indicated a very poor ratio and the main cause for this poor ratio is poor utilization of fixed assets by NEA or some of its assets are remaining idle without any use. Sales did not seem to have expanded along with investments in fixed assets. It has increased by 2.9 times in the year 2008, compared to 1999. One of the main causes for the low volume of electricity sales was also due to the leakage and theft over which NEA must make a good control.

In conclusion average fixed asset turnover ratio of Rs. 0.2 was not satisfactory. The fixed assets comprise almost 90 percent of total assets of NEA and these assets are supposed to provide revenue to the firm. The poor assets turnover was the cause of inefficient utilization of these assets and there has been high investment in the unproductive fixed assets like land and building. The low sale of electricity has reduced the ratio of fixed asset turnover. So NEA was not able to achieve its objectives and was unable to effectively utilize of available resources. Therefore NEA should change its working style so that the fixed assets can be used effectively.

III) Inventory Turnover Ratio

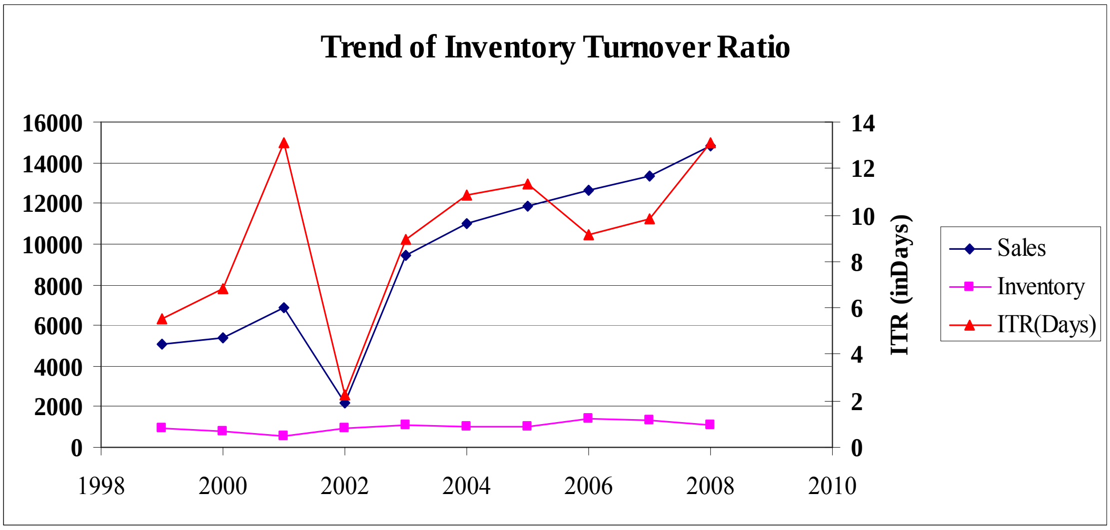
The inventory or stock turnover indicates the efficiency of the firms' inventory management. The inventory turnover ratio of NEA for the study period is presented in the table below:

Table 4.5 Calculation of Inventory Turnover Ratio (Rs. in Million)

Year	Sales	Inventory	ITR(Days)
1999	5082.5	914	5.56
2000	5396.8	788.8	6.84
2001	6856	522.77	13.11
2002	2160.8	960.9	2.25
2003	9476.2	1058.1	8.96
2004	11012.6	1017.2	10.83
2005	11874.7	1048	11.33
2006	12605.2	1372.7	9.18
2007	13331.9	1354.8	9.84
2008	14798.3	1130.3	13.09
AVERAGE	9259.5	1016.757	9.10

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.5 Sales, Inventory and ITR of NEA from 1999 to 2008



The study shows that the average inventory turnover ratio of NEA is 9.1.
It varied from the minimum 2.25 in the FY 2002 to maximum 13.11 in the year 2001. The trend as such is fluctuating. On an average, the inventory management of NEA can be considered pretty efficient. However it needs to be recorded that NEA is not an organization which needs large inventory. Thus the NEA requires only inventory of parts and components.

IV) Average Collection Period and Account Receivables Management (Debtors Turnover Ratio)

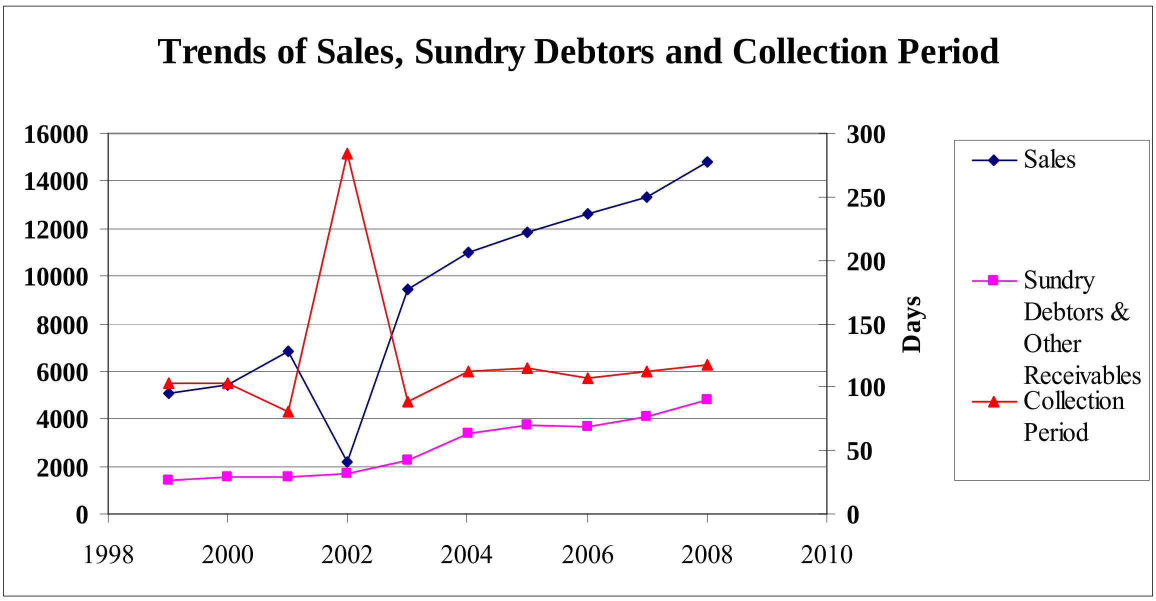
One of the major challenges to NEA is the area of receivable management. It was due to mismatch of collection and turnover. Average collection period (ACP) provides the information on the liquidity of the receivable. Short period of collection cause the higher debtor's turnover ratio. Higher duration collection period means that the wealth of business is in the hand of debtors. Debtor's turnover ratio hints the rate at which the receivables are converted into the cash.

Table 4.6 Calculation of Debtors turnovers Ratio (Rs. in Million)

YEAR	Sales	Sundry Debtors & Other Receivables	Collection Period in Days	DTR
1999	5082.5	1435.4	103.08	3.54
2000	5396.8	1530.9	103.54	3.53
2001	6856	1525.5	81.21	4.49
2002	2160.8	1678.5	283.53	1.29
2003	9476.2	2284.9	88.01	4.15
2004	11013	3380.2	112.03	3.26
2005	11875	3735.7	114.83	3.18
2006	12605	3697.7	107.07	3.41
2007	13332	4088	111.92	3.26
2008	14798	4765.7	117.55	3.11
AVERAGE	9259.5	2812.25	122.28	3.29

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4. 6 Sales, Debtors and Collection Period of NEA from 1999 to 2008



$$\text{Average Collection Period (ACP)} = \frac{\text{Explain Variation}}{\text{Total Variation}}$$

$$\text{Debtors Turnover Ratio (DTR)} = \frac{\text{Sales}}{\text{Receivables}}$$

The graph shows the collection period in days which are by and large consistent in and around 100 days except the year 2002 in which it rose up to 284 days.

Average collection period provides the information about the liquidity of the receivables. The shorter the collection period, better is the debtor's turnover ratio. Higher duration of collection period means tying the wealth of the business in the form of debtors. We can see from the table that the receivable is in increasing trend. The revenue from the sales of electricity is also in increasing trend.

Collection period is not almost consistent over the period as it is fluctuating from 81 days in the year 2001 to 283 in the year 2002. However, the average collection period is 101.9 days in 11 years. There is no any standard average collection period fixed by NEA. The reason behind the increase in A.C.P. may be the interim government and ineffectiveness in revenue collection. But after that the government issued some policies about the autonomy of NEA and issued a circular to pay the electricity bill in time for all offices. On the other hand NEA has also started different programs to improve the collection of receivables.

NEA has realized the importance of the expediting the collection period and has made some significant steps to improve the condition. It has used the discounting system for timely submission of the bills. For those who pay bills in time, it offers 3% to 4%

discount. Apart from that, it has also been using the technique of mobile team for the collection efforts.

There is adversely relationship between average collection period and debtors turnover ratio. The table and graphs also shows same condition which is mentioned above. On the basis of this, it may be concluded that lower the collection period means the NEA gets recovered its cost quickly and so the turn over will be high. It shows low turnover of receivables and longer receivable collection period. This has greatly blocked the amount required for the working capital. The amount of revenue from sales has increased higher than the increase in amount of receivable. So the debtor's collection period decreased from 283.5 days in 2002 to 117.54 in 2008.

So NEA should take collection of revenue seriously. NEA should improve the behavior and culture of the staff and it should be client oriented. On the other hand initiatives and corrective actions should be taken in revenue collection from different sectors especially dues with government agencies and institutions which seemed to be the greatest defaulter should be collected. Finally, it can be said that there is no any clear policy for debt management in NEA.

4.1.3 Profitability Position

Profitability ratios are the measure of firm's earning capacity and operation efficiency. A company must earn sufficient amount of profit to survive and sustain in the future from its operation. Without it, no firm can sustain and the future of the firm will be jeopardized. Profit is vital outcome of any company. Sales and investments are the fundamental of the calculation. Higher the profitability, better the financial position of the company and vice versa.

- **Net Profit to Sales**

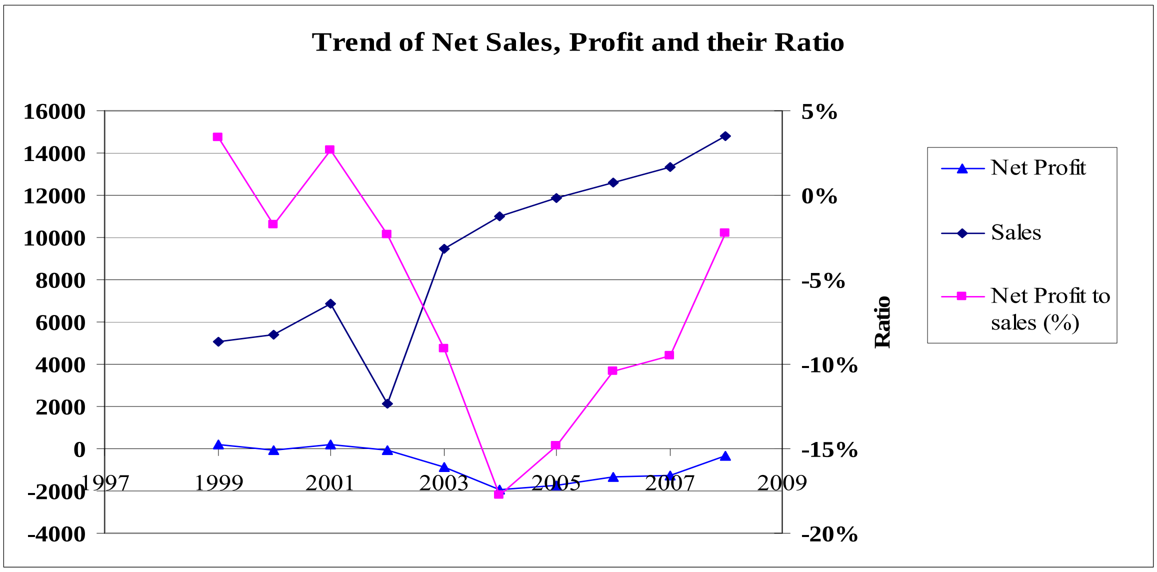
It shows the relationship between net profit and revenue from sales of electricity services. The table shows net profit, sales and the ratio of net profit to sales.

Table 4.7 Status of Net Profit on Sales position (Rs. in million)

YEAR	Net Profit	Sales	Net Profit to Sales (%)
1999	173.7	5083	3.42
2000	-96	5397	-1.78
2001	185.1	6856	2.70
2002	-51	2161	-2.36
2003	-860.7	9476	-9.08
2004	-1953.7	11013	-17.74
2005	-1760.3	11875	-14.82
2006	-1312.8	12605	-10.41
2007	-1267.8	13332	-9.51
2008	-329.6	14798	-2.23
AVERAGE	-727.31	9260	-6.18

Source: NEA, Balance Sheet and Income Statement of FY 2007/08

Figure 4.7 Net Profit and Sales of NEA from 1999 to 2008



The ratio is negative all the years, except in year FY 1999 and FY 2001 where NEA has gained profit.

Sales constitute a fundamental dynamic force in a business enterprise. Without sufficient sales of goods and services business may not be successful.

The ratio of net profit to sales shows the profitability of corporations indicating that the only increase in sales doesn't mean anything unless it commands profit. From this ratio it can also be acquired the information of the total expenses incurred in certain period of time.

According to the Table 4.7, NEA has been suffering from heavy loss particularly in the years 2003, 2004, 2005, 2006, 2007 and 2008 amounting nearly to Rs. 7500 Million.

The reasons behind these losses were heavy operating expenses, increasing burden of interest on long term loan and prior year's expenses adjustment. Depreciation, doubtful debts and deferred expenditure have also become instrument to cut off profit margin. The heavy losses in the recent past fiscal years are due to unexpected over claim by the contractor of Kali Gandaki 'A' hydropower project, Time and Cost run out of Middle Marshyangdi, dispute of payment in Bhote Khosi and various infrastructure losses due to harsh political climate.

It is really a subject to question that, NEA has incurred losses in the recent past in spite of sharp rise in its revenue. So, enhancement of revenue is not enough to earn the profit. The cost is another important variable that plays vital role in profit declaration. The costs are going high especially because of the delayed project which is really an area of paramount concern for NEA.

In this respect, the years 1999 and 2001 can be considered favorable years for NEA, as it declared 3.4 and 2.7 percent of total revenue as profit respectively. In absolute terms also, the year 1999 is the year when NEA declared the highest profit throughout the study period.

- **Return on Total Assets (ROA)**

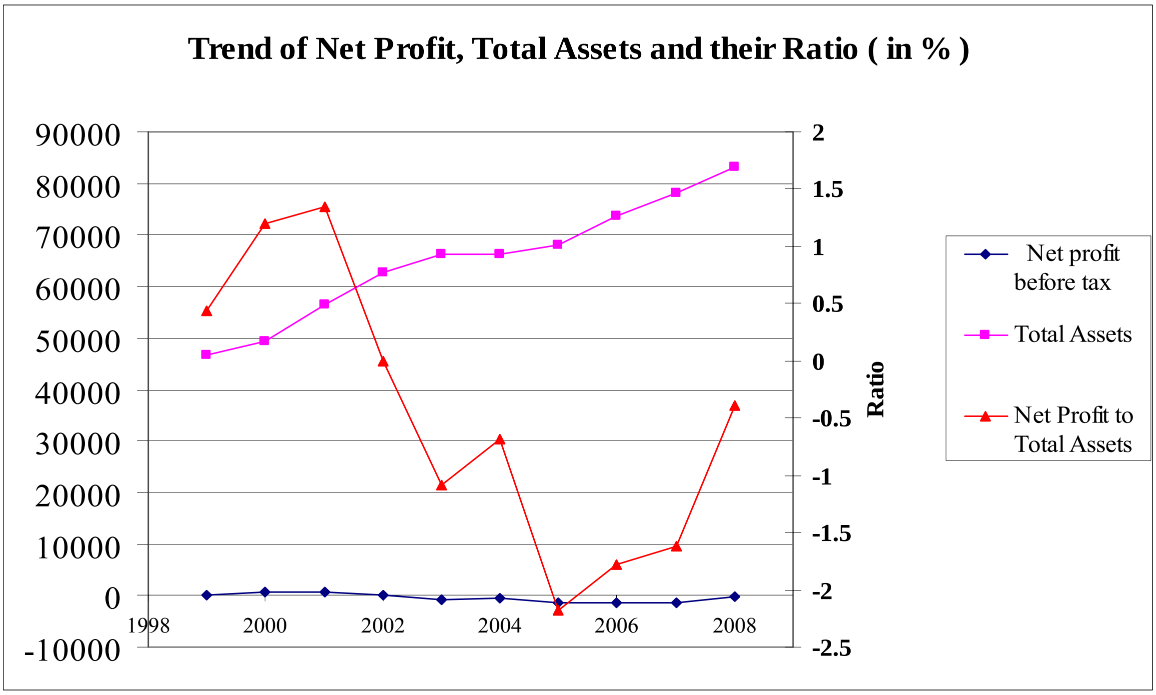
Return on total assets records the relationship between total assets and net profit. The profitability of the firm is also measured in terms of the investments. A firm makes a lot of investments on its assets, with the expectation that the assets will yield a reasonable amount of profit. The return on total assets ratio measures the profitability of all financial resources employed in the form of assets. As profit is one of the main objectives of the firm; this ratio shows the extent to which this objective is being achieved. The following table shows the return on total assets of NEA over the study period of ten years.

Table 4. 8 Calculation of Return on Total Assets (Rs. in Million)

YEAR	Net profit before tax	Total Assets	Ratio of Net Profit to Total Assets (in %)
1999	202.5	46637.2	0.43
2000	589.9	49230.4	1.20
2001	756.9	56479.3	1.34
2002	-1.9	62560.5	0.00
2003	-717.4	66229.6	-1.08
2004	-455.9	66347.2	-0.69
2005	-1486.1	68018.5	-2.19
2006	-1312.8	73674.3	-1.78
2007	-1267.8	78034.2	-1.63
2008	-329.6	83202	-0.40
AVERAGE	-402.22	65041.32	-0.62

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.8 Net Profit and Total Assets of NEA from 1999 to 2008



The table shows that the asset of NEA is growing at the rate of nearly 6% per annum on an average. The ratio of net profit to total assets is negative from the year 2003 to year 2008 because of occurrence of loss in the organization. The average return on total assets ratio in the study period is -0.61.

Conclusively, the ratio has been fluctuating. Some years it has been good but overall it can't be considered as good. The reasons behind the poor returns in the recent years are due to the excess investments made on the assets than actually needed and ineffective utilization of these assets. Hydraulic plants and machineries have been purchased in heavy amounts but they have not been utilized fully. Capital "work in process" is blocking a huge amount of profit. Due attention should be paid to use these assets effectively.

4.1.4. Debt Management Ratio

Liquidity Ratio focuses on the ability to meet current obligations. In contrast to it, Debt Management Ratio measures the ability to meet long term as well as current obligation in using long term debt. It is also called leverage or capital structure ratio. Debt management ratio measures the extent to which firm is using debt financing or financial leveraged, and degree of safety afforded to creditors.

- **Time Interest Earned Ratio**

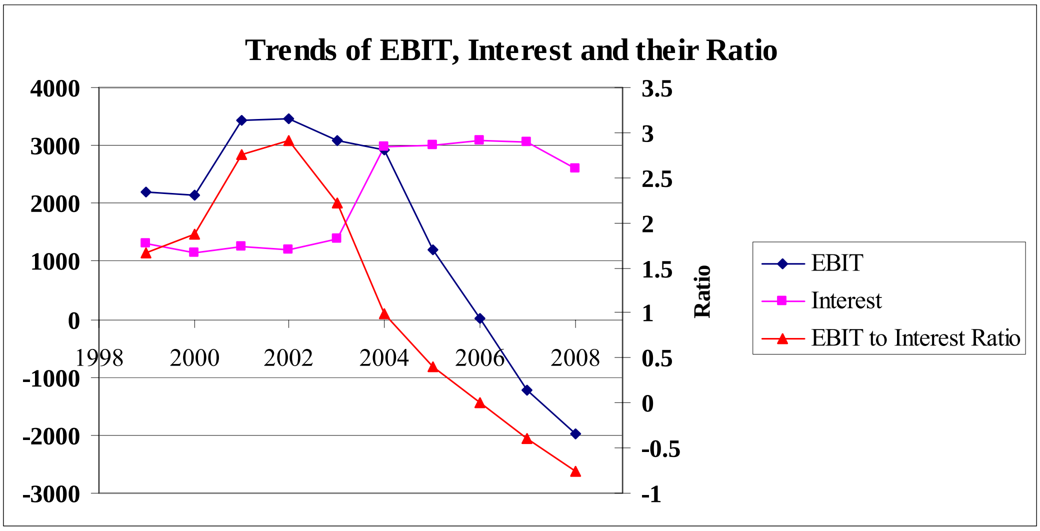
This ratio explains the ability of meeting current obligation on the basic of EBIT. So higher the time interest ratio show a greater ability of too raise the funds and vice-versa.

Table 4.9 Calculation of Time Interest Earned Ratio (Rs in Million)

Year	EBIT	Interest Charge	Ratio
1999	2195.4	1317.2	1.67
2000	2138.4	1141.2	1.87
2001	3423.7	1244.3	2.75
2002	3467.1	1188.2	2.92
2003	3094.5	1395.5	2.22
2004	2935.2	2973.4	0.99
2005	1202.3	2991.5	0.40
2006	5.3	3079.8	0.00
2007	-1228	3050.9	-0.40
2008	-1965.7	2599.7	-0.76
Average	1526.8	2098.2	0.73

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.9 EBIT and Interest of NEA from 1999 to 2008



In the above table 4.9, time interest earned ratio is calculated. In the above calculation TIE ratio is highest in the year 2002, which is 2.92. After 2002 TIE ratio has decreased gradually every year. This means that NEA is not able to earn EBIT required to meet its interest charge obligation. NEA's average TIE ratio (interest playing ability) is 0.73, which is very weak and suggests that in an average NEA is not able to pays its annual fixed charge obligation on its loan. It is using debt more that its capacity.

- **Long Term Debt and Total Capitalization**

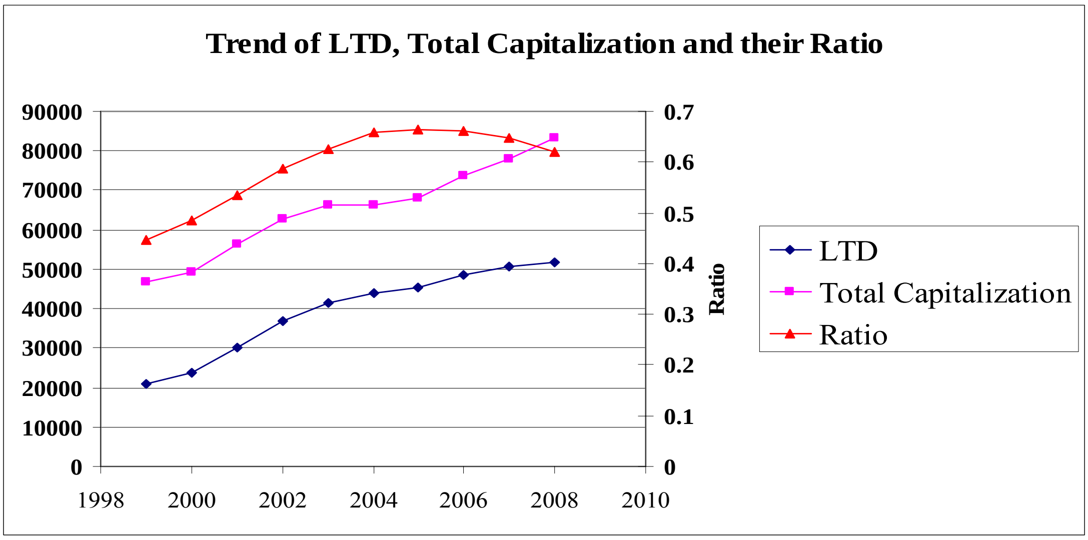
It measures the weight or proportions of debt capital in capital structure. Therefore, a firm can adjust its capital structure to results in a minimum weighted average cost of capital (WACC).

Table 4.10 Calculation of LTD and Total Capitalization Ratio (Rs. in Million)

Year	LTD	Total Capitalization	Ratio
1999	20848.4	46637.2	0.45
2000	23824.3	49230.4	0.48
2001	30155.7	56479.3	0.53
2002	36707.5	62560.5	0.59
2003	41474.5	66229.6	0.63
2004	43786	66347.2	0.66
2005	45252	68018.5	0.67
2006	48686.4	73674.3	0.66
2007	50636.8	78034.2	0.65
2008	51672.7	83202	0.62
Average	34137.2	56721.12	0.60

Source: NEA, Balance Sheet & Income Statement of FY 2007/08.

Figure 4.10 LTD and Total Capitalization of NEA from 1999 to 2008



In the above calculation, percentage of debt in the capital structure is called for NEA over the 10-year period starting from 1999 to 2008. Percentage of debt is in increasing trend. Higher ratio is favorable for the company only if it can save that volume of debt. The proportion of debt is small at initial period of the study and it gradually increased during the study period. If this ratio compared with TIE ratio it is easily visible that NEA is not able to meet its annual interest obligation when the proportion debt on its capital structure has reached at a level of 62% in 2008. Though this percentage debt may not be high but this must be justified by interest paying capital of this firm.

- **Total Debt to Total Assets Ratio**

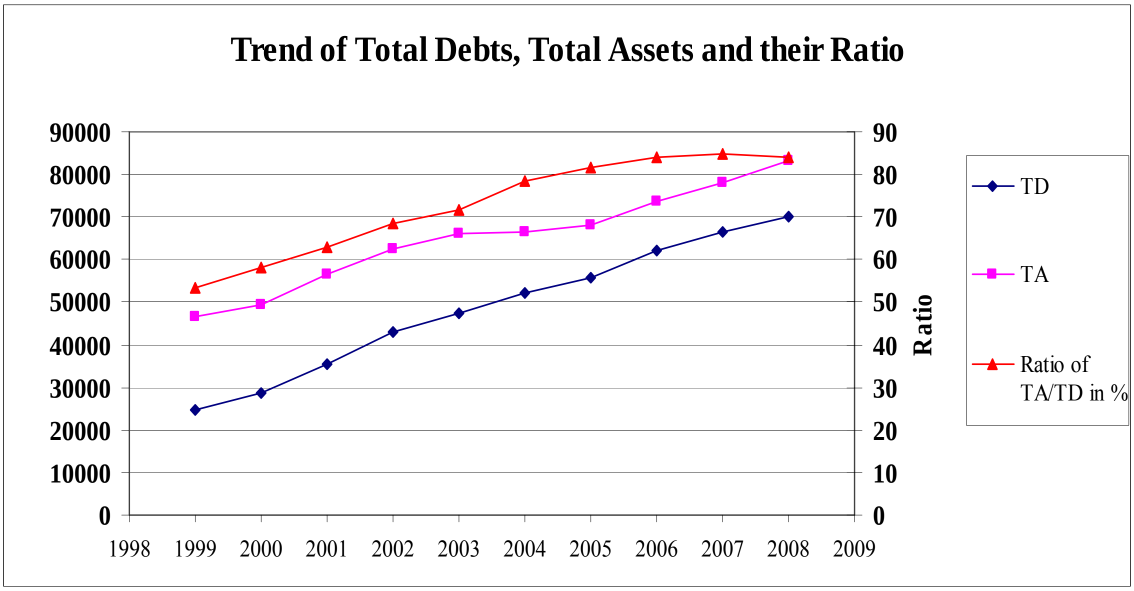
An approach to calculate the debt to capital ratio is to relate the total debt to the total assets of the firm. The total debt of the firm comprises long-term debt plus current liabilities. The total assets consist of permanent capital plus current liabilities. The total debt to total assets can be calculated by using following a formula. The higher ratio indicates that the creditors claim in the total assets of the company is higher than the owner's claims.

Table 4.11 Calculation of Total Debt Assets Ratio (Rs in million)

Year	TD	TA	Ratio in %
1999	24853.4	46637.2	53.29
2000	28610.8	49230.4	58.12
2001	35633.1	56479.3	63.09
2002	42821.2	62560.5	68.45
2003	47422.6	66229.6	71.60
2004	51984.1	66347.2	78.35
2005	55641.2	68018.5	81.80
2006	62003.9	73674.3	84.16
2007	66342.1	78034.2	85.02
2008	69899.8	83202	84.01
Average	48521.22	65041.32	74.60

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.11 Total Debts and Total Assets of NEA from 1999 to 2008



The ratio shows the contribution of total debt on fixed assets. The debtors risk is low when the ratio is low and vice versa. But from the organization point of view the high is preferable as more risk yields to more gain. Here the debt ratio in all fiscal year is more than 53%. In the year 1999 it is at a minimum level of 53 percent. It has continuously increased and reached to 85% percent in 2007. It indicates that NEA is taking high risk. We can say that the result of TDR is not satisfactory. Debt ratio is moving upward from 53% to 85% in the years 1999 to 2007. But in the year 2008, it has decreased insignificantly; just by 1%. It can be concluded that NEA is under high risk.

4.2 Trend Analysis

Here, we are using the technique to forecast the future trend of *sales revenue* and *operational expenses* of NEA. The trend forecast will be based on the past data of study period.

Trend Analysis for Sales Revenue

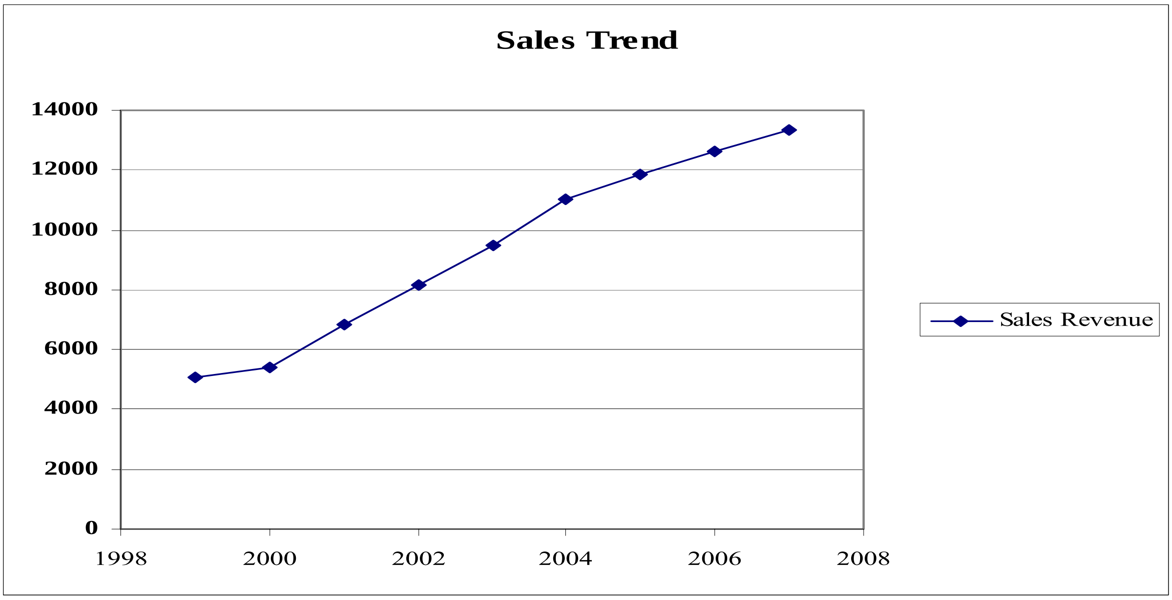
To forecast the trend of sales revenue of NEA we have chosen two variables. One of them is time and the other is the sales revenue. So, we have taken the data of sales revenue over our study period.

Table 4.12 Trend Analysis for Sales Revenue (Rs. in Million)

YEAR(X)	Sales Revenue(Y)	X=X-2002	X^2	XY
1999	5082.5	-4	16	-20330
2000	5396.8	-3	9	-16190.4
2001	6856	-2	4	-13712
2002	8160.8	-1	1	-8160.8
2003	9476.2	0	0	0
2004	11012.6	1	1	11012.6
2005	11874.7	2	4	23749.4
2006	12605.2	3	9	37815.6
2007	13331.9	4	16	53327.6
N=10	∑Y=83796.7	∑X=0	$\sum X^2=60$	∑XY=67512

Source: NEA, Balance Sheet & Income Statement of FY 2007/08

Figure 4.12 Sales Revenue of NEA from 1999 to 2007



Here, the total number of variables,

(n)=9

Summation of Revenue over the period

$\sum Y=83796.7$

$\sum X$ (where x=X-2002) =0

$\sum X^2=60$

$\sum xy=67512$

Let the straight line trend be, y=a + bx…………………(1)

Since,

$\sum x=0$, so, $a=\sum y/n=83796.7/9=9310.74$

$b=\sum xy/\sum x^2=67512/60=11252$

Substituting the value of a and b in (i), the equation of the trend line is

Y=a+bx

Y=9310.74 +11252x

For the Trend values:

For the year 2007, x=4, Hence y= 9310.74+11252 x 4=54318.74

For the year 2010, x= 8, Hence y= 9310.74+11252x8 =99326.74

Hence using Trend Analysis, the sales forecast for year 2010 is 99326.74 Million.

4.3 Major Findings of the Study

The financial performance of NEA according to the analysis seems to be more deteriorating regarding to working capital analysis. The basic problems can be found as following:

- The current assets have not been used in the profitable manner. The excess utilization of the current assets has increased the opportunity loss.
- NEA is not utilizing the total assets in the productive areas due to the destruction from political unrest. The big amount of property loss has been incurred in the past four to five years and it has affected the profitability of NEA.
- The expenses incurred in NEA is also shooting boom. Therefore it is not only influencing the profitability of NEA but also influencing to different turnover ratios.
- Capital employed according to profitability does not seem to be reasonable as there is negative relationship between these variables.
- Long terms as well as short term debt utilization are also seen more irrational in the sense that their turnover ratio is not satisfactory.
- Account receivable and average collection period are found to be increasing within the study period. It is also upgrading the condition of cash shortage.
- NEA has no sufficient cash surplus to pay for expenditure. It had to borrow loan to meet minimum cash balance and we can say that it is the result of poor cash plan. And for that, it is paying a huge amount of interest every year and the trend is of adding on it rather than of paying back.
- NEA has not maintained its periodic performance report systematically.
- Because of all those facts mentioned above, it is suffering from continuous loss.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Nepal electricity authority is a leading and sole corporation in power sector in Nepal. It was incorporated on 7 Kartik 2041 B.S under the Nepal electricity Act 2041 in order to make effective, independent and economical production, transmission and distribution of electricity and to manage properly the electricity supply. The history of NEA is already reflected in the previous chapters.

Analysis of financial position and statement is a crucial part of financial decision making process of a business enterprise. Poor financial management affected adversely on liquidity turnover and profitability. It is required to measure the financial position of the enterprise periodically in order to ensure smooth functioning of the enterprises. The financial analysis has been carried out in the earlier chapters using various financial tools

The liquidity position of NEA is not seriously alarming though the trend suggests that there needs some more attention in this direction.

Throughout the study period, the current assets have remained more or at least equal to the current liabilities which further evidences that NEA at any point of time has been good enough to oblige its current liabilities. The quick ratio, which is even more stringent measurement of the liquidity, also suggests that NEA is by and large able to live its liquidity obligations.

The assets turnover ratio shows that how best the assets have been utilized. Given that assets, if their turnover is higher, then the utilization is better and if the turnover is lower, then the utilization is poorer.

It is seen that there is huge amount of excess revenue, and ideally NEA can run additional projects even without much addition of the capital. So, there is under utilization of the existing assets.

NEA has invested huge amounts to purchase the fixed assets; nevertheless, the revenue generating ability was not commensurate to the investment.

The average collection period is increasing which also is an alarming situation for NEA.

From the above analysis of net profit to sales position, it can be known that NEA has achieved poor results and in most of the years losses were recorded from operation. It has not been able to pay interest charges on long term debts from its operation and EBIT was also unsatisfactory because the inefficient utilization of fixed assets resulted in low profitability position threatening the existence of NEA in long run.

5.2 Conclusion

Based on the major findings, we found that there are various problems in NEA. These problems differentiate their importance. Some of the problems were affecting to a grater extent and the others were not as savior. Those problems which are felt to affect more in the progress of NEA are basically dealt in the conclusion.

The major issues can be pointed out as follows:

- There is no effective utilization of assets in NEA.
- NEA has been seriously facing the problem of outstanding debt collection. The account receivable of NEA is high so the average collection period is also high in each fiscal year.

- The capacity of assets in generating the revenue is not satisfactory and the revenue generated is very low in comparison to the investment made in assets of NEA.
- Increasing operating cost in each fiscal year is another issue in NEA. It has not adopted the cost control tools and techniques.
- NEA is not able to fulfill the requirements of funds from the successful operation of the corporation's activities. It has been taking considerable amount of loan to fulfill the requirements of the funds.
- Electricity leakage, theft and wastage have been the major reasons reducing the profit earning capacity of NEA.
- High maintenance expenditures as shown in P & L Accounts have been instrumental in deteriorating profitability of NEA.
- The feasibility study and the negotiation with the contractors in some of the projects have been poor.
- Electricity as such is public goods. So, the government cannot withdraw from this sector all of sudden and deprive many rural people from electricity to seek the profitability. However, of late, some of the private sector companies have entered the sector and have done pretty well too. An example is Butwal Power Company. So, we can't totally obviate the possibility of gradual private participation in NEA.

5.3 Recommendations

Based on the study of NEA and the problems observed in NEA some of the recommendations have been suggested to improve the financial position of NEA.

1. Improve the Liquidity Position

The corporation's liquidity position as such is satisfactory. However, it is important for this corporation to behave like some professional private firms and make best use of the liquid funds to maximize the return of the organization.

A proper assessment should be carried out to find out how much fund is required immediately and how much to be reinvested for the higher returns in the marketable securities. It is observed that there is some inconsistency between the current assets and current liabilities of the company. Hence the company should adapt efficient working capital policy to make the stability in liquidity position and optimum level of current assets. Current assets and current liability for the coming years can be predicted by analyzing the past data and future targets.

2. Management of Operating as well as Non–Operating Expenses

To increase the net profit of NEA, the operating as well as the non operating expenses should be reduced. NEA has been incurring some unnecessary and wasteful expenses. There is possibility to bring down these wasteful expenses. So, the management and staff of NEA have to be more careful in cost factors.

The unproductive expenses which should be controlled by the management of NEA are bad debts written off, repair and maintenance expenses, fees and unnecessary management expenses etc. So, NEA should launch a long term program to cut down costs and reduce wastage. Hence, the measures and techniques such as performance standard budgetary cost controlling, standard costing etc. are suggested to be followed which will perhaps improve cost control effectively.

3. Development of Efficient System of Revenue Collection

NEA has a large number of customers ranging form domestic, industrial to government and public sector undertakings. While serving to such large customers

NEA requires an efficient system of revenue collection so that the revenue does not get tied up in bills and receivables. The bill receivable is unproductive and poses implications in reduction in the volume of the profit.

4. Management of Quick Assets

The management of Quick Assets of NEA has been observed as a problematic area. Both the inventory management as well as the management of prepaid expenses is not efficient. Prepaid expenses have grown more than 10 times and even inventory has shown a significant growth whereas the sales revenue has not grown in the same rate. So, NEA has to put an especial emphasis in these areas.

5. Selection of the Project

NEA has to be very careful in selection of the projects. Of late, the projects selected have proved very expensive. There are some other feasible projects of small and middle scale which require minimal engineering constructions by virtue of its natural framework. Such projects would naturally be less expensive. So the projects should be prioritized on the basis of their prospective costs and the projects with lower cost should be completed first.

6. Public Private Participation

NEA is a PSU (Public Sector Undertakings). Most of the PSUs in Nepal are not performing well and the government has come up with the policy of privatizing PSUs. However, electricity being the public goods, the organization can not be privatized at present. Nevertheless, the government should encourage more private companies to work independently or jointly with NEA in the hydropower sector. There have been evidences of successful completion by the private sectors in the past. The 7.5 MW Indrawati III was done by private companies and almost 21% of total electricity generation of Nepal is done by private parties. This process should be encouraged and more contribution should be sought from the private companies in the area of generation of electricity.

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