Chapter I

Introduction

1.1 Introduction of Profit Planning and Control.

"Profit planning and control is an important approach, mainly in profit oriented enterprises. Profit planning is merely a tool of management. It is not an end of management or substitute of management. It facilitates the managers to accomplish managerial goals in a systematic way."[1]

The management is efficient if it is able to accomplish the objective of the enterprises. It is effective, when it accomplishes the objectives with minimum efforts and costs. In order to attain long- range efficiency and effectiveness, management must chart out its course of action in advance, A systematic approach that facilitate effective management performance is profit planning and control profit planning and control therefore an integral part of management. A profit is an ultimate goal of every business house. They involve in business for making profit. Profit cannot be achieved easily. It should be manage well with better managerial skills. So, profit is the planned and controlled output of management. By element, profit is the difference of revenue and cost. Profit plan, thus, refers to the planning of revenue and planning of cost.

Comprehensive profit planning and control is a new term in the literature of business. Though, it is a new term but not a new concept in management. The other terms which can be used in same context are comprehensive budgeting, managerial budgeting and simply budgeting. The profit planning.

1.Goet. Joginder, Bhattrai Ishwor and Gautam Akshay " Budgeting: Profit planning and control" third revised edition, 2063, page 1.1

and control can be defined as process of management that enhances the efficiency of management

Some definitions given by various scholars are:

i) "Comprehensive profit planning and control is systematic and formaliszed approaches for accomplishing the planning, co-ordination and control responsibilities of management."[2] Glenn A. Welsch

ii) " The concept of a comprehensive budget lovers its use in planning, organizing an controlling all the financial and operating activities of the firm in the forth coming period" [3]R.M Lynch and R.W Williamson

iii) "A profit plan is the formal expression of the enterprises plans and objectives stated in financial terms for a specified future period of time"[4] I.M Pandey.

1.2 Role of profit planning and control (PPC)

An effective PPC is vital to the success and survival of business firm. Without a fully coordinated budgeting PPC, management cannot know the direction the business is taking out. Organizations that do not plan an likely to wonder aimlessly and ultimately succumb to the swirl of current events others benefits of PPC are!

i) Basic policies developed as the pre-requisites of PPC show direction to the business.

2. Glenn A. Welsch: Profit Planning and control. Fifth edition 1998: page 1

3. Pandey, I.M, " Management Accounting, A planning and control approaches: 1996: page 307

4. Richard M. Lynch and R.W Williamson " Accounting for Management" 1984: page 99

ii) it provides definite goals and objectives that serves as benchmarks for evaluating subsequent performance.
iii) Managers at different levels have to participate in the development of the profit plan. This provides an excellent training ground for the managers to know the process of planning in debt.
iv) Profit planning and control co-ordinates the activities of the entire organization by integrating the plans and objectives of the various parts. By doing so, it ensures that the plans and objectives of those parts are consistent with broad goals of the entire organization.
v) It uncovers subsequent bottle rock before they occur.
vi) it pinpoints efficiency and inefficiency.
vii) It compels managements to plan for the most economical use of labor, materials and capital.
viii) It reduces costs by increasing the span of central because fewer supervisors are needed.
ix) It Aid in obtaining bank credit, banks commonly requires a projection of future obtaining and cash flows to support large loans.
x) it rewards high performance and seeks to correct unfavorable performance.

1.3 Limitation of profit planning and control (PPC)

Profit planning and control is an important tool for management. However, each tool suffers some limitation and its use is fruitful within these limits. Profit planning and control is also not a limitless tool. So it is essential that the user of PPC must be having a fully knowledge of its limitations. The limitations of PPC are as under.

i) Based on estimates:- PPC is not an exact science. Its sources depend upon precision of estimates. The success of PPC depends to a large degree on the accuracy with which the basic estimate will be made. Therefore, estimates should be made on the basis if all the facts available. Using correct and modified statistical techniques and management can make the accurate estimates.

ii) Danger of rigidity: - Profit planning and control is an estimation and quantitative expression of all relevant data. So, there can be the tendency to attach some sort of rigidity or finality to them. However, rigidness makes PPC useless. For usefulness, the PPC must be flexible.

iii) Application for long period:- The installation of complete PPC is not possible in a short period. It should be continuously used in the business and should be revised and modified with the changed situation in the business.

iv) Execution in not automatic:- A skillfully prepared PPC will not itself improve the management of an enterprise, unless it is properly implemented for the success of PPC, it is essential that all the related persons inside the enterprise should understand it. It is mostly required thus each executive must feel the responsibility and should make efforts to attain the budgeted goals. Departmental leader should seriously think that it is their individual responsibility to fulfill target set up in their departmental budget. The success of PPC totally depends upon the efficient management and administration.

v) Not a substitute for management:- PPC is a management tool. It is not a substitute for the management. It is totally wrong to think that the introduction of PPC is alone sufficient to ensure success and to guarantee future profit. It is only for achieving the end

vi) Costly affairs:- the installation of a PPC system is an elaborated process involving to much time and cost. Normally it is so costly that small column can not afford to it. Even for a large concern, it is suggested that there should some correlation between the cost of operating and benefit derived from it. The system should be adapted only when benefit exceeds the costs.

vii) Proper evaluation:- for finding out the inefficiencies, proper evaluation should be made. In the absence of proper evaluation. PPC will ride inefficiencies. So, there should be continuous evaluation of the actual performances, standards also should be re-examined regularly.

viii) Lower moral and productivity: On realistic target should be not set and used as a pressure tactic. By doing it PPC will lower moral and productivity. To some extent, PPC may be used as pressure device but its extent must be carefully determined.

1.4 Public Enterprises in Nepal

1.4.1 Meaning of Public Enterprises

"Public enterprises are also known as autonomous sectors which are managed and controlled by the Government public Enterprises Services to the people and nation by providing the goods. The 51 percent or more than 51 percent of share must be hold by the government of public enterprises. The main objective of the public enterprises is to prepare the necessary goods and services. Provide the goods and services to the people, controlling the price, create opportunities of employment. It also helps to increase the government revenue. In fact, it plays the key role for the development of nation as whole, public enterprises play a major role in achieving the objectives of social and economic development. The role of public enterprises is stimulating and augmenting the pace of economic growth in developing countries"[5]

According to Laxmin Narayan "Public enterprises are autonomous bodies which are owned a managed by the government and which provide goods and services for a price. The ownership with the government should be 51 percent or more to make an entity public enterprise. According to U.N "Public enterprises are those organizations which are entirely controlled by the public authorities consisting of establishment which are virtue of their activities, technology and mode of operation are classified as industries."[6]

1.4.2 Roles of public enterprises in developing country like Nepal

There is very hard for rapid and sound economic development in such a country, because sufficient capital, adequate infrastructure as well as

5. Regmi, Govinda PrasadM 1994: page 2

6. Laxmi Narayan: Fourth edition: page 42

appropriate technology have not been available. Since now public enterprises in Nepal constitute a vital instrument for the soubeconomic development of the country with different goals and objectives. There is an important role of public enterprises in Nepal. In Nepal most of public enterprises were established with the help of foreign countries. There is no long history of public enterprises in Nepal. The first public enterprise is Biratnagar Jute mill. Which was established in 1992 B.S.The first commercial bank named Nepal Bank Ltd is the first public deposit enterprise.

Here, Nepal is the mixed economic status country where the public and private enterprises freely operate in the business environment. There is coexistence of both the public and the private sectors in Nepal for the overall development of the country. Industrial development of Nepal is still in crawling stage. Public enterprises create industrial base in the country in the country to provide better goods and services to the people to create employment opportunities, to mobilize the domestic resources in the best productive uses and to fulfill the government plans and objectives. Public enterprises help to enhance the standard of living, regional balance of development and to generate the government's revenue and also save foreign currency by reduction import.

1.4.3 Profitability in public enterprises (PES)

Profit can be defined with the different meaning. Actually profit is the difference between the cost and revenue. The most acceptable profit is that profit which is after depreciation, tax and interest amount. Generally, enterprises efficient which have a good profitability base of its own goods market standing. According to the B.P. Mathur "It is well accepted principles that public enterprises should be run and business principle generate commercial profit which is an accepted accounting practice where by performance results are gauged interm of net disposable profit after taxes and cost including the provision or depreciation." [8]

Profit impact on the moral of the commercial PES, Therefore profit is an all embracing index accepted by PES. In modern concept of economic liberalization public enterprises should play their dual roles which are: - for supporting government's policies and programs and another for their own survivability and growth.

1.5 Overview and Background of Electricity Development in Nepal.[9]

Nepal Electricity Corporation was established on August 16, 1962 under Nepal Electricity Corporation Act, 1962 to generate and distribute electricity in secured, efficient, economic and orderly manner in Bagmati zone and Bhimfedi town in Makwanpur to fulfill the second three year plan. In 1973, the government increased NEC's responsibility to supply power in Narayani Zone. Moreover the electricity supply system of the complete central and western development region were transferred to NEC on 12th February 1978. Before the bijuli Addas, which is under the ministry of water and power used to distribute the electricity in kathmandu valley. Bijuli Adda held monopoly system in term of electricity till 1962. Nepal Electricity Authority (NEA) was established by the government by using the electricity act 2041. NEA is concerned with generation and supply of electricity securely, efficiently, and economically for the overall development of the country. Government appoints the eight members in board of directors to organize the authority.
The first hydro electricity center was established in Farping. The production capacity of the center was 500 kw with two units each having 250 kw

8. Mathur B.P. "Public Enterprise Management" 1st edition: 1984, page 161

9. NEA, Fy: 2009: page 13

capacity inaugurated in 1968. Then another hydroelectricity center was established in 1991 B.S. whose name is Sundarijal Hydroelectricity Center. The third electricity center was established in Lamtang, Morang with the aim of providing electricity for Biratnager area. In order to meet the increasing demand of electricity, several hydro and diesel electricity centers were established after 2013 B.S. The major projects which play an important role for the overall development are Trisuli (21000 kw) , Gandakir (15000 kw), Kulekhani (32 kw), Marshyandi (69000 kw), Biratnagar Multifuel Power Plant (26000 kw) and Hetauda Diesel Plant (1000 kw).

Nepal Electricity Authority Act 2042 was brought forward and put into effect from 1st Bhadra 2042. According to new NEA Act 2041, all former divisions and committes concerning electricity production and supply were amalgamated into Nepal Electricity Authority to unify and regulate the development effort and supply of electricity. Later on, Marsyandi electricity center was also handed over the NEA after the completion of its construction work. More specially, the objective for establishing Nepal electricity Authority can be traces as follows:-

i) To utilization and development the huge amount of water resources of Nepal in a more coordinated ways.
ii) To establish single organization that would work in all sector of electricity planning survey, production, operation, maintenance and distribution of electricity.
iii) To provide equal and extensive skill development opportunities for all employees working in the field of electricity.
iv) to overcome the duplication of working being practiced formerly by expensive several electricity agencies

Therefore NEA was funded as an independent corporation owned entirely by the government.

1.6 Objectives of NEA[10]

The objectives of NEA are to manage electricity supply by way of effective generation and distribution. The reliable objectives of NEA are:

i) To supply electricity by way of proper generation, transmission and distribution under the prevailing law.

ii) To develop and implement the program for the production, transmission and distribution of electricity supply.

iii) For the convenience of the people and industry, Feasible project in economically area is developed to insure the supply by the generation, transmission and distribution of electricity.

1.7 Functions and Duties of NEA[11]

The functions and duties of NEA are:-

i) To recommend government to determine the long term and short term policy related to the supply of electricity.

ii) To supply electricity by generating transmitting and distributing electricity persuade to the prevailing law.

iii) To prepare a plan for the production transmission and distribution system of electricity and other relater works and to preserve and promote the generation center, substation, distribution center transmission and distribution lines and other related facilities which are necessary for the execution of plan

10. NEA first Act 2049: page 8

11. NEA ACT 2049: page 13

iv) To mange the production, transmission and distribution of electricity of adequate standard in the regions which are economic appropriate for the industrial and agricultural development and facility of the people

v) To determine the fee and other service charges related to the electricity

vi) To do necessary research work related to generation, distribution and transmission of electricity

vii) To manage for training in order to prepare the expert manpower related to generation, transmission and distribution of electricity.

1.8 Rights of NEA[12]

As per NEA act, the rights of NEA are:

i) To collect the loan from national institution, bank or individuals.

ii) To collect the loan from foreign government institutions and agencies.

iii) To collect fees of electricity and services charges from the customers.

iv) To sale and buy electricity form foreign countries.

v) To invest the capital in the new projects.

vi) To check the authorities consumption of electricity applied by the authority.

vii) To buy electricity produced by private sector.

viii) To do all work which seem to be inevitable and necessary.

1.9 Organizational structure of NEA

The profit planning system depends upon the sound organizational structure of the enterprises and clears cut lines of authority and responsibility. The

12. NEA Act 2049: page 17

purpose of organizational structure and assignment of authority is to establish a framework within with enterprises objectives may be attained in coordinated and effective way. The scope of interrelationship of the responsibilities of each individual manager is specified. Organizational responsibilities can be classified in four center, they are cost, revenue, profit and investment center.

In NEA there are eight members of board of directors which are:

Chairman:	A minister of power.
Member:	Secretary, Ministry of Finance
Member:	Secretary, Ministry of power.
Member:	Two prominent persons from the commerce and Industry sector.
Member:	Two prominent persons from the power sector.
Secretary:	Managing Director from NEA

The corporate structure of NEA has been shown in charts.

1.10 Statement of the Problem

Most of the public enterprises of Nepal suffer from poor performance and are running in loss because of its poor managerial skill as well as the negligence of government. And most of the organization don’t’ follow the profit planning system. As a result, the organization can never achieved their goals and objectives.

This study provides some information to analyze and evaluate the data which help to fulfill the gap between the literature exploring to attain public utility enterprises specially NEA to apply the comprehensive profit planning system and provides the management of NEA, the necessary theoretical as well as contemporary situational appropriate decision in this regard. Therefore this study is an important to NEA, to the scholars, to the policy maker and other concerned persons.

1.11 Objectives of the Study

The main objectives of this study are to evaluate the profit planning of Nepal Electricity Authority and its effectiveness. Therefore, specific objectives are:

i) To analyze the various functional budget prepared by NEA.
ii) To evaluate the present planning system adopted by NEA.
iii) To evaluate the variance between target and achievement in different responsibility center of NEA.
iv) To find out the problem in implementing profit planning in NEA.
v) To suggest for the improvement of managerial as well as functional work.

1.12 Limitations of the Study.

There is limitation of every research study. Likewise, this study can not away from limitations. The study is confined only to profit planning and budgeting in NEA. So, the limitations of this study are:

i) The study covers only five years fiscal year form 2004/05 to 2008/09

ii) The study is only related in some managerial, financial and accounting aspects and it has not related with other areas of NEA.

iii) Secondary data are used in this study. This data are collected from NEA's library.

iv) The accuracy of this study is based upon the data available from NEA and the various published documents of NEA.

v) This study is neither comprehensive nor extensive due to the lack of sufficient data.

1.13 Organization of the Study:

In general, the research work is divided into following chapters.

Chapter- I

Introduction

This chapter includes the definition of profit planning of public enterprises, role of public enterprises in developing country, profitability in public enterprises introduction to NEA. It lay an emphasis on the statement of problem, important of study, objectives, limitation, focus and plan.

Chapter- II

Conceptual framework

This chapter focuses on the fundamental concept and component of profit planning and control. It also deals with various functional budgets and development of profit plan through these budgets are finally with the control process of profit plan.

Chapter- III

Review of literature

This chapter reviews some work with finding and recommendation of previous research work specially made in respect of Nepal Electricity Authority related to profit planning and control.

Chapter- IV

Research methodology

This chapter deals with research design period covered, types and sources of data collection procedure & method of analysing and tools used.

Chapter-V

Data presentation and Analysis

In this chapter, collected data will be presented, evaluate, analised by using suitable tables, diagrams, graphs, statistical and accounting tools. In statistical tools there are: mean, standard deviation, correlation, regression, trend line etc. In Accounting tools there are: ratio analysis, C.V.P, Variance analysis, percentage, flexible budget etc.

Chapter-VI

Summary, conclusion and recommendation

In this chapter, summary, conclusion and recommendation will be included. In addition to this, bibliography and appendices are also attached here with at the end of the thesis.

Chapter II

Conceptual frame work.

2.1 General concept of profit planning

Profit:- Generally, profit is the amount of money which is available after paying the costs of producing and selling the goods and services. but the different economists and scholars have the different opinion in term of profit usually profit does not happen itself, profit is managed when management makes plans is known as profit planning. Profit planning is the part of overall process of organizations. Usually, profit does not just happen, profit is managed when management makes plans, it is known as profit planning. [13]

Some statement about profit by economists are chalk out as, Schumpeter opines that an enterprises earn profit as reward for introducing innovation. J. M .Keynes holds the view that profit results form the favorable movement of general prices levels. In the view of Mrs. Joan Robinson and chamberlain the greater the degree of monopoly power the greater will be the profit made by the entrepreneur. Similarly "profit is the reward for risk locking in business."[14]

The accounting concept of company profit is a concept of net business income. Profit is thus, the surplus income that remains after paying expenses and providing for that part of capital that has been consumed in producing revenue. It is the ultimate objectives of management to maximize profit over the long term consistent with its social responsibility. A business from is organized mainly with a motive of making profit and it is the primary measure of business success. Profit is the ultimate yardsticks of

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13. Richard M. Lynch and Robert W. Willanson: "Accounting for Management" 3rd edition 1992: page 99
14. Shyam, Joshi: "Managerial Economic" 1993: page 170

management's net in the interest of the consumer. Social criteria of business performance productions, rate of progress and behavior of prices. "Profit is a signal for allocation of resources and a yardstick for judging managerial efficiency"[15]. In fact earning is the primary objective of a business.

2.2 Planning

The meaning of planning is the decision about how to do something in the future planning opens the expenses for action. It is the method of thinking of work.

According to Roy-A Gentles, "The planning process, both short and long term, is the most crucial component of the whole system. It is both the foundation and the bond for the other elements because it is through the planning process that we determine what we are going to do now we are going to do and who is going to do it. It operates as the brain center of the organization and like the brain in both reasons and communicates."[16]

Planning is essential to get the target. it reduces the potential crisis and helps to take the preventive way. Formal planning indicates the responsibility of management and provides an alternative to grouping without direction. It is a rational way, a systematic way of perceiving how business, individual or any other organization will get where it should be examining future alternative course of action open to any organization.

Planning is the first function of management. It is performed continuously because the passages of time demand both re-planning and making new plans. Moreover, current feed back often necessary nearly planned action to

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15. Lynch R.M and Williamson, R.W, "Accounting for Management: Profit Planning and Control" Third edition 1984: page 99
16. Roy A Gentles: 1984: page 32

a) Correct performance deficiencies
b) Establishing enterprises objectives and goals
c) Developing premises about the environment of the entity
d) Making decision about course of action
e) Evaluating performance feed back for re-planning

2.3 Types of planning

There are three types of planning i.e. long term planning, medium term planning and short term planning. It can be corporate planning or tactical planning. The types of planning depend upon the time period covered by it.

2.3.1 Long range planning

Long range planning is such type of planning which covers a period of five to ten years depending upon the size and nature of enterprises. Long range planning is most important basically for broad and long living enterprises. Peter Drucker says that long range planning decisions systematically and with the best, possible knowledge of their futurity, organizing systematically the efforts needed to carry out these decisions and measuring the results of those decisions against the expectation through organized, systematic feed back."[17]

The objectives of long range planning given by George R. Tery are as follows:[18]

i) To provide a clear picture of whether the enterprises is handed
ii) To keep enterprise strong

17. Drucker Peter: "Long Range Planning" Management Science. 1950: page 338
18. George R. tery "Principle of Management" 1964: page 12

iii) To focus on long range opportunities

iv) To evaluate management personnel

v) To expenditure new financing

2.3.2 Medium Term Planning

Medium term planning is such type of planning which covers two or three years of period. This type of planning is to establish interim objective between long range goals and for use in the development of annual program and budget. In these causes, target with specific results and definite time tables must be developed. it is used mainly to determine the allocation of resources among competing activities and revised long ranged plans in view of more recent developments. Medium range planning after takes form of budgeting in which each divisions, department or units is allocated certain resources during the coming year. Medium term planning most correctly predicts general levels of economic activities. Since that affects such factors as revenues profit, costs and expenditures. More detail is involved in it than with short range but less than for long-range plans. While resources allocation in important final approval will only be required for the short-range and a consideration of alternatives is still possible.[19]

2.3.3 Short Range Planning

The short range planning is such a planning which is within one year of period. The short range planning is selected to confirm to fiscal quarters or one year. Because of the practice needed for conforming plans to accounting periods, short range planning concerned with limited time period. Usually it cover one year time period. It is used by the management as substantial part of long range and medium range plan.

19. George R. Tery " Principle of Management" 1964. Page 21

2.4 Comprehensive Profit Planning and Control

Comprehensive profit planning and control is a new term in the literature of business. Though it is a new term, it is not a new concept in management. The other terms, which can be used the other terms, which can be used in same context are comprehensive PPC. The PPC can be defined as process or technique of management that enhances the efficiency of management.

Some definition given by various scholars are:

"Comprehensive profit planning and control is a systematic and formalized approach for accomplishing the planning, co-ordination and control responsibilities of management"[20] Glenn-A. Welsch.

Similarly, According to the I.M.Pandey "A profit plan or budget is the formal expression of the enterprises plans and objectives stated in financial terms for a specified future period of time.

Profit planning and control involves development and application of:

i) Broad and long range objectives for the enterprises
ii) Specification of goals
iii) Long range profit plan in broad terms
iv) Tactical short range profit plan detailed by assigned responsibilities
v) A system of periodic performance reports detailed by assigned responsibilities
vi) Control system
vii) Follow up procedures

20. Welsch, glenn: "Budgeting: Profit Planning and control" Fifth edition 1998: page 870

2.5 Budgeting as a tool of Profit Planning

Budgeting as a tool of planning and control is closely related to the broader system of planning and control in an organization planning involves the specification of the basis objectives that will guide it. In operational terms, it involves the step of setting objectives, specifying goals, formulating strategies and expressing budgets. A budget is a comprehensive and coordinated plan expressed in financial terms.[21]

A budget is a quantitative expression of a plan of action and aid to coordination and implementation. Budget may be formulated for the organization, as a whole or for any submit. Budgeting includes sales, production, distribution and financial aspects of an organization. budget programs are designed to carry out a variety of functions, Planning evaluating performance coordinating activities, implementing plans, communicating, motivating and authorizing actions."[22] A budget is a written plan for the future. The managers of firms who use budgets are forced to plan ahead. A firm without financial goals may find it difficult to make proper decision.

2.6 Budgeting and Forecasting

Budgeting and forecasting are different to each other. A forecast is the likelihood of event or happening given the part of data and expected changes. There is no assumption regarding the commitment of management realizing the forecast. A budget is an expression of the management intention of achieving forecast through positive and conscious action and influencing the events. It embodies the managerial commitment of ensuring the

21. Khan M.Y: "Management Accounting"1994: page 206

22. Horngene, Charles T : Cost Accounting and Managerial Emphasis" 1983 page 123

attainment of stated objectives. It involves a process of negotiation, approval and review.

In contrast to a budget a forecast have the following features.

a) It doesn't involve any commitment on the parts of the forecaster to attain the forecast.
b) It is based on historical information and revises whenever new data become available.
c) It need not necessarily be expressed in the financial term.
d) It doesn't always confirm to one year period of time.
e) It doesn't involve negotiation approval and review.

2.7 Classification of Budget

Although different bases and methods have been proposed for classification of budget the commonly used base are:

a) Classification According to Time

In term of time factor, budgets are classified into three types namely long term budget, short-term budgets and current budgets

i) Long term budget:- These budget are concerned with planning the operation of firm over more than 10 years. They are usually in the form of physical quantity.
ii) Medium term Budget (1-5 years) = these budget are usually for a period of one to five year in the form of operation the plan.
iii) Short Term Budget:- These budgets are usually for a period of one year in the form of operation plan in monetary terms.

iv) Short term/ Current budget:- These budgets cover a month as so and the short-term budgets adjusted to current conditions are prevailing circumstances.

b) According to Function:

On this basis of function of enterprises can be classified as: sales, production, purchase, labor, manufacture, Administration, selling, capital expenditure, R&D cash, income and B/S budgets with a particular function and are integrated with the master budget of the business. The number and type of functional budgets depend on the size and nature of the business. The usual and distribution cost budget, research and development budget, cash budget, labor budget, master budget, production budget, purchase budget, personnel budget, plan utilization budget, office administrative expenses budget etc.

c) Classification According to Flexibility

On the basis of flexibility, budget can be categorized as fixed and flexible budget.

i) **Fixed budget:** - It is a budget in which targets are rigidly fixed. Such budgets are usually prepared from one to three months in advance of the fiscal year to which they are applicable.

ii) **Flexible budget: -** The figures used in this form of cost and expenses budget are made acceptable to any given set of operating conditions within any month of the fiscal year.

2.8 The Fundamental of Profit Planning and Control[23]

The concept of PPC was originally established with the function of an account. At its origin, the function of PPC was designed to the accountant. But in modern day PPC is given much more importance and is regarded as a way of management and in more important sense is regarded as a basic technique of decision-making. The major fundamentals are mentioned as below:-

i) **Managerial Involvement and Commitment:-** Managerial involvement entails managerial support, confidence, and participation and performance orientation. In order to engage competently in comprehensive PPC, all level of management, especially top management

1) Understand the nature and characteristics of PPC.
2) Be convinced that this particular approach to managing is to devote the effort required to make it operative
3. Support the program in all its planning process as performance commitments. For a comprehensive PPC program each member of management, starting from the president, the impetus and direction must came from the very top.

ii) **Organizational Adaptation:** - A PPC program must rest upon sound organizational structure for the enterprise and a clear cut designation of lines of authorities and responsibilities. The purpose of organizational structure and the assignment of authority is to establish a framework within which enterprises objectives may be attained in a coordinated and effective way on a continuing basis. This scope and interrelationship of the responsibilities of each individual manager and specified to increase

23. Goet, Joyindra, Bhattrai Ishwor & Gautam Akshay "Budgeting: Profit Planning and control"third edition 2062: page 1.4

the management and operational efficiency, particularly all enterprises, except perhaps the very smallest ones, should be structurally disaggregated into organizational subunits. The manager of each subunit would be assigned specific authority and responsibility for the operational activities of that subunit. These subunits are further classified in respect to the extent of responsibility as follows.

- Cost center
- Profit center
- Investment center

iii) **Responsibility Accounting:-** In order to set-up PPC on a sound basis, there must be a responsibility accounting system, that is one tailored first and foremost to the organizational responsibilities. Within this primary accounting structure, secondary classification of costs, revenues and other financial data that are relevant may be utilized in accordance with the needs of the enterprises. A responsibility accounting system can be designed and implemented on a relevant basis regardless of the other features of the accounting systems standards cost systems, direct costing systems, and so on. When the accounting system is established on a responsibility basis, the historical data generated become especially pertinent for planning and control purposes.

iv) **Full Communication: -** communication can be defined as an interchange of thought or information to bring about a mutual understanding between two or more parties, communication from working together. Although the management gives least importance to communication, it is most important thing for any organizational observation and control. Most of the organization faces lot of problems due to bad communication system.

Communication is needed for both the forward and backward process which is most important for operation of any organization. Role of communication can be justified in all aspect of management. It is needed either for decision making or for supervision or for evaluation flows of information must be adequate in all side. For PPC, effective communication means development of well-defined objective, specification of goals, development of profit plans and reporting and flow up activities related to performance evaluation for each responsibility center. Communication for effective planning and control requires same understanding of responsibilities and goods in both the executives and subordinates.

V) Realistic Expectation: - PPC must be based on realistic approach or estimation. Management must use realistic assumption and must not take either irrational optimism or unnecessary conservatism. Perfection on setting goals or objectives of the future sales, production levels, costs, capital expenditures, cash flow and so on determines the success of PPC program. So, for PPC purpose, a realistic approach reared with time dimension and external and internal environment that will prevail during the time span should be considered. This is called realistic expectation.

Before preparing comprehensive PPC program, management has to take a good care that the goal or objective which is going to be determined neither should be to low nor should be too high but should be attainable with high level of efficiency. This is because goals set very low will destroy motivation as it does not require efforts and goal set high will discourage the implementer as it would not be attained with existing capacity of the units, but the goals which will be of challenging nature, will be of real value and will keep the organization alert which is the main objective of the realistic expectation.

vi) **Flexible Application:-**PPC program or any other management techniques should not dominate management slowly. Any of such techniques of management must not be flexible or rigid. These are the techniques or means, which is not only the end of the management itself because the main end or aim of the management is to use the resources in the most effective way and earn high return on investment and for this purpose PPC or other techniques are used as means only.

vii) Timeless: - Whether an individual or an entity remains idle or busy, time passes at the same rate. The problem of the manager in one hand is to accomplish the planed activities in a given time and on the other hand is to prepare the plan itself. Phasing of the planning is of two types

a. Timing of planning horizons
b. Timing of planning activities

2.9 Components of PPC

A PPC should have its components that are required to fulfill the objectives. The outline of the component of a typical PPC program is given below:[24]

a. The Substantive Plan

Broad objectives of the enterprises

Specific enterprises goals

Enterprise strategic

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24. Welsch, Ibid, page 74

Executive management planning instruction

b. Financial Plan

1. Strategic long range profit plan

(I) Sales, cost and profit projection

(II) Major projects and capital additions

(III) Cash flow and financing

(IV) Personnel requirement

2. Tactical short range profit plan.

(I) Sales plan

(II) Production plan

(III) Administrative expenses budget

(IV) Distribution expenses budget

(V) Appropriation type budget (e.g. P&D, promotion advertising)

b) Financial Position Plan

Planned balance sheet

(I) Assets

(II) Liabilities

(III) Owner's equity

c. Variable expense budget

d. Supplementary data (e.g. cost volume profit analysis, ratio analysis)

e. Performance reports

f. Follow-up, corrective action and re-planning reports

2.10 Principal and Purpose of Profit Planning

The principal and purpose of profit planning are:

a) To provide a realistic estimate of income and expenses for a period
b) To provide a co-ordinate plan of action which is designed to achieve the estimates reflected in the budget.
c) To provide a comparison of actual results with these budgeted and an analysis and interpretation of deviation by areas of responsibility to indicate course of action and lead to improvement in procedures in building future plans.
d) To provide a guide for management decision in adjusting plans and objectives an uncontrollable condition changes.[25]

2.11 Important of Profit Planning

The profit planning and control is applicable approach to all kinds of organizations whether those are small, huge, manufacturing, service etc. The profit planning program helps the management performs it planning functions by developing a strategic profit plan and tactical profit plan. Both of these plans include monetary expectation for assets, liabilities, profit and return on investment. Besides, the PPC, some significant behavioral implication such as developing reinforcement, improving motivation, developing goals, copes with the effects of budgetary pressure resolving budget and using budget for control. The following advantages can be drawn from PPC program. [26]

a) This programs identifies the changes
b) It forces the management to keep adequate and correct historical data in the business
c) PPC forces early consideration of basic policies

25. Kailer Jssae. W.Z Ferrara Willam L:"Management Accounting for Profit control"1966:page 38
26. Gupta S.P, Pandey I.M. Op Cit (Summary)

d) It forces the management to take necessary step for getting satisfactory results.
e) It is a process of self-examination and self criticism which is essential for the success of any enterprises.
f) It promotes understanding among member of management of their co-worker problems.
g) It tends to remove the cloud of uncertainly that exists in many basic policies and enterprise objectives.
h) It create among the members of management of considering timely and carefully all the related factors before reaching on a decision
i) It measures efficiency, permits management self evaluation and indicates the progress in attaining the enterprises objectives.
j) It leads to maximum and most economical utilization of material labors, capital and other resources with a view to ensure maximum return.

2.12 Problem and Limitation of PPC

PPC is a systematic approach to the solution of problems but it is not a prefect itself. It suffers from certain problem and limitations. The major problems of PPC are:[27]

i) Applying the PPC system in flexible manner
ii) Developing meaningful forecast on plans specially the sales plan.
iii) Seeking the support and involvement of all levels of management.
iv) Establishing realistic objectives, policies, procedures and standard of desired performance.

27. Pandey. I.M. Management Accounting: page 306

v) Educating all individual to be involved in PPC process and gaining their full participation.

Management must consider the following limitations in using the PPC system to solve managerial problems.[28]

i) PPC is based on estimation
ii) It is not realistic to write out and distribute goals policies and guidelines to all the suspensors.
iii) A PPC program must be continuously adopted to fit the changing circumstances.
iv) Execution of profit plan will not occur automatically, profit plan will be effective only if all responsible executive exert continuous and aggressive efforts towards their accomplishments.
v) Budgeting places too great a demand on management time especially to revise budgets constantly to much paper work is required.
vi) It creates all kinds of behavioral problems.
vii) It adds a level of complexity that is not needed.
viii) It is too costly.
ix) Danger of rigidity. The PPC must be flexible and dynamic in every sense.
x) Proper evaluation should be made to find out the inefficiencies. On the absence of proper evaluation budgeting will hide inefficiencies.

2.13 Process of PPC

The processes of PPC are:

i) Identification and evaluation of external variables.
ii) Development of broad objectives of the enterprises.

28. Pandey I.M. Management Accounting: page 309

iii) Development of the specific goals of the enterprises.
iv) Development and evaluation of company strategic.
v) Executive management planning instruction.
vi) Preparation and evaluation of project plan.
vii) Development and approval of strategic and tactical profit plans.
viii) Implementation of profit plans.
ix) Use of flexible expenses budget.
x) Implementation of follow up.

2.14 Master Budget- Budgeting for Short Range

The master budget is the organization's primary short term budgetary device. This comprehensive budget is often prepared thought a standard cycle of events that occur on a specific timetable each year. Master Budget is a summary budget which incorporates all functional budgets and it may take the form of profit and loss account and balance sheet as at the end of the budget period.[29]

The complete budgets for a firm is often called master budget. The master budget consists of many functional budgets. These budgets include sales budget and cash budget. All these are completed the master budget of entire firm is prepared. It may be recalled that a budget with reference to planning and controls refers to comprehensive and co-ordinate budgets generally know as master budget. A master budget normally consists of three types of budgets:

1) Operating
2) Financial Budgets
3) Special Decision Budgets

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29. Gupta. S.P. :"Management Accounting, 3rd Edition 1992, page 556

The preparation of master budget is major events in any organization. This complex process involves the efforts of many people from all the levels of management. Master budget preparation is a negotiation process in which initial proposal by responsibility center mangers are subject to revision as the different components of the budgets are brought together and reviewed. They are as followed. [30]

i) Forecast demand for products and or services.
ii) Identify cost patterns for responsibility centers.
iii) Estimate production cost
iv) Specify operating objectives.
v) Develop sales budget.
vi) Develop production objectives.
vii) Develop purchasing budget.
viii) Develop budget for responsibility centers.
ix) Formulate profit plan.
x) Compare profit plan with operating objectives.
xi) Formulate projected cash budget.
xii) Prepare projected statement of financial position.

2.15 Development of Profit Plan

2.15.1 Sales Plans

The staring point in preparing profit plan is the sales plan, which displays the projected sales in units and rupees. The sales planning process is an essential part of profit plan and control because it provides for the basic management decision about marketing and based on these decisions, it is an organized approach for developing a comprehensive sales plan. If sales plan is not

30. Gupta S.P. Management Accounting, 3rd Edition: 1992, page 559.

realistic and relevant, most profit plans are also not realistic. Therefore, if the management believes that a realistic sales plan can not be developed there is little justification for PPC similarly if it is really impossible to assess the future revenue potential of a business; there would be little or no incentive to investors and prospective investors. Hence, the sales plan is both ends and means of PPC.

The sales plan is the foundation for periodic planning in the firm because practically all other enterprises planning is built on it. The primary source of cash is sales, the need of capital additions, the plan o expenses, the manpower requirement production level, and other important operational aspects depend on the volume of sales. A comprehensive sales plan includes two separate but related plans, the strategic and tactical sales plans. A comprehensive sales plan incorporates such management decisions as objectives, goals, strategies and premise. Both long term and short-term plans must be developed in harmony with comprehensive profit plan.

The primary purposes of sales plane are: [31]

- To reduce under certainty about future revenue.
- To incorporate management judgment and decisions into the planning process.
- To provide necessary information for developing other elements of comprehensive profit plan.
- To facilitate management control of sales activities.

2.15.2 Sales forecasting and sales planning

Although sales planning and sales forecasting are usually used synonymously, they have distinctly different purpose. A forecast is not a

31. Glenn A. Welsch: 1986 page 24

plan rather is it a statement of a future condition about the particular subject based on one or more explicit assumptions. A forecast should always state the assumptions upon which it is based. A forecast should be viewed as only one input for the development of sales plan. The management of the company may accept, modify or reject the forecast. In contrast, a sales plan incorporates the management decisions that based on the forecast, other inputs and management judgment about such related items as sales volume, prices, sales, efforts production and financing.

It is important to make a distinction between the sales forecast and the sales plan primarily because the internal technical staff should not be expected or permitted to make the fundamental management decision and judgments implicit in every sales plan. The major difference between sales forecast and sales budget can be attributed as:

i) The sales forecast is merely the initial estimate of future sales, where as plan sales is the projection approved by the budget committee that describes expected sales in units and rupees.
ii) Sales forecast is a merely well educated estimate of future expected demand of a specific product where as sales budget is the quantitative expression of business plan and policies to be pursued in future.
iii) A sale plan provides standard for comparison with the result actually achieved, thus it is an important control device of management, whereas forecasting represents merely a probable events over which no control can be exercised.
iv) Sales plan beings where and when sales forecast end. sales forecast is the input to sales plan; sales plan is the foundation to PPC

2.15.3 Strategic and Tactical sales plan

Strategic sales plan: - Strategic sales plan is the long range sales plan of enterprises. Usually it is of 5 to 10 years. It is broad and general. It is usually developed by year and annual amount. It is prepared by considering future market potentials, popular changes, state of economy, industry projections company objectives and long-term strategies because they affect in such areas as pricing, development of new product line, innovation of product, expansion or distribution channel, cost pattern etc.

Tactical sales plan: - Tactical sales plan in a short-range sales plan. It is developed for a short period of time usually a year. Initially by quarters and by months for the first quarters. The tactical sales plan includes a detailed plan for each major product and for grouping of minor products. Tactical sales plan are usually developed in terms of physical units and in sales rupees.

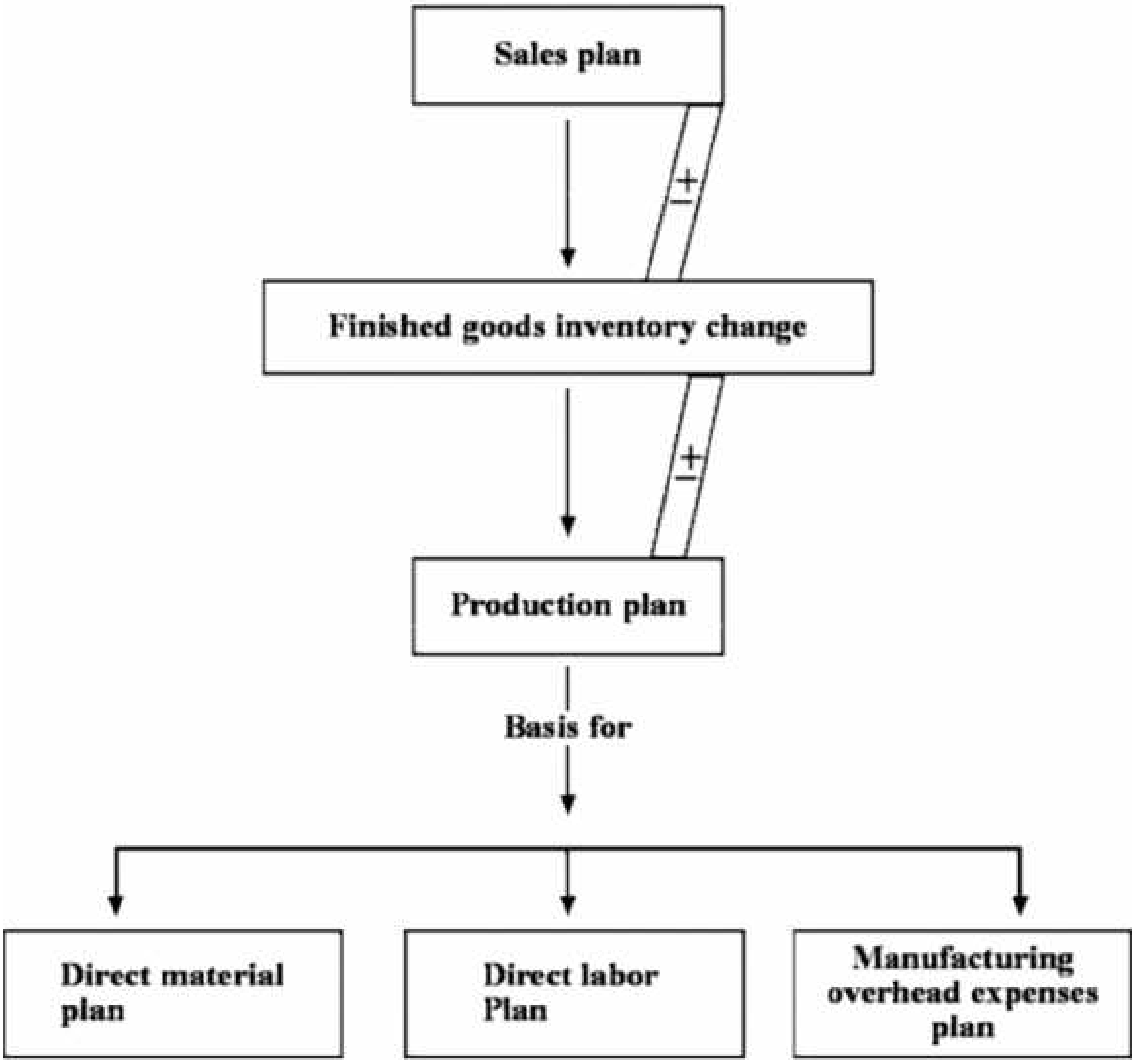
2.15.4 Production plan

A next step in the manufacturing enterprises after a tentative approval of sales plan is the preparation of a production plan. The production plan is an important tool of planning, coordination and control in a manufacturing organization. Development of a production plan requires the conversion of sales plan into production program. It interlinks the activities such as materials planning, labor planning, overhead planning etc.

The production plan specifies the planed volume of each product to be produced for each time period throughout the planning period. This entails the development of policies about efficient production levels, use of productive facilities and inventory levels. The quantities specified in the marketing plan. Adjusted to confirm to production and inventory policies, give the volume of goods that must be manufactured. It can be presented in equation:

Sales volume ± finished goods inventory Change = production requiremen

Fig: Planning production



2.15.5 Material Budget

After the sales and production has been estimated, the next steps is to prepare material purchase budget. When the production budget is completed then the requirement of raw materials and components are used in the process of material budget. Based on the production budgets, the qualities of each material are determined and this determination of material usage solved the problem of when and how much to purchase of material. A purchase budgets gives the details of materials purchase to be made in the budget period. The function of purchase budget is to plan purchase, so that firm will never run out of inventory, such purchase plan should be made in such a way that inventory of raw material are kept as low as possible without losing the planned product because the higher inventory the higher cost will occur, while preparing the materials plan there should be serious consideration to coordinate among the following items.

b) Production requirements for material and components parts.
c) Raw requirements and parts inventory levels.
d) Purchase of raw materials.

To ensure that the appropriate amount of raw materials and component parts, the tactical short term profit plan should include.

a) A detailed budget that specifics the quantity and cost of such materials and parts
b) A related budget of material and parts purchase.

This materials and purchase budget while usually requires the following four sub-budget.

a) Materials and parts budget:- This specified the planned quantities of each raw materials and part required for planed production by time, product and responsibility center.
b) Material and parts purchase budget:- This specifies the quantities and timing of each materials and components part needed to purchase, the estimated cost and required delivery date.
c) Materials and parts inventory budget:- This specifies the planned level of raw materials and raw materials and parts inventory in term of quantities and cost.
d) Costs of materials and part use budget:- This specifies the planed cost of materials and parts that will be used in the productive process.

The materials and purchase budget and it's sub budgets should be designed in such a way that the related activities and cost will be budgeted in term of responsibilities centers.

2.15.6 Consideration in Materials and Parts Inventory Policies

This budget specifies the planned level of raw material and parts inventory in term of quantities and cost. The different in units between the material and parts of budget and purchased budget is accounted for the change in materials and part inventory levels. The timing of purchasing will depend on inventory policies. The primary consideration in setting inventory policies for materials and parts are:[32]

Timing and quantity of manufacturing needs by the factory.
Availability of materials and parts.
Lead time (order and delivery)
Storage facilities involved.
Capital requirement for finance inventory.
Cost of storage.
Expected change in the cost of raw materials and parts.
Protection against storages.
Risks involved in inventories.
Opportunities costs (inadequate inventory)

In developing the inventory policy with respect to purchase and maintain the level of inventory, the basic two questions should be answered. The first is how much to purchase to a time and second when to purchase? How much to purchase at a time is determined by a well known, approach, called economic order quantity (EOQ).

EOQ can be calculated by using following formula.[33]

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32. Welsh. Ibid: page 244

33. Welsh Ibid: page 244

EOQ = $\sqrt{\frac{2AO}{C}}$

Where,

A= Annual requirements units

O= Average annual costs of placing an order

C= Annual caring cost

The second questions when to purchase is determined by reorder point. Re order points is the time when a purchase is made. The re-order points is reached when inventory level is equal to the time to re-order.

2.15.7 Cost of materials used budget

This budget reports the estimated cost of the materials planned for in the materials budget. The quantity of materials and parts required for planned production is specified in the materials and parts budgets. Quantity and unit cost data are available to develop the budgeted cost of materials to be used, if the purchase budget anticipates a constant unit cost. Alternatively, when a changing unit price is planned for raw materials and parts, the related inventory budget must be developed by utilizing a selected inventory such as LIFO, FIFO, moving average and weighted average.

2.15.8 Direct labor cost Budget/ Plan

Labor costs, in a broad sense, are composed of all expenditures incurred for employees; top executives, middle management personnel, staff officers, supervisor, foreman, skilled workers and unskilled workers. It is necessary to consider separately the different types of labor costs. Labor is generally classified as direct and indirect labor. Direct labor comprises all the worker's who were directly on specific productive output. Hence, as with direct material costs, direct labor costs are directly traceable to output. The labor who work or support productions indirectly are classified as indirect labor. Indirect labor last is a part of manufacturing overhead budget.

The direct labor budget is also developed form the production budget. Firstly, direct labor requirement must be computed so that the company will know whether sufficient labor is available to meet production needs. By knowing in advance, the company can develop a plan to adjust the labor force as the situation may require. Direct labor requirements can be computed by multiplying product to be produced in each period by the number of direct labor-hours required to produce a unit. Many different types of labor may be involved. If so, then the computation should be made of the type of labor needed. The direct labor hours resulting from these computations can then be multiplied by the direct labor cost per hour to obtain the budgeted total direct labor cost.

2.15.9 Components of Direct Labor Budget/Plan

Basically, there are three components of direct labor budget.

1. Direct Labor Hour Budget: - Direct labor hour budget estimates the total direct labor hours required for each product by time and responsibility. It is computed as

   Total direct labor hours required = Planed production x Standard time required per unit of outputs
2. Manpower Budget: - Manpower budget estimates the number of each kind of manpower by department and time.

   Number of labor= Total hours required ÷ working hours per person per month.

Working hours per person per month = Normal working hours per person per day x Working days in a month

2. Direct Labor Cost Budget: - Direct labor cost budget estimates the total direct labor costs by product, time and responsibility. To get direct labor costs budget, first estimates the average wages rate by department. Then multiplication of the standard time per unit of product by the average wage rates gives the labor cost per unit of production for the department. The multiplication of departments, cost centers, or operations total units by the unit labor lost rate gives the total direct labor costs for each product.

2.15.10 Overhead Expenses budget

Meaning:- The next step in the tactical profit plan, the expenses budget is necessary to maintain the expenses level in reasonable. There are three board categories of expenses, manufacturing overhead, distribution expenses and general administrative expenses and for this three separate sub-budget are prepared.

"Expenses planning should not focus on decreasing expenses but rather on better utilization of limited resources. Expenses planning and control should focus in the relationship between expenditures and the benefits derived from these expenditures. The desired benefit should be viewed as goals and sufficient resources must be planed to support the operation activities essential for their accomplishment." [34]

The expense of planning the knowledge of cost behavior is important cost

34. Welsh, Ibid: page 302

behavior is the response of a cost to different volume of output. There are three distinct categories of expenses when they are viewed in relation to change in output.

a) Fixed Expenses:- Constant in total directly with change in output, constant per unit.
b) Some Variable Expenses:- Neither fixed nor variable change in the same direction of output lout but not proportionately

The expenses budget should be in total for each responsibility centers and by interim time periods. The expenses can be divided into three sub budget.

2.15.10.1 Planning Manufacturing Overhead

Manufacturing overhead is that part of total production cost, not directly identifiable with specific products. It consists of a) indirect material b) indirect labor c) All other miscellaneous factory expenses such as taxes, insurance, depreciation, supplies, utilizes and repairs. Manufacturing expenses include many dissimilar expenses, which can cause problem in the allocation of these costs to products.

Two types of responsibility centers: production and services are common in most manufacturing firms. Production department work directly on the products manufactured. Service department do not work on the products directly but rather furnish services to the production department and to other service departments

For budgeting purposes, manufacturing overhead involves the following two problems.

i) Control of manufacturing or factory overhead.

ii) Allocation of manufacturing or factory overhead to product manufactured.

2.15.10.2 Planning Administrative Expenses

Administrative expenses include these expenses other than manufacturing and distribution. They are incurred n the responsibility centers that provides supervision of and service to all function of the enterprises rather than in the performance of only one function. Because long portion of administrative expenses are fixed rather than variable, general administrative expenses are generally determined by top management therefore, there is strong tendency to overlook their magnitude of effect on profits. Each administrative expense should be directly identified with a responsibility center and the concerned manager should be responsible for planning and controlling expenses. It is advisable on specific plans and programs.

2.15.10.3 Planning Distribution (Selling) Expenses

Distribution expenses in clued all cost related to selling, distribution and delivery of product to customers. The two primary aspects of planning distribution expenses are:

Planning and coordination: - Marketing executives are directly responsible for planning the optimum economic balance between a) Sales budgets b) The advertising budget c) The distribution expenses budget. PPC views them as three separate problems.

Control of Distribution Expenses: - Distribution includes a) Head office expenses and b) field expenses. From the planning and control point of view, these expenses must by planed by responsibility center. These expenses are not product costs. They are not allocated to special products.

So, separate distribution expenses plan should be developed for each responsibility center.

2.15.11 Capital Expenditure Budget

Meaning:- "The investment decision of a firm are often referred to as capital budgeting. A capital budgeting decision may be defined as the firms decision to invest its current funds most efficiently in long term assets in anticipation of an expected flow of benefits over a series of years."[35] Capital budgeting is the making of long term planning decisions for investment and their financial capital budgeting then consists in planning the development of available capital for the purpose of maximizing the long term profitability of them firm. A capital expenditure is the use of funds to obtain operational assets that will help earn future revenue or reduce future costs.

Thus capital budgeting is the process of planning and controlling the strategic and tactical expenditures for expansion and contraction of investments in operating assets. Capital expenditure includes such fixed assets as properly plan, equipment, and patents. Typically, capital expenditure projects involve large amount of cash. Capital expenditure involves two major planning and controlling phase. a) Investment b) Expenses. Capital expenditure budget is the formal plan for the expenditure of money to purchase fixed assets. It is an internal corporate document that lists the allocated investment projects for a given fiscal period. Capital budgeting involves the generating of investment proposals, the evaluation of cash flow, the selection of project based on acceptance criterion and finally continual evaluation of investment project after their acceptance.[36]

35. Pandey. IM."Financial Management" 17th edition: page: 353

36. James C. Van Horne: "Finanacial Management and Policy" 8 edition: page 66

Thus, capital budgeting involves the following steps.

a) Consideration of investment proposal including alternatives.
b) Application of profit, cash flows and analysis of cost benefit of the project.
c) Estimation of available funds and utilization of funds.
d) Maximization of profit with the utilization of available funds.

The top executive working with other members of executive management has the primary responsibility for the capital additions budget. However, the primary responsibility for the projects and other proposals should include divisional departmental mangers.

There are three stages of capital budgeting proposal generation, analysis and implementation. The important steps involved in capital budgeting process are a) Project generation b) Project evaluation c) Project selection and d) Project execution. The process for planning and controlling capital expenditure as suggested by welsh, Hilwand Gordan are!

i) Identify and generate capital additions project and other needs.
ii) Develop and refine capital additions proposal.
iii) Analyze the evaluate all capital additions proposals and alternative.
iv) Make capital expenditure decisions to accept the best alternative and the assignment of project designation to select the alternative.
v) Develop the capital expenditure budget.
vi) Establish control of capital expenditure during the budget year by using periodic and special performance report by responsibility enters.
vii) Conduct past completion audit and follow-up evaluation of the actual results from capital expenditure in periods after completion.

Capital Expenditure Decision

The crucial capital expenditure decisions are the choices of management form the completing capital expenditure alternatively such decisions most focus on two over rising problems.

a) Investment Decision:- Selecting the best alternatives based on their economic worth to the competitive investment world.
b) Financing Decisions: - Determination the amounts and source of funds needed pay for the selected alternatives. This cash constraint may necessarily limit the project cash proposals that can be initiated.

Numerous methods are available for measuring economic value or investment worth of the contemplated proposals. Some common and widely used methods are listed under:

A) Discounted cash flow method
   i) Net present value (NPV)
   ii) Internal rate of return (IRR)
   iii) Profitability index (PI)

B) Traditional/ simple method
   i) pay back period (PBP)
   ii) Average rate of return (ARR)

A) Discounted cash flow method

Under this method of investment evaluation basically two sub methods are contemplated.

i) Net present value (NPV):- This method compares the present value of the net cash inflows with the present value of the initial net cash cost of capital expenditure project. The difference of these two figures gives the net present value. The net cash inflows are discounted to present value by using a target or minimum rate of return. Mathematically, its is calculated by,

$$\text{NPV}= \sum_{E=0}^{n} \frac{At}{(1+k)^{2}} - A_{0}$$

Where,

K= Cost of capital

T=No. of years

A=Expected cash flow

The decision about acceptance or rejection of the project depends upon the positively or negatively of NPV.

ii) Internal Rate of Return (IRR)

The IRR is the rate that will discount all the future net cash inflows that their discounted sum will exactly equal the initial outflows of the investment project. The formula is:

$$A^{0}= \frac{A1}{(1+r)^{1}} + \frac{A2}{(1+r)^{2}} + \ldots\ldots\ldots\ldots \frac{An}{(1+r)^{n}}$$

where,

R=Irr

A= Expected cash inflows in future.

The proposal will be accepted of IRR is more that the normal rate of return.

iii) Profitability Index (PI):- The profitability index is simply a ratio of total present value of cash inflows to initial cash outlay. Mathematically, it can be expressed as:

$$P.I = \frac{\text{P.V of future cash inflows}}{\text{P.V of cash outflows.}}$$

For acceptance of the proposal P.I must be greater than one.

B) Traditional Method

i) Payback Method

This method considers the number of years within which the cash inflow will recover the initial investment, mathematically,

$$\text{PBP} = \frac{\text{Net cash investment}}{\text{Annual cash inflow}}$$

The alternatives project having shorter payback period will be accepted.

ii) Average return on total investment method.

This method yields the ratio of average annual cash inflows to the total investment.

Both above method of evaluation are frequently used. However, discounted cash flow method is superior since is value of money:

$$ARR = \frac{\text{Average annual net cash inflow}}{\text{Cash outflow of the investment}} \times 100\ \%$$

After analyzing the above four method of measuring capital investment, the decision criteria can be summarized as follows:-

Methods		Basis of Selection
NPV	$\longrightarrow$	Higher the NPV
IRR	$\longrightarrow$	Higher than cost of capital
PBP	$\longrightarrow$	Lower the PBP
ARR	$\longrightarrow$	Higher the ARR

2.15.12 Cash Budget

2.15.12.1 Concept and Preparation

Cash budget is the most important tools of cash management. It is an integral part of cash planning. The cash budget is plan of future cash receipt and payment. The statement showing the estimate cash income and cash expenditure over a projected time period is known as cash budget. The forecast of cash flows are made on the basis of past behavior of cash flows as modified and adjusted to likely changes during the coming period.

For an estimation closing balance of cash, receipt of cash and payment of cash budgets has to prepare. The cash budget focuses exclusively on the amount and timing of cash inflow and outflow. The primary purposes of cash budget are:

a) To give probable cash position at the end of each period as a result of planed operations.
b) To identify cash excess on shortage by time.

c) To establish the need for financing and or the availability of idle cash for investment
d) To coordinate cash with total working capital, sales revenue, expenses, investments and liabilities.
e) To establish a sound basis for continuous monitoring of the cash position.

2.15.12.2 Approaches to develop cash budget

The primary approaches used to develop cash budget are:

1. Cash receipts and disbursements approach.
2. Financial accounting approach.

1. Cash receipts and disbursements approaches:- This method is also known as direct or cash amount method. This method is based on a detailed analysis of increase and decrease in the budgeted cash account that would reflect all cash inflows and outflows from such budgets as sales expenses and capital expenditures. It is simple to develop and appropriate when a detailed profit plan is used. This approach is not appropriate for the more general long term profit plan. This approach usually involves following three steps.

Step 1:- Estimate cash flow arising form transactions such as cash sales, collections of accounts and notes receivable, interest received on investment, sales of capital assets and miscellaneous income sources.

Step 2:- Estimate cash outflow for materials direct labors, expenses, capital additions, retirements of debts and dividends to shareholders.

Step 3:- Determine interim finance needs. For this, first cash inflows and outflows must be compared to assess the planed cash position throughout the period.

2.15.13 Financial accounting approach

This approach is also known as indirect or income statement approach. The starting point in this approach is the planed net income shown in the budgeted net income statements. Basically, planned net income is converted form an accrual basis to a cash basis. Next the other cash sources and requirement are identified. This approach requires less supporting detail and provides less detail about the cash inflows and outflows. it is useful for making long range cash projection. This approach requires the following procedures.

Step 1:- Start with net income in the budgeted income statement.

Step 2:- Convert an accrual basis net income to a cash basis by making adjustments.

Step 3: - Show the inflows and outflows, not directly related to the income statement. Such as proceeds from issue of shares or debenture, sales of fixed assets, dividend payments, retirement of debt, acquisition of assets and so on.

2.15.14 Alternative in developing the profit plan

The clerical and mechanical parts of the profit plan development might suggest that once the sales plan is completed, this can be followed by a series of simple clerical activities that result in the production, inventory purchase. This views is misleading because it ignores, the fundamental importance of decision making, policy formulation and consideration of alternatives action through the planning process. The development of decisional inputs and preparation of sub budget by the manager of each responsibility center is the heart of comprehensive PPC programs.

Numereous situation have been cited to show management, in the process of developing the profit plan is faced with alternative decisions.

Some illustrations are:

i) Sales price;- Management must set pricing policies and estimate the quantities of goods that can be sold at given prices.
ii) General advertising policies;- Limitation of advertising expenditure local VS national, product VS institutional advertising.
iii) Sales mix:- Sales mix refers to the relative sales emphasis given to the various products sold by the company.
iv) Sales territory and sales forces explosions or contraction.
v) Balance between production and inventory level.
vi) Research and development expenditure.
vii) Capital expenditure
viii) Testing of alternative decisions.

If the profit is satisfactory, preparation of profit plan can be continue. If the profit plan is unsatisfactory, management should examine the alternative decisions.

2.16 Implementation of Profit Plan

2.16.1 Completion of the Annual Profit Plan

The development of an annual profit plan ends with the planed income statement, the balance sheet and the planed statement of changes in financial position. These three statements summarize and integrate the details of plans developed by management for the period. They also report the primary impacts of detailed plans and the financial characteristics of the firm, before Distribution the completed profit plan, it is generally desirable to recast contain budget schedules. So that the technical accounting mechanic is avoid as much as possible. Timely completion of the planning budget suggests the need for a budget calendar.

2.16.2 Performance Report

Management devotes and contributes its considerable effort and timely in resource planning. So the achievement of planed profit is essential the evaluation of how efficiently and how effectively goals and targets have been achieved thorough control activities. Control is the process of obtaining conformity of actual performance, with planed course of action. Control is related with the reporting of evaluated result. So, it is the most important part of comprehensive PPC.

Performance report is a controlling tool of comprehensive PPC. It is prepared periodically and monthly or quarterly basis and it submitted to concerned persons and departments though authorized channels. Performance reports are internal management tool and designed to facilitate internal control by the management performance reports are comparision between actual results and budgeted targets. They show the reality about performance weather they are favorable or unfavorable. Another important aspect of performance report is to minimize the time gap between the decision and report. The firm may have to suffer a great loss if unfavorable variance between planed and actual performance, immediate corrective action should be taken as already stated, the main purpose of performance report is to show variances, such variances should be expressed in amount as well as percentages of the planned figure. Statistical control tool should be used to determine the significance of variance. Monthly performance report should show the performance for the period being reported and cumulative variance to date by each responsibility center.

2.16.3 Analysis of Budget Variance

Generally, variance is the difference between two contemplated consumptions. It shows the gap between budget or planed goals and actual results. Performance report just indicates these variances and possible through the techniques of variance analysis. As such, variance analysis is the determination of reasons for a reported variance whether it is favorable or unfavorable. If the variance is significant, a painstaking managerial attention required to locate the underlying causes. Management can apply a number of approaches are:

i) Conferences with mangers of responsibility centers, supervisor and other employees involved in the particular responsibility centers.
ii) Analysis of the work situation including the flow of work, coordination of activities, effectiveness of supervision and other prevailing circumstances.
iii) Direct investigation by line managers.
iv) Internal audits
v) Special studies
vi) Investigation by staff groups.
vii) Variance analysis

Variance analysis is a sequential job that follows the steps like:

- Setting standard
- Measurement of performance.
- Analyzing variance.
- Taking corrective actions.

Chapter III

Review of Literature

Scientific research must be based on past events. The previous studies can never be ignored because they provide important information for the upcoming study. Research works are continuing in nature. This continuity in research is insured by linking the present study with the past research studies.

The review of literature is an important aspect in research work. In fact the review of literature is the review of past research. Review of literature become starts form the selection of suitable research topic, which helps to find out the errors of past research and also feedback for the future research works. The main objectives of review of literature are to draw the framework of research which will have to do.

power plays the significant role for the sustainable development of an economy that drives the society towards the path of modernization. Nepal which is very rich country in hydropower sector. The review of literature is an essential aspect in this field. some of the notable review of literature mentioned at below become relevance of the present study.

3.1 Mr. Ganga Raj Upadhya has submitted his research report on the topic of profit planning in Nepalese manufacturing public enterprises [37]. He has analyzed of financial position of NEA. And on the basis of different analysis and observation, he has drawn the following conclusions.

i) Achievement of authority for actual sales is more variable than budgeted sales but actual production is less variable than planned production.

ii) NEA is paying a huge amount of interest every year and it is suffering from high fixed costs.

iii) NEA prepares various functional budgets to implement profit planning system in some extent.

iv) There is high rate of power losses in NEA because sales is below than production. During the study period the rate of losses is 23 percent to 26 percent.

v) There is no systematic classification of overhead expenditures and it creates difficulty to analyze its expenses properly.

vi) The authority is not running is loss from last few years, but the profit is show a only after the transfer form valuation surplus.

vii) Acid test ratios seem better but profitability ratio, turnover ratios are not satisfactory.

viii) Lack of dynamic and effective cost control program well, but there is no separate costing department.

ix) The authority has not proper practice of segregation cost into fixed cost, variable cost and it has no proper records of manufacturing cost.

x) The authority does not maintain its periodic performance report systematically.

xi) Goals and objectives are not clear cut and lower level of authority are not communicated about their goals and objectives.

xii) There is lack of proper co-ordination between the various responsible department and only top level executive are involved in planning and decision making process and lower level participation is not encourage.

Upadhaya, Ganga Raj. "Profit planning in Nepalese manufacturing public enterprises" [37]A case study of Nepal Electricity Authority. An unpublished observation submitted of control department of management T.U. Kritripur, 2000.

3.2 Another researcher, Mr. Suman Acharya has submitted his research report on the topic of "Profit planning in public utility undertaking of Nepal"[38] He has tried to analyze and evaluate the profit planning of NEA and Nepal Telecom on the basis of selective financial tools. He has concluded some following points.

i. NEA's goals and objectives are not communicated to lower level staff.
ii. The top level executive are only involved in the planning an decision making.
iii. There are communication gap between department to department and top level management to lower level management.
iv. There is not any concept of profit planning system.
v. Budgeting procedure of NEA is realistic because there is less deviation between budgeted data and actual data.
vi. In NEA, overhead are not classified systematically and it creates problem to control cost.
vii. NEA has not practice to follow the budget.
viii. NEA is suffering from power less which is 24% of production.
ix. NEA is suffering from the idle cash and bank balance.
x. There is a problem of autonomous because the government directly interferes to the public enterprises.

Acharya Suman, "Profit planning in public utility undertaking Nepal"[38]. An unpublished Thesis submitted to central department of management T.U Kritipur 2000.

3.3 Another researcher Mr. Sudeep Bahadur Shrestha has submitted his research report in the topic of "Financing power development in Nepal"[39]. A case study are:

i) To identify the problem of financing on power development.
ii) To make an attempt to put forward some variable solution to overcome the existing problems of financing power development.
iii) To examine the capital structure of NEA and its sources of financing.
iv) To assess the financing on power development in historical perspective under different plan period.

After analysis on the topic of financing power development in Nepal. A case study of NEA Mr. Sudeep Bahadur Shrestha has pointed out some major finding are as follows:

i) No clear cut policy of power development and its financing existed period to the NEA of planed development.
ii) Power is capital intensive sector of investment, therefore there has been mobilizing forcing resources since the first five year plan.
iii) The main issued of financing in power development are the shortage of capital, dependency on foreign aid, constraints in exporting power, risk of investment. Frequent charges in the government policies and inadequate legal provision. Beside this, the other constraints are geographical complexity, lack of the accessible road, trained manpower and technologies.
iv) Observing the power deficiency problem:- It means there is a market with in the counting. But while analyzing the country the market with respect to economically feasible power potentiality and with the large scale project, the scarcity of the sizable market is seen.

v) The trend of financing in power development shows that the Neplease government only covers about 15 to 25 percentages of the total investment where as from 75 to 85 percentages are covered by the foreign aid. The share of foreign aid is greater than the grant.

Shrestha, Sudeep Bahadur "Financing power development in Nepal" [39]A case study of NEA an unpublished Thesis submitted to central department of management T.U. Kritipur 2005.

3.4 An other researcher Mr. Bipin Sharma has submitted his research work on the topic of "Revenue collection of Nepal Electricity Authority" he has tried to analyze and evaluate the revenue collection of NEA. He has pointed out the specific objectives are:

i) To highlight the NEA through its objectives, function and activities.
ii) To analyze the revenue trend by taking recent years variables.
iii) To give pragmative suggestion for improving the performance in accordance with revenue collection.

On the basis of detail analysis of revenue collection in NEA conducted this study. He pointed out the following major findings.

i) The revenue of NEA is increasing yearly among the three sectors of revenue collection like domestic, industrial and other. The revenue collection from other sources is unable to meet average revenue collection of NEA
ii) There has been fluctuating in the increasing revenue. It shows up and down by the cause of poor managerial decision and porr government policies.

iii) The revenue from industrial sector, domestic and other sector are fluctuated respectively.

iv) There are more risk to industrial sectors than other sectors. It means the revenue generating from industrial sector is more than other sectors.

v) There is positive relationship between revenue generation and profitability of NEA but there is positive correlation in negative profitability therefore to increase in profit, the operating cost and other cost should be controlled.

vi) There can not be improved in the revenue collection of NEA. In spite of the government efforts, there are various problems like structural problems, social problem, economic problems and bureaucratic culture in staff etc.

Sharma Bipin, " A study of revenue collection of NEA " [40]An unpublished Thesis submitted to central department of management T.U., Kritipur,2004.

3.5 An other researcher Mr. Bharat Kumar Dhami has submitted his research work in the topic of "A case study of Nepal Electricity Authority"[41]. He has analyzed of financial position of NEA. And on the basis of different analysis and observation, he has pointed out the following major findings.

i) Actual sales and production of NEA is in increasing trend.

ii) NEA has very low employee productivity and profit productivity.

iii) Achievement of authority for actual sales is more variable than budgeted sales and actual production also more variable than planed production.

iv) NEA is suffering from power loss which is 23.907 of production because sales are below than production.

v) NEA is paying a long amount of interest every year and it is suffering form high fixed costs.

vi) In term of cost volume profit analysis of NEA it shows the satisfactory position because BEP is less than its sales revenue and margin of safety ratio is also 32.54 percent.

vii) Return on sales ratio, return on net worth fixed assets turnover nation, capital turnover ratio, total assets turnover ratio are not perfectly satisfactory but quick ratio seems better.

viii) From flexible budget analysis, NEA is to generate some operating profit but it is not satisfactory because the authority is not running fully capacity.

Dhami, Bharat Kumar, "A case study of Nepal Electricity Authority"[41]. An unpublished Thesis submitted to central department of management T.U 2001.

3.6 A researcher Mr. Ganesh Tiwari has submitted his research report on the topic of "profit planning in Nepal Electricity Authority" he has tried to examine whether the NEA applying profit planning system properly or not analyzed if there is any draw back in profit planning system of the authority. The basic objectives of this study are as follows.

i. To examine the present profit planning premise adopted by NEA.
ii. To observe the NEA's profit planning on the basis of overall managerial budgeting.
iii. To analyze the various between budgets and actual achievement of the authority.
iv. To recommend measures to be taken instantly and further to encounter with the identified budgeting and profit planning problems.

Some major finding pointed by Mr. Ganesh Tiwari are :-

i. The authority fails to maintain its performance report systematically.
ii. Low level staffs are not encourages to participation but only executive level.
iii. Total acid turnover ratio, profitability ratio, return on net capital employed ratio are perfectly satisfactory.
iv. Overhead are not classified systematically and creates problem to analyze its expenses proper.
v. The authority is suffering form high fixed cost.
vi. Specific goals and objectives are not conveyed to lower level staff and it denotes the absence of MBO principle of management.
vii. There is lack of proper coordination between the various responsible departments.
viii. Absence of skilled and partly academic manpower in budgeting section of authority.

Tiwari Ganesh, an unpublished Thesis "Profit planning in Nepal Electricity Authority"[42] submitted to central departments of managements 2007.

Chapter IV

Research Methodology

4.1 General

As the study intends to show the effectiveness of profit planning in a concern, it requires an appropriate research methodology. The basic objectives of this study is to analyze examine and interpret the application of profit planning and control in NEA. For systematic analysis of data and information, proper research methodology will be necessary. The research methodology followed to achieve the basic objectives and goals of this research work. In this chapter research design, period covered, nature and source of data, tools used, research variables and research procedure followed articles are put.

4.2 Research Design

Research design is the planned structure and strategies to obtain answer to research question through investigation and analysis. To make any type of research, a well set research design is necessary which fulfills the objectives of the study. This study is procedure in the process of profit planning of NEA.

Mainly, the present research work is in relation with the quantitative plans and account of NEA. Therefore, analytical approach has been adopted to present data. But the qualitative approach of the research like effectiveness of profit planning in NEA and implementing the profit plans are explained in words wherever necessary. Similarly, this study is closely related with various functional budgets and their actual results as well as other accounting statement. In this respect, the present study is designed under descriptive and qualitative methods. This research is prepared by the using of secondary data.

4.3 Period Covered

The analysis is many based on last five years data and information. In other words, the present research covers a time period of five years from fiscal year 2004/05 to 2008/09. Here, both long range and short range planning are analyzed long range planning is analyzed in five years fiscal years and short range planning is analyzed in one year fiscal year.

4.4 Nature and source of data:

Information and data are very necessary for any research work. Therefore, it is the major work to collect the data and information from the relative sources. Generally secondary data have been used in this research work. These data have been taken form published accounting and financial statement of NEA. These include the annual report "A year in review" for last five years and half year and half yearly magazine "Vidyut" published by NEA similarly, necessary data are collected from the publication of ministry of finance. Publication of national planning commission. Previous dissertation, the official accounting and planning records of NEA and newspaper.

4.5Tools used

The collected data and information are managed and presented in proper table, chart, format and graphis. To analyze the collected data, some financial and statistical tools are used like mean, standard deviation, correlation, regression, trend line, percentage ratio analysis, C.V.P analysis, flexible budget, productivity measurement and variance analysis will be used as per requirement.

i) Budgeting:

Budgeting is a major event in any organization. In fact budgeting is the integral part of PPC. Without PPC, we cannot achieve goals and target of the organization. So, it is the most essential for NEA to prepare budgeting carefully. A systematic approach that facilitates effective management performance is a budgeting. Budget is therefore an essential aspect of management. In a way, a budgetary control system has been described as a historical combination of a goal-setting machine for increasing an enterprises profit, and goal-achieving, machine for facilitating organization co-ordination and planning while achieving the budgeted targets.

ii) Cost Volume Profit Analysis:

CVP analysis is powerful tool in the hands of management for profit-planning. The contribution margin analysis provides the best possible answer of many questions of management. Most management decisions require a careful analysis of cost behavior in relationship to output volume. This is possible only through CVP analysis. Besides, CVP analysis deals with new profit and cost change with change in volume. CVP analysis applies the variables costing approach to analyze the built in relationship between cost, volume and profit. It analysis the short term static relationship between cost, volume and profit.

iii) Ratio Analysis:

The process of determining and interpreting numerical relationship based on financial statement. It has used some type of ratios as current ratio, quick ratio, inventory turnover ratio, net profit margin ratio, fixed assets turnover ratio and return on assets. The financial analysis presents actual situation of NEA.

iv) Cash flow Analysis:

The primary objectives of cash flow are to plan the liquidity position of the company as a basis for determining future borrowings and future investments. A cash budget shows the planed cash inflows, outflows and ending position by interim periods for specific time span. It is directly related to other plans such as the sales plan, account receivable and the expenses budget and capital expenses budget. The cash budget focuses exclusively on the amount and timing of cash inflows and outflows. The primary purposes of the cash budget are:

i) Give the probable cash position at the end of each period as a result of planned operations
ii) Identity cash excesses or shortages by time periods
iii) Establish the need for financing and or the availability of idle cash for investment.
iv) Establish a sound basis for continuous monitoring of the cash position.

In this analysis, we have to discuss the short term cash flow of NEA. In the context of NEA, cash flow shows that cash inflows, outflows and ending position of cash.

4.6 Research variables

Sales, electricity generation and purchase, capacity utilization, power looses, profit and loss, total assets, total capital employed, capital expenditures and cash flows relating to long term and short term periods of NEA are the research variables of present study.

4.7 Research procedure followed

(i) For the study, various books and past research work will be reviewed.
(ii) Useful secondary data are used in research.

(iii) Analyzed data are described and explained in the theoretical basis.

(iv) The collected data from the various sources are presented and managed in proper tabular forms and analyzed by applying the various statistical, financial and accounting tools.

Chapter V

Data Presentation and Analysis

5.1 Introduction

The main purpose of this study is to highlight the planning system and budgeting procedures in the context of profit planning in public utility sectors and NEA has been selected for this purpose. This chapter analyzes the various aspect of profit planning and their related variance of the authority generally there are two types of strategies to formulate the profit plan. NEA has practice of preparing both strategic long rang and short rang profit plan. Although it prepares both long range and short range profit plan, the present study does not deserve the quality to analyze it in detail due to the certain phase of time and limited resources. Therefore the study is focused on short range profit plan of the authority. However the sales, production and other related figures of long term are also presented and analyzed to know the overall economic and financial trend and to estimate the possible future trend of the authority for this purpose, the study covers the period of years from 2004/05 to 2008/09

Short term profit plan is analyzed by taking the relevant figures and various functional budgets of one fiscal year. One fiscal year may represent the techniques, process and other procedure of preparing budget. They are used for the purpose of profit planning comparison with actual achievement and analysis of variances for other year because such process are same for every year repeated each year in the time of preparing and analyzing budgets. For this, fiscal year 2008/09 has been taken as representative year to analyze the short term plan.

5.2 Sales budget of NEA

Sales budget is the first step to prepare of profit planning. It has great importance among other functional budget. Other functional budget like production, purchase, expenses are prepared on the basis of sales budget. Here, the sales budget is the backbone for planning in business organization. Sales budget is not realistic; all other budget will not be realistic.

Both strategic (long range) and tactical (short range) sales plan are prepared by NEA. NEA has practice of preparing sales budget for coming fiscal year. They also revise it after some month when the actual latest data is available. Sales budget is prepared according to the nature of consumers.

Consumers categorized as;

1. Domestics
2. Commercial
3. Non- commercial
4. Industrial
5. Water supply
6. Irrigation
7. Temple
8. Other

NEA prepare load forecast for sales planning load forecast are made for time period of various duration, very short term demand projections are made on a daily or weekly basis for purpose such as optimizing system operation and scheduling of hydro units while short-term forecast ranging between one and three years are used in hydra reservoir management, distribution system planning and so on. The time horizon for medium term demand projection is about four to eight years, which corresponds to the lead time required for major transmission and generation project. Long range demand projections usually duration of at least ten years are extremely important in the long run distribution system expansion planning and are most relevant one for rural electrification. There is not problem of sales to NEA because it has a largest supply utility sector. Only 27 percent people have a facility of electricity out of total population of Nepal. For sales plan, NEA applies following major method for the future projection of electricity demand.

1. Field survey.
2. Time trend extrapolation.
3. Economic multiple regression.

Now, the attempt begins to present the authorities previous sales performance and their achievement to know about the sales trend and to forecast the possible future trend of the authority. For this purpose, we have to analysis the past sales data of the authority. The following table presents the sales budget and actual sales achievement in units and in Rs. from the fiscal year 2004/005 to 2008/009.

Table No. 1

Sales Target and Achievement

FY	Units in '000'			Rs. '000'		
	Target	Actual	Achievement	Target	Actual	Achievement
2004/05	1031308	1051429	101.95	5069025	5173964	102.07
2005/06	1124794	1113576	99.00	5551502	5496821	99.01
2006/07	1242897	1269274	102.12	6181731	7025158	113.64
2007/08	1531516	1407127	91.87	9101282	8488324	93.26
2008/09	1632148	1574465	93.33	9711280	9368066	95.87

Source: A year in review, NEA, Fy 2008/09

The above table shows that actual sales achievement of NEA is nearest with budgeted sales. According to this tale, target sales are set on realistic basis.

Not only in sales units but also sales revenue is highly consistent with budget.

In order to find out the nature of variability of plan and actual sales of different years, we have to calculate the arithmetic mean ($\overline{X}$), standard deviation (σ) and coefficient of variance (C.V) of the budgeted and actual figure for the five year from FY 2004/05 to 2008/09. The detail calculation are shown in appendix 1.

Now summarizing these results are as follow.

Table no 2

Particular	Sales budget in units '000' (x)	Sales achievement in units '000' (y)
Mean	131.25326	128.3234
S.D (s)	23.20734	23.20734
C.V	17.6813	14.9106

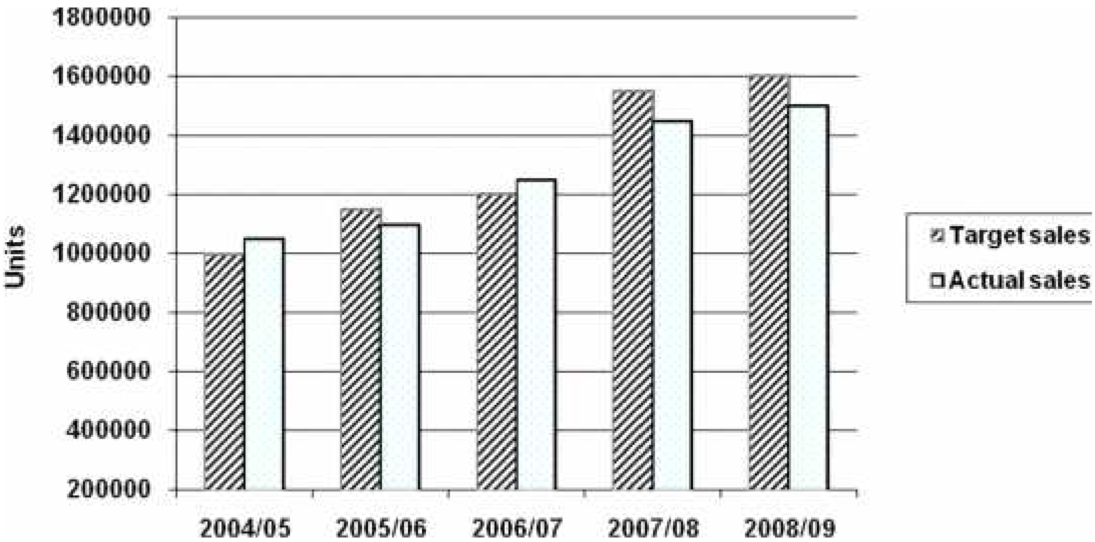
Source: A year in review, NEA, Fy 2008/09

The above table shows the result of calculated statistical tools. According to the calculated mean of actual sales is less than budgeted and standard deviation and coefficient of variation are also less than actual sales. Higher coefficient of variation is the indication of less consistent or more variable. Therefore above result show that budgeted sales are more variable than actual sales. Actual sales are more consistent and homogenous or uniform or less variable than budgeted sales. Therefore, budgeted sales of NEA are more variability than actual sales.

We can present the figure of actual sales and budgeted sales in graphical presentation.

Fig. no. 1

Sales target and actual



The graphical presentation indicates the gap between the budgeted sales and actual sales is very small. From the above graph in F.y 2004/05, three is very small gap between actual sales and budgeted sales, but the other F.y the gap is slightly remarkable. In Fy 2004/05 and 2006/07 the actual sales are in increasing trend but other Fy it is decreasing trend.

Correlation of coefficient and other statistical tools can be presented to analyse the relationship between budgeted and actual sales for the better performance, there should be positive correlation between budgeted and actual sales. To findout the correlation between budget and actual figure, we should take the help of Karl Person's coefficient of correlation andit is denoted by (r). By calculating the (r), we can test whether here is positive correlation between budgeted sales and actual sales or not. To calculate the values of (r), we should assume the budgeted sales as x and assume it as independent variable. We should also assume the actual sales as y and assume it as dependent variable. This significant of 'r' will tested with probable error of 'r'

To show the degree of relationship between budgeted sales and actual sales and to forecast the possible actual sales with given budgeted figures, a regression line can be used. We may assume that actual sales is dependent upon budget. As we assumed actual sales as 'y' and budgeted sales 'x', the regression line of actual sales on budgeted sales will be as follow.

$$(y-\bar{y}) = r\frac{\sigma y}{\sigma x}(x-\bar{x})$$

We have found the value of following from table no……

Mean	Budgeted (x)	Actual (y)
S.D (σ)	1312532 (000 units)	1283234 (000)

$r_{xy} = 1.78$

Then,

$$or, (y-1283234) = 1.78\,X\,\frac{191338}{232073}(x-1312532)$$

$$or, (y-1283234) = 1.46756\,(x-1312532)$$

$$or, (y-1283234) = 1.46756x - 1926219$$

$$or, y = 1.46756x - 1926219 + 1283234$$

$$or, y = 1.46756x - 642985$$

This regression equation shows that actual sales is in increasing trend.

Here, the straight line trend by the least square trend method for actual sales (y) upon time (x) is expected by (yc= a+bx)

Now, calculation of straight line tend by least square method.

Table No. 3

Fitting straight line trend by least square method.

Fy	Actual sales in unit '000' (y)	Mid time (x)	X^2	xy
2004/05	1051429	-2	4	-2102858
2005/06	1113576	-1	1	1113576
2006/07	1269274	0	0	0
2007/08	1407127	1	1	1407127
2008/09	1474465	2	4	3148930
Total	$\sum 4 = 6415871$	$\sum x = 0$	$\sum x^2 = 10$	$\sum xy = 1339623$

Source: A year in review, NEA, Fy 2008/09

Fy 2006/07 is assumed as base year therefore the value of x as mid time is zero.

Substituting the value in straight line equation.

yc = a + bx

Where,

$$a = \frac{\sum y}{N} = \frac{6415871}{5} = 12831742\,(000\,units)$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{1339623}{10} = 1339623(000\,units)$$

Therefore, yc = 12831742 + 1339623 X

If the sales trend of the previous year's continuous in the future, the sales will be increase in the future. The sales will be increase by 1339623 (000) every year. By the help of this trend line equation, we can estimate the actual sales for Fy 2008/09 the value of x is the equation will be 3 because the base year is 2006/07

Then, y = 1283174.2 + 13396.3 X 3

= 1283174.2 + 40188.9

= 1323363.1

If the past sales trend doesn't change then the possible future actual sales will 1323363.1 (000) units

In all previous analysis, it has been analyzed the past trend of the authority in respect of sales and now the sales budget and actual sales of Fy 2008/09 is being analyzed. NEA prepares the short range budget for coming Fy. It is prepared by classifying the type of consumer and it shows both units and Rs.

Table No. 4

Summary of sales budget and achievement of Fy 2008/09 by the category of consumers.

S.N.		Budgeted (000)			Actual (000)		
		Date	Units	Amount	Date	Units	Amount
1	Domestic	6.73	576500	3878066	7.08	648400	4592000
2	Non domestic	9.71	80470	773639	10.00	90000	900000
3	Commercial	9.51	95500	908122	9.90	110000	1089000
4	Industrial	6.32	597000	3771019	6.50	660000	4290000
5	Water supply irrigation	4.85	31200	151181	5.09	37000	188300
6	Street light	5.29	38600	204250	5.25	45000	236250
7	Temporary supply	13.50	300	4049	13.50	500	6750

8	Transport	5.79	6000	31149	5.50	7000	38500
9	Temple	5.08	2500	12692	5.00	2800	14000
	Total internal rate	6.81	-	646000	7.08	-	-
	Buck supply (India)	3.80	170000		4.35	200000	87030
	Grand total	6.56					

Source: A year in review, NEA, Fy 2008/09

By the previous analysis, it can say that NEA has the practice of preparing the sales budget. The techniques of sales budget preparation are satisfactory. The actual sales revenue of NEA is more than its targeted figure in Fy 2008/09. It is unable to supply the electricity to water supply and irrigation sectors. But it is able to sales electricity according to its target in the other sectors from the above table, the remarkable questions arises that the export sales price is very low in comparison with internal sales.

by analyzing the sales plan of NEA. The following points can be shown.

1. There is not very different between the budget and actual sales of NEA.
2. The straight line trend shows the positive sales figure for future.
3. Generally, sales plan of NEA is prepared on the basis of previous year's trend.
4. The regression equation shows that there is positive relationship between target sales and actual sales. Actual sales are in increasing trend.
5. NEA has practice of preparing short range sales budget by the classification of consumers.
6. There is perfect correlation between budget and actual sales.

7. Correlation coefficient is highly significant.

5.3 Production Budget of NEA

Preparation of production budget is second step in formulating profit plan. It is based on sales plan. All other remaining functional budgets are prepared on the basis of production budget. If production budget is not realistic then all other budget will also unrealistic. So, after preparation of realistic sales plan, realistic production budget should be prepared.

We have given the name production budget is the power generation and purchase budget of NEA. In terms of hydropower production the problem of opening and closing inventory is not to be faced by NEA because there is possibility of storing the hydropower NEA prepares production budget and estimate the future load forecast. It prepares it's production budget for fiscal year in short term and both generation and purchase of hydropower. By analyzing the previous trend, possible future trend of the authority can be forecasted. So, the following table represent the production budgeted and actual production and their achievement in units from fiscal year 2004/05 to 2008/09.

Table No. 5

Budgeted and Actual Production of NEA

Fy	Budgeted units (000)	Actual units (000)	Achievement %
2004/05	1419000	1373170	96.77
2005/06	1462760	1475000	100.84
2006/07	1605810	1701450	105.96
2007/08	1989690	1868420	93.90
2008/09	2372910	2165606	91.27

Source: A year in review, NEA, Fy 2008/09

This table shows that the gap between budgeted production and actual production. Budgeted production in this Fy is higher than actual production. Therefore we can say that it is not satisfactory.

To find out the nature of variability consistency of production budget and actual production of different year, we should calculate arithmetic mean, standard deviation and coefficient of variation. The detail calculations of these variables are shown in appendix 2.

We have summarizing the result from the above solution.

Table No. 6

Statistical tools	Budget production in units '000' (x)	Actual production in units '000' (y)
Mean ($\bar{x}$)	1770.32	171.628
S.D (G)	36.2299	28.3264
C.V	20.4685	16.5050

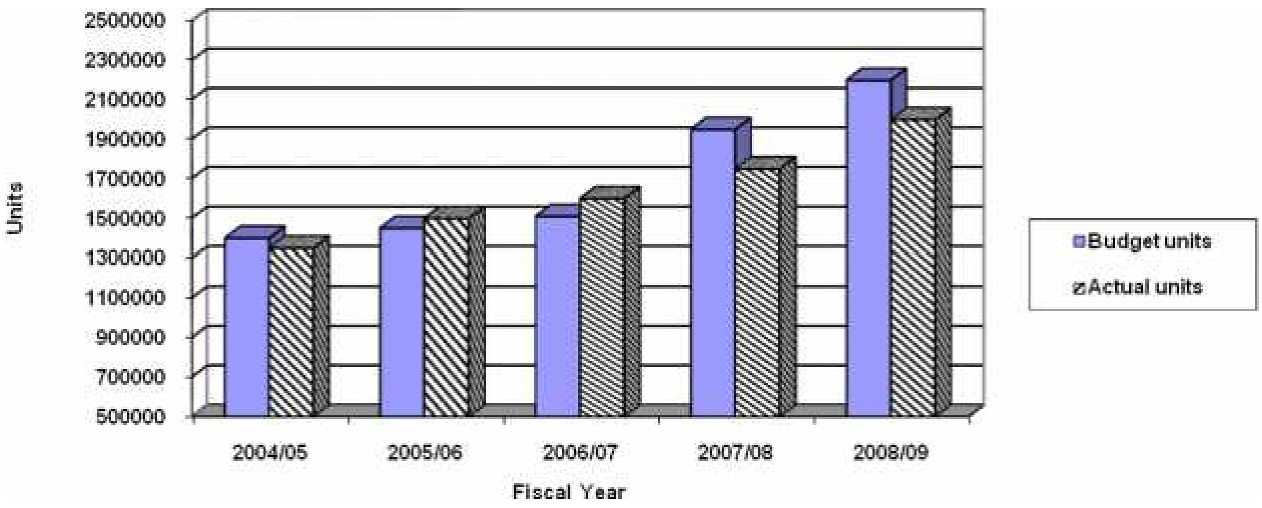
Source: A year in review, NEA, Fy 2008/09

The above analysis shows that coefficient of variation of variation of actual production is less than budgeted production. It indicates that the budgeted production is more variable than the actual production. Therefore we can say that the actual production trend is more homogenous and consistency than budgeted production.

The gap between the budgeted production and actual production can also be shown in graphical figure.

Fig no 2

Budgeted and actual production of NEA (000)



The graphical presentation shows the gap between the budgeted production and actual production. For the fiscal year 2004/05, 2007/08 and 2008/09, there are decreasing the actual production. And other fiscal year 2005/06 and 2006/07, there are increasing the actual production in comparison with budgeted production.

There is a relationship between sales and production because production budged should be done according to the sales budget. it is also necessary to analyze whether production meets sales or not and it is significant to analyses the relationship between sales and production. Following table present the NEA's actual sales and actual production of last five years.

Table No. 7

Actual sales and actual production

Fy	Actual sales unit	Actual production unit
2004/05	1051429	1373170
2005/06	1113576	1475000
2006/07	1269274	1701450
2007/08	1407124	1868420
2008/09	1574465	2165606

Source: A year in review, NEA, Fy 2008/09

The table shows that the level of actual production is more than actual sales. This difference is resulted from the power losses of electricity authority and it is remarkable in NEA. In order to find out the nature of variability correlation coefficient, standard deviation, coefficient of variation and mean are calculated which are shown in appendix 3

Now summarizing the results from above solutions.

Table No. 8

Statistical tools	Actual sales Units '000' (x)	Actual production Units '000' (y)
Mean ($\bar{X}$)	131.2532	128.3172
S.D (6)	25.1728	19.0723
C.V	19.1788	14.8634

Source: A year in review, NEA, Fy 2008/09

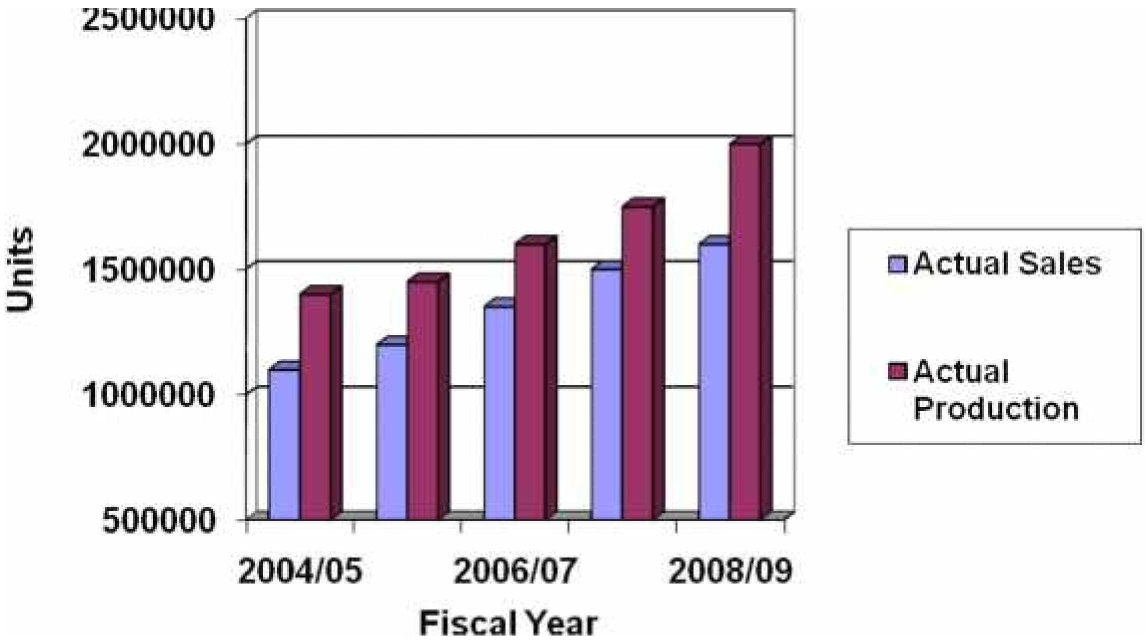
The above table shows that actual productions are more variable than actual sales because coefficient of variance of actual production is less than actual sales. So, actual sales seems more consistency and homogenous than actual production.

Actual sales and actual production should be positively correlated. Therefore sales should be increased as production increase. To find out the relationship between actual production and actual sales, calculation of correlation coefficient is necessary. By calculation the Karl Person's correlation coefficient, we can examine whether there is positive relation between actual sales and actual production or not. The actual sales will be change in the same direction, as the actual production will. For this purpose actual sales is denoted by 'x' and assumed to be independent variable and actual production is denoted by 'y' is assumed to be dependent. Variable upon the actual sales.

The gap between the actual sales and actual production can also be presented in graphical form as under.

Figure No. 3

Actual sales and actual production of NEA.



The above graphical presentation shows the increasing trend of both the actual sales and actual production. But the gap between sales and production is very large. It is due to leakage of power and power leakage is in increasing trend. By analyzing the past trend we can say that production will be increased as the increase of sales.

After analyzing the historical trend, it is tried to analyze the short range production budget of NEA. NEA prepares it's production budget after evaluating the peak demand. It's production budget is affected by government's policy in regard of electrification and completion of new projects. Power generation includes the generation of hydropower, diesel plant.

Following table shows the actual production and budgeted production and their achievement for the Fy 2008/09

Table No. 9

Budgeted and Actual Production and their achievement for the Fiscal Year 2008/09

Components	Budgeted Production in '000' Units	Actual Production in '000' Units	Achievement (%)
1. Hydro	111336	111664	100.29%
2. Diesel	2714	1792	66.02%
3. Purchase from	-	-	-
4. India	22654	23778	104.5%
5. Nepal	50138	71527	14.2%
Total	186842	20876	

Source: A year in review, NEA, Fy 2008/09

The analysis of short term production budget of NEA for the Fy 2008/09 reflects that actual production is more. In this Fy the planed hydro power generation is 111336 thousand units but in actual the authority produced 111664 thousands units which is satisfactory. Diesel and multifuel generation is also satisfactory but NEA emphasis the power purchase in real practice.

By analyzing the production budget of NEA, following points can be chalkout.

1. Actual production is less than budgeted production

2. Actual sales is significantly less than actual production. It clearly states the remarkable loss of power in NEA
3. There is perfect positive correlation between actual sales and actual production.
4. NEA has practice of preparing short-term production budget which includes the generation of hydropower, diesel plant, multi fuel plant and purchase from India and private sector of the country.

5.4 Overhead Budget of NEA

After preparing the production budget, the organization should formulate it's factory expenses and administrative expenses plan which is known as overhead budget. Factory overhead budget is prepared for the purpose of controlling factory expenses and administrative expenses. It consists of 1) Indirect materials 2) Indirect labors 3) All other miscellaneous expenses such as taxes, insurance, depreciation, supplies and repair and maintenance.

NEA does not prepare the separate budget like administrative overhead budget, manufacturing overhead, selling and distribution overhead budget. It prepare the overhead budget in combined way which is known as operation and maintenance expenditure budget.

This budget includes the following expenditures.

1) Staff cost
    a) Employees salaries and facilities
    b) Employees welfare expenses
    c) Pension and gratuity
2) Stores and services
3) Power purchase

4) Repair and maintenance
5) Maintenance of vehicles
6) Administrative expenditure
7) Interest
8) Depreciation
9) Royalty

Operation and maintenance expenditure can also be shown in table form as below:

Table No. 10

Operation and maintenance expenditure

Fy	Operation and maintenance expenditure	Interest on long term loan	Total expenditure
2004/05	4666.0	1317.2	5983.2
2005/06	5412.3	1141.3	6553.6
2006/07	5925.0	1244.2	7169.2
2007/08	8733.8	1188.2	9922
2008/09	10137.9	1164.6	11302.5

Source: A year in review, NEA, Fy 2008/09

The above table clearly indicates that NEA operation and maintenance expenditure and interest paid to long term debt is in increasing trend. Interest, on long term loan also increasing every year in the operation and maintenance expenditure budget. Because of the higher depreciation amount, the trend of expenditure is in increasing. According to the document of NEA, the amount of depreciation was 1993.9 millions last year and this year it is 2200 millions. So, the operation and maintenance expenditure is increasing due to higher amount of depreciation according to the annual report of NEA.

Table No. 11

Budgeted operation and maintenance expenditure budget of NEA (Except Depreciation).

S.N.	Head of expenditure	Yearly budget	% of each exp.
1	Staff cost	121243307	12.58
2	Fuel	90250	0.91
3	Operation and maintenance exp	809003	8.18
4	Power purchase	4600000	46.55
5	Royalty	614100	6.21
6	Deferred expenses write off	200000	2.02
7	Provision for expenses	150000	1.52
8	Interest	2174400	22.0
	Total	9881060	100

The above table shows that the major portion of NEA's expenditure is in power out of total budget 46.55 percent is hold in power expenditure. Interest is the second carrying 22.00 percent of total expenditure. This analysis shows that NEA is paying heavy expenditure in power, which is uncontrollable because they are related with supply and demand. Therefore, NEA can control in its expenditure and its interest which can be controlled.

5.5 Analysis of power losses situation of NEA

Power and loss has become the crucial problem of NEA. The authority is suffering from loss since 42 years. The electricity distribution system is much developed in other developing countries. 15 percent of electricity leakage out of total supply undeveloped distribution system is one of the major reasons of power losses. Here, It is try to analyze the situation of power losses of the authority for the last five years from 2004/05 to 2008/09.

Table No. 12

Power loss in unit and in Rs.

Fy	Power loss in '000' units	% of loss in total power available	Average sales rate	Sales revenue in '000' Rs.
2004/05	310770	23.60	4.92	1528988
2005/06	338710	23.98	4.96	1680002
2006/07	406654	23.90	5.53	2248797
2007/08	428290	23.60	6.68	2860977
2008/09	445670	23.95	7.00	3119690

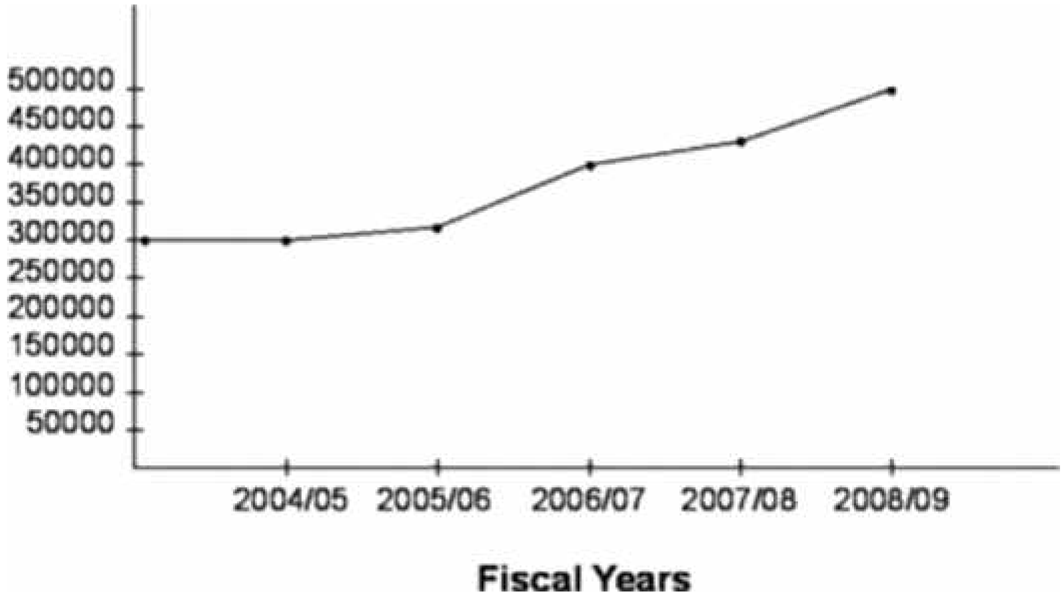
Source: A year in review, NEA, Fy 2008/09

The above table shows the power loss of NEA in units and in Rs. for the last five years. Power losses percent in comparison with total power available is not more different every year. The percent of power losses is decreasing by sales revenue because of the higher tariff rate. So, the authority is losing the large amount of profit each year. The theft of electricity is considerable loss of revenue for NEA although there is no any data regarding the annual loss of revenue from theft. Therefore technical and non technical leakages are main cause of power losses. Many control programs has been operated to reduce the power losses but it is not effective. So, we can say that the authority fails to control. The leakage of power of NEA is able to reduce the power loss. Therefore the management of the authority should pay attention towards to power losses.

According to the above data, power losses of NEA can also be presented in graphical form.

Figure 4.

power losses of NEA



The graphical presentation shows that the power losses of NEA is in increasing trend. In Fy 2004/05 is low point and Fy 2006/07 is very high point. Therefore power losses situation of NEA is main problem to earn profit. At least we can say that the authority should consider in this problem seriously.

5.6 Human Resource Planning of NEA

The comprehensive profit planning includes the human resources planning because the well planned human resources is the wealth of organization. But human resources planning is not easy work. Human resources planning refers the personnel needs, requirement, training, job description and evaluation, performance appraisal, union negotiation and wages and salary administration. To apply the concept of profit planning in public utility, effective planning and controlling may power cost is essential.

There is no systematic approach of human resources planning in NEA. It has fixed salary employees and few daily wages workers and some contract workers are employed in authority. Actually, in NEA there are many workers in temporary and daily wage but they are allowed to work whenever necessary. They have not guarantee to tomorrow on work. The staff who employed permanently are paid on the basis of time not on the basis of productivity. The productivity of daily wages workers and workers who are in temporary are completely neglected by NEA. Therefore the NEA is fails to control daily wages workers cost. The following table shows the planning of human resources of NEA for the Fy 2008/09

Table No13

Situation of manpower in NEA in Fy 2008/09

Level	Service	Approved position			Existing situation			
		Regular	Pool	Total	Permanent	Temporary	Daily wage	Total
Officer level	Technical	1015	0	1015	653	190	7	850
	Administration	408	0	408	305	10	0	315
	Total	1423	0	1423	958	200	7	1165
Assistance level	Technical	5296	173	5469	4105	571	740	5416
	Administration	2888	293	3181	2481	324	404	3209
	Total	8184	466	10073	6586	895	1144	8625
Grand total		9607	466	10073	7544	1095	1151	9790

Source: A year in review, NEA, Fy 2008/09

From the above table there are all together approved position of staff 10073 and total number of permanents, temporary and daily wages staff currently employed is 9790. Among them 1165 persons are officer and 8625 are assistance. There are 7544 employed are permanent, 1095 are temporary and

1151 are in wages. It is clearly shows that the company provides employment nearly 10000 persons. But they have no practice of developing long term and short term human resources planning. There is no clear and systematic plan of human resource. In appointment of personnel there exists government intervention. If the company has to face over staffing the company cannot run effectively.

5.7 Cash Budget of NEA

Cash budget is not expenses budget, it is a plan of cash flows. It shows the planned cash inflow, cash outflows, opening and ending position of cash balance of the enterprise. A basic objective is to plan the cash flow of the enterprise is determined future borrowing and future investment. The needed of cash financing is presented by planning cash flow then deficit exists and needed of excels cash investment profitable use, with the help of other functional budget such as sales budget, production budget, material purchase budget, expenses budget and the capital expenditure, the cash budget is prepared. it is necessarily prepared near the end of the annual planning cycle along with the planned income statement and balance sheet.

The major sources of cash inflow of NEA are the sales of electricity, income from other services, interest and other income. similarly the major sources of cash outflow is the operation and maintenance expenditure, interest payment for long term loan, capital expenditure etc. NEA prepares short-term cash budget in a systematic way. It estimates the probable cash receipts and payment with the help of other functional budget and estimates the probable future cash deficits or surplus. The following table presents the budgeted and actual amount of cash of NEA for the Fy 2008/09

Table No. 14

Cash budget of NEA of Fy 2008/09

S.N.	Particular	Budgeted amount '000'	Actual amount '000'
	Receipt		
1	Opening balance	625547	474518
2	Electricity sales	10369256	10381210
3	Income from other sources	400000	630000
4	Collection from govet. of old electricity charge	160000	400000
5	Interest and other income	125000	1200000
6	Received from government		
	a) From local resource	732800	400000
	b) From rural area	425000	130081
	c) From foreign sources	7243805	6052266
	Total cash available	20081408	18338075
	Payment		
1	Operational overhead release	209793	2142758
2	Internal long term loan	1250000	1500000
3	Capital expenditure release	716243	755494
4	Rural		
5	Investment in govt. approval project	425000	150000
	a. From NEA source	1310481	391243
	b. From Govt. source	732800	130081
	c. From foreign source	7243805	6052266
	Share investment in project	300000	400000

6	Payment of the installment for long term-loan	201750	520000
7	Royalty payment	400000	300000
8	Income tax payment	150000	200000
9	Loan fund release	50000	20000
10	Purchase budget (net) release	84700	95100
11	Emergency fund	224000	384474
12	Return Govt's release	78200	_
13	Electricity purchase	4170000	4577975
14	Assets insurance fund release	50000	50000
15	Pension fund	60000	60000
	Total cash payment	19544072	17729391
	Surplus	5373	638684
	Minimum bank balance	500000	600000
	Net surplus (Deficit)	37336	38684

Source: A year in review, NEA, Fy 2008/09

From the analyzing the above table the cash budget of NEA was find that, it has sufficient cash surplus to made payment for expenditures. It should not borrow the loan in actual budget and net surplus is 38684 thousands but budgeted amount of cash is deficit 97336 thousands.

5.8 Profit loss account of NEA

Projected profit loss account is prepared after preparing all functional budget budgeted profit and loss account indicates the possible future profit of loss for the budgeted period. It shows the final conclusion of operation of an accounting year.

NEA prepares the actual profit and loss at the end of the accounting period. The following table shows the profit pattern of NEA.

Table no 15

Profit pattern of NEA

Fy	Profit and loss (in '000' Rs.) after tax
2004/05	173700
2005/06	356000
2006/07	185100
2007/08	303920
2008/09	310400

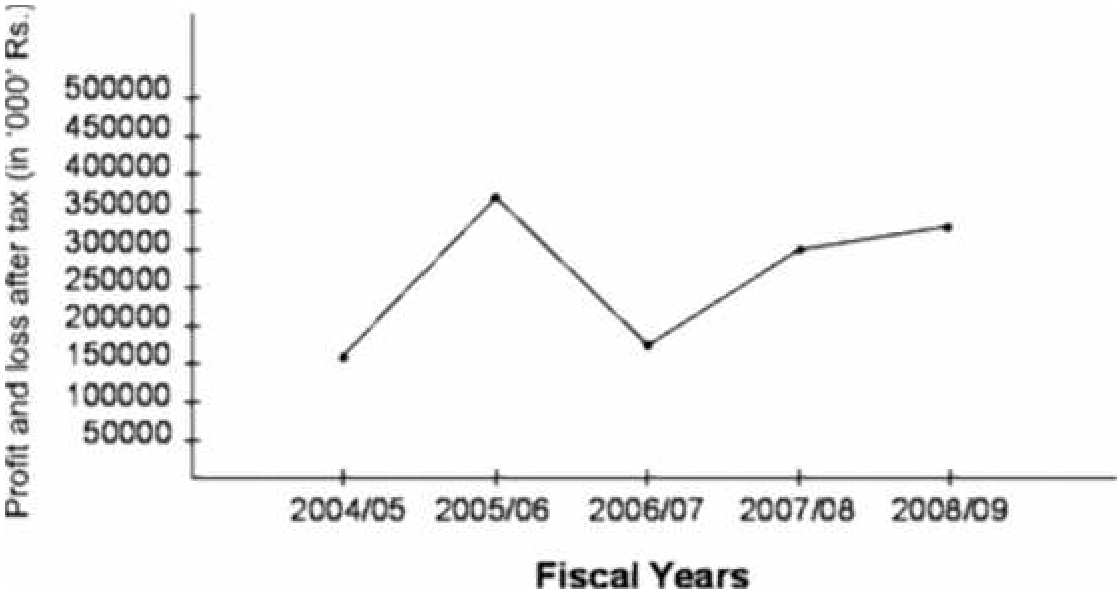
Source: A year in review, NEA, Fy 2008/09

After analyzing the above table, the maximum profit of NEA was Rs. 356000 thousands in Fy 2005/06. The lowest profit is Rs. 173700 thousand in Fy 2004/05. Although it has profit, the management of NEA should control the higher cost and have to reduce the burden of huge amount of interest by evaluating various alternatives.

The profit pattern of NEA can also be presented in graphical form as follow.

Figure No. 5

Profit pattern of NEA



The graphical presentation shows that the profit is fluctuating. Here, profit is high at Fy 2005/06 again it decrease in Fy 2006/07. Then it increase in Fy 2007/08 and 2008/09

5.9 Balance sheet of NEA.

Balance sheet shows the overall financial conditions of assets and liabilities of a enterprises. Balance sheet shows the financial strength and weakness of a company. It is prepared of the end of accounting year. It is not an account and prepared after the profit and loss account. it is just shows the assets and liabilities. NEA has not prepared the projected balance sheet.

5.10 Cost volume-profit analysis: for planning profit

5.10.1 Classification of expenses

classification of cost into fixed and variable is very important to plan and control the costs. It helps to determine the volume of operations desired to maintain the authority profitable. but NEA has not set any clear cut criteria about cost classification as fixed and variable components. The classification of expenses in fixed and variable component is as under.

Table No. 16

Classification of expenses

S.N	Expenses	Nature	Amount in Rs. '000' based on Fy 2008/09	
			Fixed cost	Variable
1	Staff cost	Fixed	1243307	
2	Fuel	Variable		90250
3	Operation and maintenance	Variable		809003
4	Power purchase	variable		4600000
5	Royalty	Fixed	614100	
6	Deferred Exp. Write off	Fixed	200000	
7	Provision for Exp.	Fixed	150000	
8	Interest	Fixed	150000	
9	Depreciation	Fixed	2450000	
Total			4807407	5499253

Source: A year in review, NEA, Fy 2008/09

The above cost classification, we can separate fixed and variable expenses. From the above table shows that there is no clear cut specific policy and scientific method to classify the costs classification is made for the purpose of calculating the break even point.

5.10.2 Cost Volume Profit Analysis

CVP analysis shows the relationship between cost and volume, volume and profit, cost and profit and cost volume profit as a whole. CVP analysis is one of the analytical management accounts, tool for studying the relationship between volume, cost price and profit. It is also an important tools of profit planning in any organization. It shows which level of activity is necessary to be break even or to generate certain amount of profit

CVP analysis includes both contribution analyses and break even analysis. BEP analysis emphasized the level of output at which sales revenue is exactly total cost.

Some assumption for CVP analysis of NEA are given below:

1. Cost volume structure is based on the accounting data of Fy 2008/09.
2. Activity base is selected in term of sale units in thousand i.e KW
3. Selling price, variable cost volume ratio and fixed cost per annum are assumed to be remain constant.
4. There is no assumption of power inventory.

For the CVP analysis of NEA, it is going to present the account data for Fy 2008/09 in thousand units and Rs.

Total cost	= 10306660
Total sale unit	= 1574765
Total sales revenue	= 10320893
Total variable cost	= 5499253
Total fixed cost	= 4807407
Total other income	= 550000

a) Calculation of Variable Cost Volume Ratio

This ratio shows the proportion of variable cost to each Rs. of sales revenue. The formula is to calculated variable cost ratio is

Variable Cost (V.C)= $\frac{\text{Variable cost}}{\text{Sales Revenue}}$

$= \frac{5499253}{10320893}$

= 0.5328

= 53.3%

b) Calculation of Break Even Point with the help of variable Cost Ratio

$$\text{BEP in (Rs.)} = \frac{\text{Fixed cost} - \text{Other income}}{\text{P.V ratio}}$$

$$= \frac{4807407 - 550000}{0.5328}$$

$$= \frac{4257407}{0.5328}$$

= 7990628.75 thousands.

According to the above calculation it seems that NEA will be break even when the sales revenue will be Rs. 7990628.75 thousands. The sales revenue of NEA is 10320893 thousands which is below the breakeven point. It does not show the satisfactory position of NEA interim of cost volume profit analysis

5.11 Analysis of financial position of NEA by using the Tool of Ratio Analysis

Ratio analysis is a financial tool which is used to measure the financial position of enterprises. The term 'Ratio' refers to the numerical or quantitative relationship between two variables. A ratio is calculated by dividing one item of the relationship with the other based

By the help of financial analysis, we can know the performance of the organization, which presents actual situation of the organization. It is necessary to maintain financial strength and health. Since financial soundness is vital element to achieve the goal, the management should know in which condition the organization is running. After this Analysis, the management can predict. The future financial position can take corrective action before it fail. Corrective action helps to improve financial position therefore, every enterprises needs to analyze its financial position to acquire knowledge of the financial position of the corporation whether it is running effectively or not.

So, the ratio analysis is a financial tool that is used to measure the financial position of NEA. There are different kinds of ratio by which financial analysis can be done.

a) Profitability ratio
b) Activity ratio
c) Liquidity ratio
d) Leverage ratio

5.11.1 Profitability Ratio

By applying the profitability ratio, we can find the profit position of NEA. It shows the overall efficiency of the business concerns. The following are the important profitability ratio of NEA.

1. Return on sales
2. Return on net worth
3. Return on total assets

5.11.1.1 Return on Sales

The ratio shows the relationship between net profit and sales. Therefore to calculate the net profit ratio of NEA. We have presented the five years data in the following table.

Table No 17

Return of Sales of NEA

Fy	Net profit (in million Rs.)	Sales revenue (in million Rs.)	Net profit To sales revenue
2004/05	173.7	5173.964	0.034
2005/06	95.9	5496.821	0.017
2006/07	185.1	7025.158	0.026
2007/08	51.0	8488.324	0.006
2008/09	310.4	10320.893	0.030

Source: A year in review, NEA, Fy 2008/09

The above table indicates that, net profit was increase in Fy 2004/05 and decreased in 2005/06 and again increase in Fy 2006/07. The ratio of net profit shows the profitability of authority indicating that the only increase in NEA sales is increasing each year but net profit is not increasing proportionately. high net profit is a sign of good financial position but net profit cannot give the true financial position.

5.11.1.2 Return of Net Worth.

Return on net worth ratio is show the relation of net profit after tax . In case of NEA, net worth includes the equity owned by government of Nepal and reserve and surplus. Higher ratio indicated higher return on equity capital. If net worth is decreasing, it shows reinvestment is decreasing and if net worth is increasing then reinvestment is increasing. In the following table, the return on net worth can be presented of NEA in five years data.

Table No 18

Return on net worth of NEA

Fy	Net profit (in million Rs.)	Net worth (in million Rs.)	Return on net worth
2004/05	173.7	25699.3	0.0275
2005/06	95.9	25788.8	0.0067
2006/07	185.1	25406.1	0.0140
2007/08	51.0	26323.6	0.0070
2008/09	310.4	25853.0	0.012
Average	183.2	10526	0.013

Source: A year in review, NEA, Fy 2008/09

The analysis of above table, we can see the amount of net worth is increasing every year. Increasing net worth indicates that NEA is gradually going towards self dependency.

5.11.1.3 Return on Total Assets

The ratio states the relationship between total assets and net profit. It is calculated to measure the profit after tax against the amount invested in total assets. The ratio is presented in the following table:

Table No. 19

Return on total assets of NEA

Fy	Net profit (in million Rs.)	Net worth (in million Rs.)	Return on total assets
2004/05	173.7	46027.7	0.0037
2005/06	95.9	50642.2	0.0019
2006/07	185.1	54016.7	0.0034
2007/08	51.0	61956.5	0.0008
2008/09	310.4	68674.3	0.0045
Average	183.2	56263.48	0.0029

Source: A year in review, NEA, Fy 2008/09

From the above analysis, the average rate of return total assets is 0.0029. The Fy 2006/07 higher than average return on total assets but in other Fy it is lower. Therefore the return on total assets of NEA is not satisfied. The government has given an instruction to manufacturing public enterprises in 1980 to earn 10 percent rate of return on investment. But those objectives can not be fulfilled.

5.11.2 Activity Ratio (Turnover Ratio)

The relationship between sales and assets are indicated by turnover ratio. These ratios reflect how efficiently the company is managing its resources. Thus these ratios measures the degree of effectiveness in use of resources.

Higher the turnover ratio the better the profitability from the available table of NEA the following important turnover ratio are given.

5.11.2.1 Fixed Assets Turnover Ratio

The ratio presents the relationship between sales and fixed assets. It shows the efficiency of utilizing fixed assets. We have calculated the fixed assets turnover ratio (excluding depreciation) of NEA for five year as follow.

Table No. 20

Fixed assets turnover ratio

Fy	Sales revenue	Fixed assets (net)	Ratio
2004/05	4850.131	27151.2	0.18
2005/06	5173.964	28349.9	0.18
2006/07	5496.821	29227.3	0.19
2007/08	7025.158	33316.8	0.21
2008/09	8377.832	35109.8	0.24

Source: A year in review, NEA, Fy 2008/09

Note: Fixed assets= Total fixed assets- depreciation

The above table indicates that, sales revenue and fixed assets both are in increasing trend. Therefore turnover time is also increasing. This indicates the performance of fixed assets. In case of NEA, turnover time in Fy 20004/05 was 1.08 but in Fy 2007/08 it is 0.21. The ratio is in increasing trend each year. NEA should consider about that thing so that fixed assets can be used effectively.

5.11.2.2 Capital Turnover Ratio

Capital turnover ratio shows the efficiency of capital employee in the authority by computing many times of capital employed in turnover in a stated period NEA's capital employed ratio from Fy 2004/05 to 2008/09 are given below.

$$\text{Capital turnover} = \frac{\text{sales}}{\text{capital employed}}$$

Table No 21

Capital Turnover Ratio of NEA

Fy	Sales revenue	Capital employed	Ratio
2004/05	4850.131	43100.5	0.113
2005/06	5173.964	46637.2	0.111
2006/07	5496.821	49230.4	0.112
2007/08	7025.158	56479.3	0.124
2008/09	8377.832	62560.5	0.134

Source: A year in review, NEA, Fy 2008/09

Note: Capital employed= Total equity + long term loan.

According to the analysis of capital turnover ratio of NEA is very low each year. The higher the ratio, greater the profit. It indicates that sufficient sales of NEA are not being made and profits are very low. So, it seems that NEA increase the sales volume, to increase its capital turnover ratio.

5.11.2.3 Working capital turnover ratio

A relationship between sales and working capital is known as working capital turnover ratio. It indicates about the condition of working capital in the firm therefore the working capital turnover ratio of NEA for the Fy 2004/05 to 2008/09 is presented in the following table:

$$\textbf{Note}: \text{working capital turnover ratio} = \frac{\text{sales}}{\text{working capital}}$$

Table No 22

Working capital turnover ratio of NEA

Fy	Sales revenue	Capital employed	Ratio
2004/05	1051.419	1943.4	2.50
2005/06	4850.131	1687.2	3.26
2006/07	5496.321	266.9	26.32
2007/08	8488.324	283.9	29.90
2008/09	9295.24	293.3	31.69

Source: A year in review, NEA, Fy 2008/09

According to the above table, the ratio of working capital turnover of NEA is in increasing trend. This indicates that profit is higher. Higher turnover to working capital is the sign of over standing and may concern in the financial difficulties and low working capital ratio shows that working capital is not efficiency utilized. So, we can conclude from the above analysis that NEA has efficiency utilized the working capital.

5.11.2.4 Total Assets Turnover Ratio

The relationship between total assets and sales revenue of a firm is indicated by this ratio. By the help of this ratio, we can analyze the corporation's efficiency in utilization of total assets in sales revenues. A higher assets turnover ratio is desirable and result is better profitability. A higher ratio shows that the total resources have been well managed and low ratio shows over investment in assets. The following table shows the relationship between the total assets and sales revenue of NEA

$$\text{Total assets turnover} = \frac{\text{Sales}}{\text{Total assets}}$$

Table No 23

Total Assets Turnover Ratio of NEA

Fy	Sales revenue	Total assets	Ratio
2004/05	4850.131	46027.7	0.11
2005/06	5173.964	50642.2	0.10
2006/07	5496.821	54016.7	0.10
2007/08	7025.158	61956.5	0.11
2008/09	8377.832	68674.3	0.12

Source: A year in review, NEA, Fy 2008/09

Note: Capital employed = Total equity + long term loan

In the above table, the investment in assets has increased in each year and the sales revenue of NEA has also increased in each Fy. The total assets turnover ratio shows the authority is ability of generating revenue from all financial resources committed to the authority. The minimum ratio recorded 0.10 times in Fy 2005/06 and 2006/07 and maximum ratio is recorded 0.12 times in Fy 2008/09. Traditionally this ratio should be two times but NEA is not able to do even one times turnover. Therefore, we can say that the authority has idle capacity and it is not able to do well trading of total assets.

5.113 Activity Ratio (Turnover ratio)

The ability of a firm to meet it's obligation of short-term is known as liquidity. It reflects the short term financial strength of business. There are two ratios under liquidity ratio which are as follows:

1. Current Ratio
2. Quick Ratio (Acid test ratio)

5.11.3.1 Current Ratio

It is the relationship of current assets and current liabilities. Current assets are those assets which can be converted into cash with a short period of time, normally not exceeding one year. Current liabilities are those obligation which are payable within a short period.

Generally the ratio should be 2:1. It means current assets should be twice of the current liabilities. If the current assets are two times of the current liabilities, there will be no adverse effect on business operation when the payment of current liabilities are made. Therefore if the ratio is higher than 2 it is very comfortable for the creditors. In the following table the current ratio of NEA for lost five years is presented.

Table No: 24

Current Ratio of NEA

Fy	Current Assets	Current Liabilities	Ratio
2004/05	4868.6	2925.2	1.66
2005/06	5692.2	4005.0	1.42
2006/07	5053.2	4786.3	1.06
2007/08	5761.2	5477.2	1.05
2008/09	6313.5	6113.8	1.03

Source: A year in review, NEA, Fy 2008/09

According to the above table, the current ratio of NEA has not met the standard ratio 2:1. Actually it has god liquidity but not enough to pay immediate total current liabilities.

5.11.3.2 Quick Ratio (Acid test ratio)

This ratio shows the relationship between quick or liquid assets and current liabilities. The calculation of quick ratio includes only those assets that are most liquid in nature, cash, book debt and marketable securities. But inventories can not be termed to be liquid assets. The last five years ratio of NEA are presented in the table below.

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

Quick assets = Total current assets – Inventory

Table No. 25

Quick Ratio of NEA

Fy	Quick Assets	Current Liabilities	Ratio
2004/05	4064.6	2925.2	1.39
2005/06	4777.3	4005.0	1.19
2006/07	4313.2	4786.3	0.90
2007/08	4778.8	5477.2	0.87
2008/09	5352.6	6113.8	0.88

Source: A year in review, NEA, Fy 2008/09

From the above table, the liquidity position of NEA is satisfactory. The quick ratio shows the ability to pay immediate current debt from quick assets. Theoretically it is the best ratio when the ratio is 1:1

5.11.4 Leverage Ratio (Capital structure ratio)

In financial management, it refers to employment of funds to accelerate rate of return to owners. These ratios are also called solvency ratio or capital structure ratios. To judge the long term financial position of the firm, the leverage ratios are calculated. From available data of NEA the following important leverage ratios are given.

5.11.4.1 Debt-Equity Ratio

This ratio is calculated to measure the relative proportional of outsider's funds and shareholder's funds invested in the company. In other words, the relationship between borrowed fund and owner's equity is known as debt-equity ratio. The ratio of NEA is prepared for the last five years.

$$\text{Debt} - \text{Equity Ratio} = \frac{\text{Longterm debt}}{\text{Shareholder's equity}}$$

Table No 26

Debt Equity Ratio

Fy	Long term debt.	Shareholder's equity	Ratio
2004/05	17403.2	25699.3	0.68
2005/06	20848.4	25788.8	0.81
2006/07	23824.3	25406.1	0.94
2007/08	30155.7	26323.6	1.15
2008/09	36707.5	25853	1.42
Average	25787	25814	1

Source: A year in review, NEA, Fy 2008/09

According to the above analysis the debt to equity ratio of NEA is not in god position, because it is less than standard ratio. Generally debt to equity ratio should be 1:1. Here only 2007/08 and 2008/09 are covered by average ratio. It means that the NEA has low external investment. It shows that management of NEA do not want to bear risk.

5.11.4.2 Interest Coverage Ratio

It is computated by dividing net profit before interest and taxes. This ratio is also known as times interest earned rating. In the following the ratio is presented of NEA from Fy 2004/05 to 2008/09

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Tax}}{\text{Interest}}$$

Table No. 27

Interest Coverage Ratio of NEA

Fy	NPBIAT	Interest	Ratio
2004/05	1519.7	1317.2	1.15
2005/06	1731.2	1141.3	1.52
2006/07	2000.8	1244.3	1.61
2007/08	1715.9	188.2	1.41
2008/09	1820.5	164.4	1.50

Source: A year in review, NEA, Fy 2008/09

According to the above table, we can say that interest coverage ratio of NEA is very low. Theoretically, it is the best ratio when the ratio is 6:1. A high ratio is a sign of low burden of borrowing of the business and lower utilization of borrowing capacity. From the point of view of the creditors, the large the coverage, the greater the ability of firm. Therefore it shows low ability of the authority to make the payment of interest to creditors.

5.12 Measurement of productivity

Productivity is expressed the ratio of the input facilities to the output of goods and services. It is the best index to determine the effective use of resources productivity is also define as the aggregate measure of quality, quality of work performance and resource utilization. This implies that productivity for managers is the success or failure in producing goods and services in optimum quality with optimum use of resources. European productivity council defines, "productivity is an attitude of mind. It is the certainty of being to able to do better than yesterday and continuously. It is constant adoption of economic and social life to changing conditions. It is the conditional effort to apply new techniques and methods. It is the faith in human progress.

The main theme of productivity is optimum utilization of limited resources. Productivity measurement is also useful in profit planning of various purpose i.e. indicates the situations where improvement in the working of inputs is possible to increase output, comparison of performance for various enterprises, contribution of different input factors. So, it is said that productivity measurement is a sub-system of profit planning system.

Some important productivity measurements are as follows.

1. Employee Productivity
2. Capital Productivity
3. Project Productivity

5.12.1 Employee Productivity

It is the most commonly used tools of productivity. By analyzing the employee productivity we can easily know that what will be the output when certain expenses is done for the employees. It is calculated as under

$$\text{Employee Productivity} = \frac{\text{Output}}{\text{Employee Cost}}$$

Table No. 28

Employee productivity of NEA

Fy	Output Rs.	Employee cost	Employee productivity
2004/05	5432.7	710.99	7.64 times
2005/06	5782.7	708.89	8.16 times
2006/07	7212.4	845.15	8.52 times
2007/08	8910.2	1000.50	8.89 times
2008/09	1096.4	150.00	8.77

Source: A year in review, NEA, Fy 2008/09

From the above table, output for Fy 2007/08 is highest in which its productivity is 8.98 times.

5.12.2 Capital Productivity

In the following table, capital productivity of NEA is presented

$$\text{Capital Productivity} = \frac{\text{Output}}{\text{Capital Employed}}$$

Table No. 30

Capital Productivity of NEA

Fy	Output Rs.	Capital employed	Capital productivity
2004/05	5083.6	43102.5	0.118:1
2005/06	5432.7	46637.2	0.116:1
2006/07	5782.7	49230.4	0.117:1
2007/08	7212.4	56479.3	0.128:1
2008/09	10096.4	42821	0.225:1

Source: A year in review, NEA, Fy 2008/09

Note: Capital employed= Total liabilities-current liabilities

The above table shows that output and capital employed both are in increasing trend capital productivity is also in increasing trend. Every one rupee invested as capital earn 0.118, 0.116, 0.117, 0.128, 0.235 respectively.

5.12.3 Profit Productivity

By analyzing productivity we can easily know that what will be the net profit when certain amount investment i.e. Total assets or capital employed into enterprises. In th following table profit productivity of NEA is presented from the Fy 2004/05 to 2008/09. The formula of calculating this productivity is.

$$\text{Profit Productivity} = \frac{\text{Net Profit after Tax}}{\text{Investment}}$$

Table No 31

Profit Productivity of NEA

Fy	Net profit after tax	Investment	Profit productivity
2004/05	707.4	43102.5	1.64
2005/06	173.7	46637.2	0.37
2006/07	356.0	49230.4	0.72
2007/08	185.1	56479.3	0.33
2008/09	310.4	62560.2	0.49
Average	346.52	51601	0.71

Source: A year in review, NEA, Fy 2008/09

Note: Investment= Total liability- current liability

According to the above table, it shows that investment is increasing every year but the net profit is not increasing on that trend. It is vey low net profit in Fy 2005/06. Therefore it clearly shows that profit productivity is decrease in the Fy 2007/08. In average, every 100 rupees invested in the enterprise. net profit is increasing and decreasing different Fy productivity.

5.13 Variance Analysis

5.13.1 Variance of Sales

A variance is the difference between standard or budgeted cost and actual cost. If actual cost is greater than standard, the variance is know as adverse or unfavorable where as if actual cost is less than standard cost, the variance is known as favorable. In the following table sales variance of NEA are given as under.

Table No. 32

Variance of Sales of NEA

Fy	Budgeted sales	Actual sales	Variances		
			Units	Percent	Remark
2004/05	1031308	1051429	20121	1.951	U.F
2005/06	1124794	1113576	11218	0.997	F
2006/07	1242897	1269274	26377	2.122	U.F
2007/08	1531516	1407127	124389	0.919	F
2008/09	1632148	1574465	57683	0.964	F

Source: A year in review, NEA, Fy 2008/09

After analyzing the above table, sales variance of NEA is favorable in the average. In Fy 2004/05 and 2006/07 It is unfavorable but Fy 2005/06, 2007/08 and 2008/09 it is favorable, This means the management of NEA is able to forecast the sales, but not satisfactory i.e it has no good sales estimate.

5.13.2 Variance of Production

Now we are going to analyze production variance of NEA. Actual and budgeted production of NEA is presented in the following table and variance of production is calculated.

Table No. 33

Variance of production of NEA

Fy	Budgeted production	Actual production	Variances	
			Units	Remark
2004/05	1419000	1373170	45830	F
2005/06	1462760	1475000	12240	U
2006/07	1605810	1701450	95640	U
2007/08	1989690	1868420	121270	F
2008/09	2372900	2165606	207294	F

Source: A year in review, NEA, Fy 2008/09

From the above table production variance of NEA seems favourable in average. It is favorable in Fy 2004/05, 2007/08 and 2008/09 and other Fy are unfavorable.

Chapter VI

Findings, Summary, Conclusion and Recommendation

6.1 Findings

By analysis the various functional budgets, Their achievements variables, analysis of variance and the analysis of financial position of NEA shows that the authority is falling so many internal and external problems in process of formulating and implementing profit plans. Though the formulation technique of budget is satisfactory in comparison with its committed resources, the achievement of NEA is not encouraging. Overhead expenditure is in increasing way. Assets of the authority should be utilized properly. In terms of CVP analysis the authority has satisfactory position. According to flexible budget analysis, the authority is able to earn operating profit. The NEA's tariff rate for export sales is below than internal sales. So, it should increase the tariff rate for export sales.

Being a government owned public utility concern; NEA has to follow up government policies and plans. Therefore, on the basis of different analysis and observation about NEA, the following major findings have been presented below:

1. Achievement of authority for actual sales is more variable than budgeted sales and actual production is also more variable than planned production.

2. Overhead are not classified systematically and creates problem to analyze its expenses properly.

3. NEA has no proper record of manufacturing and it has no proper practice of segregating cost into fixed, variable and semi variable.

4. NEA is paying a large amount of interest every year and it is suffering from high fixed costs.

5. NEA is suffering from idle cash and bank balance.

6. Return on sales ratio, return on net worth, fixed assets turnover ratio, capital turnover ratio, total assets turnover ratio are not perfectly satisfactory though quick ratio seems better.

7. Goals and objectives are not clear cut of the authority.

6.2 SUMMARY

Public enterprises have come to play major role in economic development of Nepal. Government has invested a huge amount of resources in NEA. However, the return on government on such investment is very low. In developing country like ours, the role of public utility undertaking can hardly be ignored. The services provided by public utilities are essential for economic growth and development. It is also important because this sector is a large user of economic resources.

Due to under policies and procedures regarding goals and objectives, most of the Nepalese manufacturing company like NEA have no specific goals and objectives. Due to inadequate knowledge about profit planning and lack of planning expert, most of manufacturing public enterprises are suffering from serious problem of under utilization of capacity excess amount of production cost, high amount of fixed cost and problem of managerial inefficiency. As a result, they are running at continuous loss.

Nepal has huge water resources, which can generate power and irrigate land much more than requirement of this country. But Nepal has utilized only about 650 M.W hydropower from the huge potential of 83000 M.W. The concept of competition and choice in the process of commercialization and the form of ownership and management are being radically refashioned. In this situation, the utilization of our water resources is very significant NEA is only our institution engaged in the power sector of the country. For the better utilization of available water resources of the country, effective management is essential. NEA maintains its status as the largest government enterprise in term of human resources employment, capital investment and assets. It has to be undertaking the wide responsibility of electricity service throughout the nation. But, NEA has a challenge to operate in a systematic manner. The budgeting system of NEA is realistic to some extent but its financial situation is very serious. NEA is also suffering from the problem of interventions. Most of the executives and managers are directly related with political parties. Their promotion also depends upon the relation of parties. In NEA the managing director also comes from political appointment rather than the fair competition.

The basic objectives of the present study are to highlight the current practice and application of detail and systematic approach of profit plan and its effectiveness in NEA. In NEA, there is the absence of responsibility in accounting system although most of the functional budgets are prepared. There is no practice of developing variable budget and flexible budget in NEA without developing these budgets planning system becomes baseless. Similarly, there is lack of proper coordination and communication between the different levels of management and management has no commitment on the goals and objectives of organization.

6.3 Conclusions

After analyzing the profit planning system in Nepal Electricity Authority, the following points can be given as:

a. While preparing sales plan, they do no consider the cost volume profit relationship

b. NEA is unable to sale the electric service to its customer according to the production or total energy available.

c. The statistical tools show the positive relationship between budgeted sales and actual sales as well as relationship between budgeted production and actual production.

d. Both, long-term and short-term profit plan are prepared by NEA but long term profit plan is considered only to the top level executives.

e. Power loss is one of the serious problems of NEA. Therefore it is reducing the NEA's operating profit annually.

f. There is the absence of effective utilization of assets in NEA

g. Increasing cost in each year is another remarkable point for NEA. It has not adopted the cost control measures.

h. NEA is not able to maintain proper coordination between the top level management to lower level management.

i. In NEA, there is not any clear cut classification of fixed and variable cost which creates problem in profit planning.

j. NEA has poor assets turnover ratio. So, it can be said that there is the absence of effective utilization of assets.

k. Because of the absence of competitors, authority has become monopolistic concern and hence it is not alert toward its possible threats and opportunities.

l. The authority has not adequately considered of controllable and non controllable variables affecting the organization.

6.4 Recommendations

After detail analysis, the following recommendations are made to improve the formulation and implementation of profit planning system of NEA.

1. The current liquidity position of NEA covers the study period is satisfactory NEA should follow a consistent working capital policy to maintain its liquidity position. NEA has stroked in general a trade- off between current assets and liabilities and is normally capable of paying its current obligation.

2. NEA should provide incentive to staff to encourage them for collective of over amount of receivable.

3. NEA should control leakage of the electricity. For this purpose, meter reading and meter joining system should be improved. The most important aspect is to motive its employees engaged in transmission and distribution line to control the leakage. Staffs who are themselves involved in encouraging power leakage should be strictly demoralized.

4. The authority should develop its overhead budget in a well classified and scientific way. All expenses related with production and purchase of power should be included in direct overhead or in manufacturing overhead should be classified systematically.

5. NEA should pay more effort to manage the supply to the profitable sectors such as domestic, industrial, non-commercial and temporary supply. Tariff rate for water supply and irrigation, transport service, street light, bulk supply to India, temple should be revised in such a way by which NEA could cover operating cost at least.

6. Cost-volume-profit relationship should be considered while formulating profit plan and the authority should be accustomed with flexible budget system.

7. The installed capacity of NEA should be utilized fully. If it utilizes its full capacity, the operating expenses will down.

8. NEA should develop capital budgeting technique more effectively. The sales revenue is to be generated in comparison with the amount tied up in assets.

9. NEA should try to increase the volume of industrial sales. for this purpose, it can utilize it's full capacity, and it has also responsibility to assure industrial consumer about the regular supply of the power.

10. Top level executives of NEA should be under taken regular inspection and monitoring of budget center and if possible NEA should formulate the profit planning calendar.

11. NEA should invest in small hydro projects to ensure profitability with in short span of time. Because small project requires not much fund.

12. There should be proper coordination between various directorates implementation of the budget.

13. The employee productivity is low. It should be improved as soon as possible. NEA should motivate its employee by giving financial and non financial matters.

14. Even if the authority is operating in monopoly situation strengths and weakness and threats and opportunity should be properly analyzed.

15. Vehicles of NEA should not be provided to unconcerned persons, only because of the political pressure and in the interest of political party.