

CHAPTER - ONE

1 INTRODUCTION

1.1 GENERAL BACKGROUND

Profit is the primary measures of success of the business enterprises. The primary objectives of the business enterprises may be to maximise its profit as well as to render the services. Those objectives shall have deep connection in the management of the organisation. Moreover, profits pay the key role to achieve the objectives of the enterprises.

Profit planning and control has been developed as a new and more advanced concept in business organization. **Profit Planning and Control** is one of the more important approaches that have been developed to facilitated effective performance of the management process. The concepts and techniques of comprehensive profit planning and control has widely applied in individual business firm, government, charitable organization and virtually all group of endeavours. (*Welsch, Hilton & Gordon, 1998: 31*)

Management is the process of planning, organizing, controlling, directing and coordinating efficiently, effectively and economically to achieve predetermined goals and objectives. The management process of an organization may be viewed as the total management efforts operating in a particular endeavour that include decision making, the selected techniques and procedures and motivation of individuals and groups to accomplish specified goals and objects. The planning enables the manager to have confidence in its ability to established realistic objectives and to device efficient strategies to attain those goals and objectives.

The first essence of management is planning. No firm can get its predetermined goals and objectives without proper plan. Each and every functions of management are performed within the framework of planning.

Therefore, it is known as sole concept of enterprise whether it is large or small size business. Planning is, generally recognized as the most different task facing by the manager and it helps him to take right decision at right time effectively, efficiently and economically. It is a continue process because a plan projection never be considered as the final and ultimate product. The planning is lifeblood of any organization because an enterprise can get hardly success without presentation of proper scientific planning.

The primary purpose of control is to attainment of the goals, objectives and standard of the enterprise. Control has many facts such as direct observation, oral expression and performance evaluation report.

Thus, the term comprehensive profit planning and control is defined as systematic and formalized approach for performing significant phase of management planning and control function. It has been identified as a way of managing. It refers the organizational techniques and procedure where long and short range plans are formulated, considered and approved responsibility.

Generally, two types of profit plans are generated; for long range objectives, strategies long range plans and for short term objectives, the tactical short range plans. By the help of comprehensive profit planning and control, any business should earn realistic profit and return on investment.

1.2 PROFIT PLANNING IN PUBLIC ENTERPRISES

1.2.1 MEANING OF PUBLIC ENTERPRISE

The term PE has been defined in different ways by different scholars, agencies and government to suit their respective situations. According to Hanson, **public enterprises means state ownership and operation of industrial organisation, financial and commercial undertaking.** In the words of World Bank, **state owned enterprises are financially autonomous and legally district entities wholly or partly owned by**

central or sub national government.

PEs is autonomous bodies which are owned and managed by the government and which provides goods or services for a price. The ownership with the government should be 51% or more to make an entity PE. (*Narain, 1998: 42*) Public enterprises play a major role in achieving the twin objectives of social and economic envisaged in national policy. The role of PE in stimulating and augmenting the pace of economic growth in developing countries can hardly be estimated. Though, the public enterprises are business and social responsibility. Since, public enterprises financed by government and established with the objectives of facilitating social needs in smoothly. They are autonomous in management but controlled by public authority to fulfil the social needs or responsibility.

It is well known that public enterprises were established for rapid socio-economic development of the nation. Different public enterprises have different set of objectives. Some public enterprises are manufacturing where as some are public utilities. Manufacturing public enterprises are interested to earn profit providing the social responsibility. Similarly, public utilities are also interested to earn profit by providing the social services. Public enterprises have maintained proper balance between profit oriented and service oriented.

Public enterprises were established in developed countries from the 18th century. They were established as a strong means of development after the Second World War in developing countries. Many companies were established in public ownership for providing industrial environment on the nation or making available basic needs fulfilment goods or services to the society or totally for the economic development of the nation. Such public ownership companies which are initiated to provide the goods or services for a reasonable price are called Public Enterprises.

1.2.2 PUBLIC ENTERPRISES IN NEPAL

Nepal has a mostly a mountainous country having 1,47,181 square kilometre of area and a population about 26.40 millions. Geographically, it can be divided in three regions, the mountain, hill and terai. The terai is flat plains and is the breadbasket of the nation. About 82% of the population live in the rural areas and are engaged in subsistence agriculture and the per capita annual income is US\$ 735.00. (*Vidyut: A Half Yearly Magazine*)

Public enterprises in Nepal constitute a vital instrument for the socio-economic development of our country. It enjoys a strategic and crucial position in our mixed economy. They have established in many sectors for the overall development of the nation with different goals and objectives. Consequently, they are predominant in the production or supply of cement, sugar, leather, cigarettes, agricultural tools, petroleum products and all the public utilities.

PEs was rapidly established after advent of the democracy and launching of five years development plan period. Pre-plan period marks the period of almost non-existence of any government policy towards PEs. Nepal Bank Limited was the first PE established prior to the launching of the planned development policy in 1956 AD. Therefore, virtually no development of PEs took place during the period. Nepalese economy was characteristics by lack of basic infrastructure, support service, essential basic industries and so on. The country lacked resources both financial as well as non-financial including sufficient human resources comprising of tycoon so necessary for the proper socio-economic development of the country.

The post plan period considered the significant era in the process of fostering the development process of Nepal. There were 64 PEs established in this period in different sectors to uplift the economy of the nation. Industrialization is still in its infancy stage in Nepal industrial sectors have

contributed in national economy not more than 10 percent total. Majorities of the Nepalese people are still depending on agriculture. Therefore, agriculture is the mainstay of Nepalese economy that we have observed.

Nepal has adopted mixed economic system where contribution of private and public sectors are co-existed in harmonious and collective way. The private sectors have a predominant role in market oriented and competitive economic activities so that increase in production through efficiency enhancement and resources use and utilisation. However, Nepal government has been involving in some the specific sectors like infrastructure, essential commodities producing, social welfare, public utilities, national defence and industries that need a huge amount and where private parties do not show any interest particularly.

All most of Nepalese PEs has been suffering from regular operating loss by observing the past annual budgets, economic surveys studies of the running projects. Therefore, they are obliged to depend on their budget to the government. They unable to substantial return from their investment and contribution to the nation by providing expected return as dividend or tax. They are creating a huge amount of liabilities to the government and considered the public revenue is misusing in unproductive sectors. Therefore, after the restoration of democracy, the government has adopted a policy to privatise and dissolve those PEs which are operating at a loss or financial burden to the government except the public utilities, defence and some important for the nation. During the eighth five years plan, the Industrial Act 2049 was constructed and come into force immediately and privatisation took place in different phase wise by the democratic government. Up to now, there are 23 PEs privatised in different phase. Although, the privatised PEs are also not operating as considered before privatisation due to various reasons. (*Rajdhani Daily (Indreni), February 2004*)

Still, there are 38 PEs are existed after the privatisation in Nepal and out of them almost all are running at a loss. A few are only in profit and assisting to the government by providing the tax or dividend. They are creating a large amount of liabilities to the government as financial burden.

Public enterprises in Nepal have been assigned a key role in the socio-economic development with certain objectives. Public utilities like electricity is one of the public utility concerns among banking, drinking water, milk, oil, communication, cement, medicine, airline, sugar etc. They constitute special class of enterprises. In Nepal, public sector has achieved a dominant role in the national economy. Direct participation of the government in the basic industrial and service activities have resulted a significant position in the economic scenario.

1.3 BRIEFLY OVERVIEW OF NEPAL ELECTRICITY

AUTHORITY

Endowed richly by nature with immense hydropower potential Nepal has had been using thousands of water wheels (Ghatta) for agro-processing purpose since early days. There are about 6000 big and small rivers in Nepal hurling from mighty Himalayas and High Mountain towards the plain of Terai. The enormous hydropower potential of those rapid rivers is estimated to be about 83000 Megawatt. It has been assessed that of to 42000 Megawatt can be exploited economically in the present context. Although, the first hydropower plant of 500 Kilowatt was constructed in Nepal way back in 1911 AD to electrify the palace of the autocratic ruler Rana's family to date only 606 Megawatt electric power has been installed including thermal plant. After a long period of 25 years in 1936 AD the second hydropower plant of 900 Kilowatt was installed at Sundarijal and the third hydropower plant 2400 Kilowatt at Panauti came into operation only in 1965 AD. *Vidyut: A Half Yearly Magazine*

Nepal has predominantly an agricultural economy and 82 percent of the economically active population is engaged in agriculture. Still, 91 percent of the energy need of the nation is met by traditional energy sources such as fuel-wood, agric-residual and animal dung. (*Economic Survey 2011 AD*)

Before 2019 BS there was a 'Bijulee Adda' under electricity department of His Majesties Government Nepal to look after and administered electricity service in the country in order to facilitated electricity service more effectively under single roof, Nepal Electricity Corporation Act was formulated in accordingly. NEC was formed on August 16, 1962 and 'Bijulee Adda' becomes NEC with a view to generate and distribute electricity in secured efficient, economic and ordering manner. NEC was responsible for operating and maintaining the powerhouses, transmission lines and distributing electricity to the public. Electricity department was responsible for surveying, constructing new power plants and transmission lines. There were also constituted some development committees to develop Hydropower plants, transmission lines, and small hydropower plants. Due to lack of coordination between different power units and as per suggestion and recommendation of donor agencies the needs for unified organization were felt. So, Nepal Electricity Authority Act 2042 BS was brought forward and put in effect from 1st Bhadra 2042 BS in order to make effective depend and economical production, transmission and distribution of electricity and to manage properly the electricity supply.

The adoption by NEA of a concept to garner community participation in rural electrification scheme in order to accelerate the pace of expansion into the rural areas and to manage such rural distribution systems in a sustainable manner also demanded a separate establishment to pursue this concept. To cater to these new management needs NEA adopted separate Community Rural Electrification By-lows 2060 BS. Accordingly the organisational structure of Distribution and Consumer Centre was restructured to include

the creation of Distribution Centre Monitoring and Community Rural Electrification departments. Towards providing better services to its consumers, DCS in addition, also took measure such a time bund new connection procedures, prompt attendance to consumer complaint, consumer education through the electronic media on timely bill payment, meter reading, anti-theft regulation and electrical safety to improve its relations with them.

In line with new organisational set-up of NEA, the generation business group has started taking over the ownership of the power stations and is gearing up to operate independently as a separate commercial entity under the NEA umbrella. Under this new arrangement, it will sell its generated energy, in bulk, to Distribution and Consumer Services (CDS) business group at a mutually agreed price. It has therefore, initiated its testing and replacement of defective kWh meters at its power stations and substations foreseeing the need to have an accurate metering network to bill the of bulk energy to DCS in the very near future when transfer price and wheeling arrangement are finalised by the Transmission and System Operation business group.

With an average load factor of 54.88 percent and an availability of 97 percent generation in the FY 2012/13 showed a marked increase by 9.42 percent over the previous year's figure. This increase in generation was mainly due to the entrance of Kaligandaki 'A' HEP to the integrated Nepal power system (INPS). The total available energy from its hydro and thermal plants in the year was 1482.44 GWh as compared to 1130.14 GWh last year. Of the total generated energy hydropower contributed 1478.04 GWh .The contribution of generation from plants owned by NEA to the total supply of energy was 65.56 percent. (*A Year in Review 2012/13*). The existing hydropower is presented in Appendix 17.

1.3.1 FUNCTIONS AND DUTIES OF NEA

- I. To recommend short-term and long-term policies to HMG/N on matter relating to electricity supply.
- II. To supply electricity by undertaking the generation, transmission and distribution in accordance with the prevailing law.
- III. To formulate plans and programmes for electricity generation, transmission and distribution system and other related activities, and construct, operate, protect and maintain electricity generation stations, substations distribution centre, transmission and distribution lines and related facilities in order to implement its plans and programmes.
- IV. To make arrangements for electricity generation, transmission, and distributions for industrial and agricultural development as well as for the general public on the basis of techno-economic viability of power generation projects.
- V. To perform other functions in order to accomplish the objectives of the NEA.

1.3.2 MANDATES OF NEA

- I. To borrow from national agencies, banks or individuals.
- II. To borrow from foreign governments or foreign and international agencies, after taking prior approval from HMG/N.
- III. To collect revenue from the sale of electricity and related service charges from consumers.
- IV. To sell electricity to foreign countries or to buy electricity from foreign countries taking prior approval from HMG/N.
- V. To invest NEA funds.
- VI. To control unauthorised consumption of electricity distributed by NEA.
- VII. To buy electricity generated by the private sector.

VIII. To perform all required functions in order to fulfil NEA's duties and responsibilities.

1.4 FOCUS ON THE STUDY

This research is focused in evaluating the application of different types of corporate planning system and functional budgets for the effective implementation of profit planning and control in NEA. This study is designed to describe the objective of different types of budgets applied and they assist in policy making and financial control. The present work is intended to clarify the purpose of different budgets and to identify the person responsibility for different items in the budgets. The study focuses following items:-

- I. Sales budget
- II. Production budget
- III. Expenses budget
- IV. Capital expenditure budget
- V. Cash flow budget
- VI. Budgeted financial statement
- VII. Cost volume profit analysis
- VIII. Financial performance (Ratio analysis etc.)

1.5 STATEMENT OF THE PROBLEM

Majorities of Nepalese public enterprises are suffering from the poor utilisation of the available resources. Almost all PEs are found to be operating unsatisfactorily the financial loss and managerial responsibilities for these ailing units have to be borne by the government. This is definitely not contributed to the country's economic growth. There may be difference reasons behind for the poor performance of PEs. Therefore, the reasons lying behind the problems should be identified and corrected in time.

Nepal Electricity Authority is one of the leading public enterprises functioning among public utility sector. It was electricity office name 'Bijuli Adda' to operate and maintenance power house, transmission lines and distribute electricity to the public at that time. After that various diesel plants and hydro plants were constructed. As governmental department Electricity Department was established and Bijuli Adda was organised under Electricity Department in 2018 BS as autonomous body Nepal Electricity Corporation (NEC). NEC was responsible for operating and maintaining the power house, transmission lines and distributing electricity to the public. Electricity Department was responsible for surveying, constructing new power plant and transmission lines. There were also constructed some development committees to develop hydro power plants, transmission lines and small hydro power plants. In 2042 BS Electricity Department, Development committees and NEA were merged into NEA according to Nepal Electricity Authority Act 2041 BS and started its operation in the same year.

The Nepal Electricity Authority is single and large scale power sector organization which has been started under twin commercial and service motives. Government as well as foreign donor agency has invested a huge amount of capital in Nepal Electricity Authority with an expectation of rendering quality services and receiving substantial return in terms of tax or dividend. Although, investing a huge amount, the expected return is not satisfactory.

This study tries to answer the following research questions, which are given below:-

- I. What is the trend of profit planning in NEA?
- II. What are the major difficulties faced by NEA while developing and implementing the profit plan?

- III. What is the financial position of NEA?
- IV. Whether the implementation of PPC system an effective way to improve the profit situation of NEA?
- V. What type of steps should be under taken to improve profit planning system in NEA?

1.6 OBJECTIVES OF THE STUDY

The general objective of this study is to examine and evaluate the present comprehensive profit planning and control system applied by Nepal Electricity Authority. The major specific objectives are highlighted as below:-

- I. To examine profit planning system applied by Nepal Electricity Authority
- II. To analyse the financial performance of the Nepal Electricity Authority by using various financial tools.
- III. To observe the various functional budgets of Nepal Electricity Authority associated with comprehensive profit planning.
- IV. To evaluate budgeted and actual achievement of Nepal Electricity Authority.
- V. To provide a package of recommendations and suggestions to be taken instantly and further to be encountered with identified budgeting and profit planning problems on the basis of findings.

1.7 NEED OF STUDY

All most of Nepalese PEs is suffering from poor utilisation of available resources. As a consequence, Nepalese PEs has been getting a worst financial performance. It has seemed that the most important tools i.e. profit planning has not been applied in properly in Nepalese PEs due to lack of expert and trained manpower in the field of profit planning.

Profit planning is thought as heart of management and it tells us the most important indicators for judging management effectiveness. Profit planning enables to minimise the future uncertainty and risk, maximise the output from the scarce resources and predicts the future in order to avoid (overcome) the uncertainties.

The present study lies in the role of budgeting profit planning process that can play in not only in the profitability of an organisation but also the overall managerial performance, financial performance and thereby improvement in the industrialisation process of country. It considerable contributes to improve the profitability overall and vital instrument for minimising future risk, maximising output frame scale resources and predicts the future.

This study highlights application of detail and systematic approach of profit planning or budgeting in NEA. It also studies the problems effectiveness and significant in budgeting application and employment in NEA and finding some problems faced by Authority, while developing and implementing the functional budgets and to recommend some measure to improve profit planning system of the Authority.

1.8 LIMITATION OF STUDY

This study will be confined only to the profit planning and budgeting of Nepal Electricity Authority. The streamlines the following limitation:-

- I. This study covers only five years (from 2064/65 to 2068/69) trend and data.
- II. Time and resources constraint way limit the area covered by the study.
- III. The analysis will be based on upon the secondary data which will be provided from the management of Nepal Electricity Authority.
- IV. The study is only related in managerial, financial and accounting

aspect and it has not related with other area of Nepal Electricity Authority.

- V. Since the study deals with Nepal Electricity Authority, the conclusion drawn from the study may or may not be applicable to the other public enterprises.
- VI. The accuracy of this study will be based on the data available from management of Nepal Electricity Authority the various published and unpublished documents related to Nepal Electricity Authority.

1.9 RESEARCH METHODOLOGY

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. This research will be used various tools such as financial as well as statistical tools to analyzed the data in order to come decision. The tools will be applied in this study are ratio, percentage, BEP analysis, standard deviation, regression etc as required.

1.10 ORGANISATION OF THE STUDY

The whole research will be categorised as following:-

1. Introduction
2. Conceptual Framework
3. Review of Literature
4. Research Methodology
5. Presentation, Analysis and Interpretation of data
6. Summary, Conclusion and Recommendation

CHAPTER-TWO

2 CONCEPTUAL FRAMEWORK

2.1 GENERAL CONCEPT OF PROFIT

The conceptual discussion of profit planning may not be completed and meaningful in absence of clear cut well defined profit and planning individually. The profit is around which all organizations activities revolved for judging the managerial efficiency. In absence of profits, no organisation can survive for long term and all the set up objectives for what the organisation was established may turn into a bundle of magic sticks only covered with dream and imagination.

A business firm is designated to make profits and profits are the primary measures of its success. It is the excess of income over cost of production. Profit is the amount of revenue earned above the expenses incurred to operate the business and it is the primary objectives of business. (*Dewivedy, 1998: 14*)

There are several different interpretations the term profit. An economist's concept of profit is of 'pure profit', also called 'economic profit' or 'just profit'. Pure profit is a return over and above the opportunity cost, i.e. the income which a businessman might expect from the best second alternative use of this resource. A labour might say that it is a measure of how efficiency labour has produced and that it provides a base for negotiating a wage increase. An investor will view it as a gauge of the return on his or her money. An internal revenue agent might regard it as the base for determining income tax. The accountant will define it simply as the excess of firm's revenue over expenses of producing revenue in a given fiscal period. Using accountant's measuring stick, management thinks for profit as:-

1. A tangible expression the goals it has set for the firm
2. A measure of the performance toward the achievement of the goals
3. A means of maintaining the health, growth and continuity of the company

A means of maintaining the health, growth and continuity of the firm, it is the ultimate objective of management to maximise profit over the long term consistent with its social responsibility. (*Lynch & Williamson, 1984:100*)

There are four factors of production in economics i.e. land, labour, capital and organisation. All of these factors should have to use which producing goods or services. Instead of using these four factors, we should have to pay rent to land, wages to labour, interest to capital and return (profit) to the organisation factor. Profit is the reward for bearing the risk. Sometimes, it is also considered as a reward for the innovation. The profit earns with help of innovation in perfect competition market. So, this motive is residual after distribution on the reward to all factors of production.

There is a conceptual conflict between an accountant and the economist for measuring the profit. The cost is deducted from the revenue only when they are incurred in accountancy or profit which is based on the past cost i.e. historical cost but the economist do not believe on it.

The profit is taken theoretically a broad aspect and sometimes it seems vague but in actual practice it is managerial and some extend it is controllable. “The accounting concept of company profit is a concept of not business income. The sales transactions a period are regarded as bringing new assets into the business and a profit results if there are in excess of the assets leaving the business in the same period. 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. *Wilmore, 1960: 28*)

Profit in the accounting sense tends to become a long term objective which measures not only the success of product but also of the development of

market for it. Profit is the signal for allocation of resources and a yard stick for judging managerial efficiency. (*Kulkarni, 1985: 24*) Profits are the ultimate yard stick of management's ability to co-ordinate plan and act in the interest of consumer. (*Duncan and Crook, 1983: 380*)

Profit is an essential part of business to service to run business effectively, efficiently and economically. Excess amount over cost of production is profit. It is the contribution of all factors of production, not only the contribution of production. No company survive in absence of profit for long time. So, it is taken as an ultimate measure of its effectiveness for the enterprises. It is taken as measures of any business organisation that enable to enterprise how well business performs effectively. That's way it is a primary objective any organisation.

2.2 GENERAL CONCEPT OF PLANNING

Planning is a task that is performed in advance of taking decisions. It means deciding in advance what is to be done in future. It is a method of thinking out acts and purpose beforehand. Planning starts from forecasting and determination of future events. It is a first essence of management and all other functions are performed within the framework of planning. Planning is the base of foundation of profit plans. (*Reginald & Gerge, 1978: 13.*)

Planning is the conscious recognition of futurity of present decision. (*Ducker, 1950: 338*) The planning processes both short and long term is the most crucial component of the whole system. It is both foundation and the base for other element because it is through the planning process that we determined what is going to be done how we are going to do it, and who is going to do it. It operates as the brain centre of an organisation and like the rain it both reason and communicates. (*Roy, 1984: 32*)

The major functions of business management are planning, execution and control which constitute the key element of the management process.

Business management must plan its activities in advance, carry out the plan and institute appropriate techniques of observation and reporting to insure that deviations from plan are properly analysed and handled. The fundamental purpose of management planning is to provide for a feed forward is to provide manager with guidelines for making operational decisions on a day to day basis. Planning is generally recognised as the most difficult task facing the manager and it is one of the things that take place prior to action or decision. It is the conscious recognition of the future of prediction.

Planning is management responsibility, not an accounting function. To plan is to decide in advance and only the manager has the authority to choose the direction the company is to take. Accounting personnel are nevertheless deeply involved in the planning process. (*The New Encyclopedia Britannica, Volume-13: 6*)

Planning is essential to accomplish goals. It reduces uncertainty and provides direction to the employees by determining the course of action in advance. Formalised planning indicates the responsibility of management and provides an alternative to groping without direction. Budgeting and planning on the other hand involves the determination of what should be done, how the goals may be reached and what individual or units are to assume responsibility and be held accountable. (*Grace, 1994: 102*)

Planning is the specific process of setting goal and developing ways to reach them. Stated another way, planning represents the firm's efforts to predict events and be prepared to deal with them. In many firms the task of planning is co-ordinated by a department of one or more persons designated as the corporate planning department, long term planning department or budgeting department, whatever the title, these individuals are responsible for receiving inputs from sales, production, finance and other operating areas of the company. By co-ordinating the process of planning,

management assures that the differing departments are working toward the same goals and taking actions consistent with the overall objective of the firm. (*Hampton, 1998: 133*)

Management planning is the continues process as opposed to a periodic endeavour. Since, a planed projection never is considered as final and product. It must be revised as conditions change and new information become available. The planning function should be varying in scope and intensity with the level of management. Top management has a broader planning responsibility than lower level management. Yet each level of management should have definite planning responsibilities.

The first essence of management is planning. No one can achieve its predetermined goals and objectives in absence of proper plan. All functions of management are performed within the framework of planning. The planning generally recognised as the most difficult task facing by the manager. It helps manager to take right decision at right time efficiently, effectively as well as economically. There is a hardly success without presentation of proper and scientific planning of any organisation. Therefore, it is known as sole concept as well as life blood of any organisation. It enables managers to have confidence in its ability to establish realistic objectives and to devise efficient strategies to attain objectives.

2.3 PLANNING PREMISES

The premises are assumptions providing a background against which estimated events affecting the planning will take place. The premises are necessary for planning. Every nature of planning requires the assumption be made regarding future happening; otherwise the planning work could not take place. These assumptions provide stilts or pillars to support the importance of planning.

The premises do not generate specific plans. The selection of planning premises and their use in the planning depends upon the skill, perception and experience of the planner. In many enterprises, agreement regarding the planning premises is vital in order to achieve proper co-ordination and integration among the various plans. The selection of the proper and adequate planning premises, however, is fundamental of effective planning. So, care must be exercised to include those premises which have a significant bearing on the plans. (*George, 1968: 235*)

2.4 TIME DIMENSION OF PLANNING

Effective implementation of PPC concept needs that the management of the enterprise establish definite time dimension for certain type of decision. Time of planning activities suggest that there should be a definite management time schedule established for initiating and completing certain phases of planning process. Planning horizon is the time for which the planning is done or we can call it life span of the plan. For any enterprise, there used to be many planning horizons to maintain the continuity of planning activity. In viewing of time dimension prospect in managerial planning, a clear cut distinction should be made between historical consideration and futuristic consideration. For futuristic activities also plan can be of two types: - periodic and project plan. Classifying managerial planning into there two categories focuses on the characteristics of managerial planning and differing related needs. Project planning meets the specific requirement for an enterprise within certain time limits. For example, installation of plant and machinery, construction of plant building, forecasting of sales area the project plan which completes with the accomplishment of said activities. But on the other hand the periodic plan denotes the plan for the activities to be accomplished within a certain given times. Sometimes periodic plan includes many project plans and vice versa.

Evaluation of project plan is done on the basis of degree of activities, where as the periodic plan needs evaluation on the basis of calendar year month and days. For periodic plan, periodic reports are prepared and on the basis of the same necessary amendments on planned activities will be done if needed. Periodic planning directly represents a cross sectional focus by time on income determination and periodic performance. Periodic plans are of two categories:- tactical or short range and strategic or long range. For the concept of the comprehensive profit planning and control, a systematic approach should be applied to integrate tactical plan with strategic plan.

Finally, it can be abridged that planning activities should be based on time dimension and the management must try to accomplish their activities within the time deadlines.

2.4.1 STRATEGIC LONG-RANGE PLANNING

Long-range planning usually covers a period of more than one year's depending upon the size of enterprise and nature of its activities. Long-range planning is one of the most difficult times span involved in planning as many problems in short-range planning can be traced to the absence of a clear sense of direction and the practice which a comprehensive long-range plan provides.

Long-range planning is important basically for broad and long living enterprise. Long-range planning is closely concerned with the concept of the corporation as long living institution. (*David, 1964: 12*)

In the words of Peter F. Ducker, “ long-range planning is the continues process of making present decisions systematically and with the best possible knowledge of their futurity, organising systematically the efforts needed to carry out these decisions and measuring the results of these decisions against the expectations through organised systematic feedback.”

It is more than organisation and analysis of information. It is a decision

making process. Such decisions may be related about:-

- I. Determination of goals, objectives and strategies.
- II. The level of direction of capital expenditure.
- III. The accession of new sources of fund.
- IV. Organisation design and structure etc.

The objectives of long-range planning given by George R. Terry are as follow:-

- I. To provide a clear picture of whether the enterprise is handed.
- II. To keep enterprise strong.
- III. To focus on long-range opportunities.
- IV. To evaluate management personnel.
- V. To expedite new financing.
- VI. To bring attention to new techniques.

2.4.2 SHORT-RANGE PLANNING (TACTICAL PLANNING)

The tactical or short-range profit plan can actually be viewed as the first year of the strategic profit plan. It is the detailed plan for the enterprise and for each of its responsibility centres. It is the environmental necessity for management to plan, evaluate and control operations within relatively short and consistent interim periods of time such as one year. It reflects calendar constraints that have been imposed by custom. Specially, managers, owners and other interested parties demand time tables; the result is periodic profit plans and performance reports and evaluations of the progress of an enterprise. Therefore, plans and progress reports are usually prepared by moth, quarter and year. In harmony with these environmental time constraints, the concept of tactical planning has evolved. It represents a focus by time on profit plan and performance. "The short-range planning is selected to conform to fiscal quarter or years. Because of the practical need for conforming plans to accounting periods and the somewhat arbitrary

limitation of the long-range plans to three to five years is usually based as has been indicated on these prevailing beliefs that the degree of uncertainty over long period makes planning of questionable values". (*Koontz & O'Donnell: 37*)

2.5 TACTICAL PLANNING VS LONG RANGE PLANNING

In harmony with a comprehensive profit plan, both strategic long-term and tactical short-term plan must be developed. The strategic profit plan is broad and it is usually encompasses three or more years in the future. The tactical profit plan is detailed and encompasses a one year-year time horizon, the upcoming year. A short-range plan should included considerable detail whereas a long-term plan should be in broad term. Long-term plans usually involve in depth analysis of future market potentials, which may be built up from a basic foundation such as population changes, stable of economy, industrial projections and finally company objectives. Short-term profit plan involve the application of technical analysis, however, managerial judgement plays a large part in their determination. The foundation for the strategic profit plan (usually extending three, five or ten years into the future) includes the objectives, broad goals, planning premises and strategies of the enterprises as developed by top management. The tactical short-range profit plan can actually be viewed as the first year of the strategic profit plan. It is detailed plan for the enterprises and for each of its responsibility centres.

2.6 FORECASTING

Forecasting is the statement of expected future condition and perquisite and depends upon selected assumption. If assumptions are plausible the forecast has better chance of being useful. Forecast is prediction or estimate of the changes. It is special tools of planning necessary for making decision that

are economically sound.

A forecast is not plain; rather it is a statement and /or a quantified assessment of future condition about a particular subject (e.g. sales revenue) based on one or more explicit assumptions. A forecast should always state the assumptions upon which it is based. The management of a company may accept, modify or reject the forecast. (*Lynch & Williamson, 1984: 172*)

A forecast should be viewed as only one input into the development of a sales plan. In word of Wallton E. MC Fordland “the careful economic and business analysis is called forecasting. The term forecasting denotes the procedures used by executive to describe as closely as possible the nature of general level of business, economic and company’s activity expected in the future.”

When the leader of an organisation says that he would like a forecast, what he often means is that he wants to plan. He wants to make something happen, and he uses this plan as a target for people in his organisation. (*Armstrong, 1978: 5*)

Forecasting is the estimation of future environment within which company will operate and good planning depends on good forecasting.

2.7 PLANNING VS FORECASTING

It is not easy to distinguish between planning and forecasting. According to Webster, “to plan a head is the leading definition for forecast.” Forecasting is our best thinking about what will happen to us the future. In forecasting we define situation and recognise problems and opportunities. In planning we develop our objectives in practical detail and we correspondingly develop schemes of action to achieve these objectives”.

A forecast is a prediction of future events, condition and situation, where as a plan includes program of intended future action and desire result. A forecasting predicts the future events in such way that the planning process

can be performed more accurately.

A forecast is not a plan rather it is a statement of fact or a qualified assessment of future condition about a particular subject (e.g. revenue) based on one or more explicit assumptions. A forecast should be viewed as only one input into development of sales plan. The management of company may accept, modify or reject the forecast. In contrast, a sales plan incorporates management decision that are based on forecast, other inputs and management judgments about such a related items as a sales volume, price, sales efforts, production and financing. A sales forecast is converted into sales plan when management has brought to bear management judgment, plan strategies, commitments of resources and the managerial commitment to aggressive action to the sales goal. 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. Moreover, the influence of management actions on sales potential, the elements of management experience and judgment must hold sales plan. Another reason for identifying sales forecasting as only one step in sales planning is that sales forecasts are conditional. (*Welsch, Hilton & Gordon, 1997: 172-173*)

2.8 GENERAL CONCEPT OF PROFIT PLANNING

In above discussion, we expound profit and plan individually. There are several definitions about the profit planning. Comprehensive profit planning and control, viewed as process designated to help management effectively performed significant phases of the planning and control functions. The PPC model involves:-

- I. Development and application of broad and long range objective of the enterprises.

- II. Specification of enterprise goal.
- III. Development of a strategic long-range profit plan in broad term.
- IV. Specification of a tactical short-range profit plan detailed by assigned responsibilities (division, departments, projects, etc.).
- V. Establishment of a system of periodic performance report detailed by assigned responsibilities and Development of follow up procedure. (*Welsch, Hilton & Gordon, 1997: 30*)

Viewed comprehensively, PPC is one of the more important approaches that have been developed to facilitate effective performance of the management process. The concept and techniques of profit planning and control have wide. In the word of Nine Meier Jack D. & Scimigal Raymond S., “Profit planning is an estimation and predetermination of revenues and expressed that estimates how much income will be generated and how it would be in order to meet investment and profit requirement. In the case of institutional operation it presents a plan for spending income in a manager that does not result in loss”.

Profit planning and control functions of management rest upon some fundamental views that is the conviction that a management can plan and control the long-range destiny of the manufacturing enterprise by making a continuing stream of well conceived decisions. The thrust of the comprehensive profit planning and control concept goes to the very heart of management that is the decision making process especially for long-range success. The stream of managerial decision must generate plans and actions to provide the essential inflows that are necessary to support the planned outflows of the enterprise so that realistic profit and return on investment are earned. Continually generation of profit by managerial manipulation of the inflows and outflows provides the substances of profit planning and control. (*Welsch, Hilton & Gordon, 1997: 8*)

Profit planning represents an overall plan of operations, cover a definite

period of time and formulations the planning decision of the management.
(*Mayers: 250*)

Profit planning in fact, is a managerial technique and profit plan in such a return plan in which all aspect of business operations with respect to define future periods are included. It is formal statement of policy, plan objective and goal established by top management in respect of some future period. Profit planning is a predetermined detailed plan action developed and distributed as guide to correct operations and as a partial basis for the subsequent evaluation of performance. Thus, we can say that profit planning is a tool which may be used by the management in planning the future course of actions and in controlling the actual performance. (*Gupta, 1992: 521*)

Profit plan is a comprehensive plan expressed in financial terms by which as operating program in effective for a given period of time. It includes the estimate of:-

- I. The service achieve and project comprising the program,
- II. The resultant for their support. (*Jones: Budgeting for National Development*)

Profit planning and control program helps the management perform its planning function by developing a strategic (long-range) profit plan and a tactical (short-range) profit plan. Both of these plans include monetary expressions i.e. goals for assets, liabilities, profits and return on investment. The foundation of strategic profit plan (usually extending three to five or ten years into the future) includes the objectives, broad goal, planning premises and strategies of the enterprise developed by the top management. The tactical (short-range) profit plan can actually be viewed as the first year of the strategic profit plan. It is the detailed plan for the enterprise and for each of its responsibility centre. (*Welsch, Hilton & Gordon, 1997: 62*)

According to the International Management Institution's conference on

Budgeting control held in at Geneva in 1930 A.D., “Profit planning is an exact and rigorous analysis of the past and profitable and desired future experience with a view to substituting considered intention for opportunism in management.”

Profit planning through volume cost analysis. However, a modern concept of management planning a tool designated primarily for industrial enterprise. It involves a study of what will be at difference level of operations and it includes study of the resultant effect upon profit due to this changing relationship between volume and cost. (*Jones: Budgeting for National Development*)

A PPC program helps management perform its control function providing realistic goals and standards that are implemented are then compared with actual results to measure performance. Under PPC, this performance measurement extends from the top to the lowest organisation level in the enterprise. (*Welsch, Hilton & Gordon, 1997: 4*)

The PPC performance is a device by which managers at higher levels, carrying out the managerial planning function can translate into dimension of money and time and communicate the same down to lower levels. It is a lifeless system which is brought to life through the human being aimed at regulating and controlling human behaviour at work. Finally, the profit planning and control may be viewed as one of the greater important approach that has been developed to facilitate effective performance of the management process. It is directed towards the final objectives of the organisation and generally includes all its significant elements. It has the ultimate objectives of attaining the optimum profit.

In conclusion, it can be said that is an advance decision of expected achievement based on the most efficient operating standards in effect or in prospect at the time it is established against which actual accomplishment is regularly compared.

2.9 FUNDAMENTAL CONCEPTS OF PROFIT PLANNING AND CONTROL

The fundamental concepts of PPC include the underlying activities or tasks that must generally be carried out to attain maximum usefulness from PPC. Some basic concepts that highlight the meaning and understandings of PPC are as follows:-

- I. A management process that includes planning, organising, staffing, leading and controlling.
- II. A managerial commitment to effective management participation by all levels in the entity.
- III. An organisation structure that clearly specifies assignments of management authority and responsibility at all organisation levels.
- IV. A management planning process.
- V. A management control process
- VI. A continue and consistent co-ordination of all the management functions.
- VII. Continues feed forward, feedback follow up and replanning through defined communication channel (both downward and upward).
- VIII. A strategic (long-range) profit plan.
- IX. A tactical (short-range) profit plan.
- X. A responsibility accounting system.
- XI. A continues use of the exception principle.
- XII. A behavioural management program.

2.10 BUDGETING: AS A TOOL OF PROFIT PLANNING

Budgeting has long been recognised as the accepted procedure for profit planning and many of the most successful companies have applied it to good effect over a period of years. (*Jakhotatia, the Basic Art of Budgeting London Business Book: 2*)

Budget is an expression of a firm's plan in financial form for a period of time in future; it is an estimate of the future needs calculated for definite period. It anticipated income for a given period and cost as well as expenses of obtaining this income are set or limited within the idea of earning a desired profit and controlling losses. A business budget is a plan covering all phases of operations for a definite period in future. It is a formal expression of policies, plans, objectives and goals laid down in advance by top management for the undertaking as a whole and for every sub-division thereof.

A budget is a quantitative expression of a plan of action and an aid to co-ordinate and implementation. Budgets may be formulated for the organisations as a whole or for any sub-unit. Budgeting includes sales, production, distribution and financial aspects of an organisation. Budget programs are designed to carry out a variety of functions: - Planning, evaluating performance, co-ordination activities, implementing plans, communicating, motivating and authorising actions. (*Horngren, 1970: 123*)

Budget as a tool of planning and control is closely related to the broader system of planning and control in an organisation. Planning involves the specialisation of the basic 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 co-ordination plan expressed in financial terms for the operation and resource of an enterprise for some specified period in future. (*Khan & Join, 1989: 296*)

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 decisions. A budget helps a firm to control its costs by setting guidelines for spending money for unread items because they know that all costs will be compared to the budget. If actual costs exceed the

budgeted costs, a justifiable explanation is required. A budget also helps employees to do a good job. This is particularly true when employees help in setting up the budget.

2.11 BUDGETING AND FORECASTING

Budget and forecast are quite distinguishing terms. A forecast is the likelihood of events or happenings, given the part of data and expected changes. There is no assumption regarding the commitment of management for realising 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 attainment of stated objectives. It involves a process of negotiation, approval and review.

In contrast to a budget, a forecast has the following features:-

- I. It does not involve any commitment on the part of the forecaster to attain the forecast.
- II. It is based on historical information and revised whenever new data become available.
- III. It needs not necessarily be expressed in the financial terms.
- IV. It does not always conform to one year period of time.
- V. It does not involve negotiation, approval and review.

2.12 BEHAVIOURAL ASPECT OF PROFIT PLANNING AND CONTROL OR BUDGETING

Budgeting is often in looked upon from a purely mechanistic viewpoint. The human factors in budgeting are more important than the accounting techniques. The success of a budgeting system depends upon its acceptance by the company members who are affected by the budgets. (*Khan & Join,*

1989: 125) Whether or not a budget program is accepted by lower management personnel will be reflective of (a) the degree to which top management aspects the budget program as a vital part of the company's activities and (b) the way in which top management uses budget data.

If a budget program is to be successful, it must have the complete acceptance and support of the persons who occupy key management positions. If the lower or middle level management personnel secure that top management lukewarm about budgeting, or if they sense that top management simply tolerates budgeting as a necessary evil, then their own attitudes will reflect a similar lack of enthusiasm. Budgeting is hard work and if top management is not enthusiastic about the commitment of budget program then it is unlikely that anyone else in the organisation will be either.

The present day, comprehensive framework has brought into sharp focus the role of profit planning and control in the overall management process. The process of profit planning and control in a modern terminology poses many behavioural problems for management. The management accountant, today has to come up to face these problems and techniques of book keeping the view of behavioural aspect of that these tools and techniques could be used effectively without causing by functional behavioural consequences.

Many contemporary behaviourists have examined the changing facts of human behaviour as societal with PPC program which may be summarised as below:-

A. BUDGET BREEDS ANXIETY

Budget is a process of resources allocation. If this process is secretive and closed, may result into anxiety for those managers who are involved. The anxiety is experienced as a fear of inequitable in adequate resources allocation, which may, in turn lead to:-

- I. A political behaviour to increase power
- II. Delays functional reactions towards budget units
- III. Over statement of need and
- IV. The development of covert information system.

B. BUDGETARY STIFLES INITIATIVE

Budgets constraint or regulates the individual behaviour through structured job hierarchies which tend to be more productive. Thus, the budgeting system could neither afford to be too restrictive nor roll loose so as to become counterproductive; motivational high levels of structures may have negative motivational effects. Straight jacket budgets discourage managers from tacking initiative which may involve situations that may warrant the exercise of such deviations. (*Mahesh wary: Behavioral Fact of Profit Planning and Control Program*)

C. BUDGET INCREASES INTER-DEPARTMENT CONFLICTS

We can illustrate the problems of conflicts in budgeting by considering a matter of importance to almost any firm i.e. inventory policy. The sales manager wants to inventory to be as high as possible because it is easier to make sales if the goods are available to the customers immediately. The financial manager would like to keep inventories as low as possible because there are costs associated with having inventory storage, insurance, taxes, and interests so on. If manufacturing process involved, the production manager is not interested in inventory purchase but does not have an indirect interest. He wants long-range and steady production runs and no rush order, no overtime and no job production because these conditions will maximise the cost of production. Thus, the three managers will have different views on the desirable level of inventory. Each will be evaluated by references to how will the individual does his job. So, each has a lot at stake in the determination of inventory policy. The conflict is resolved with

great difficulty, if at all. The task is difficult the objectives of individual managers must all be considered together with the general concern for the welfare of the firm. (*Geraldine. & Louder back: 194*)

C. REACTION TO PRESSURES

In administering the budget program it is particularly important that top management does not use the budget as a 'Club' to pressurise employees or as a way to find someone to blame for a particular problem. This type of negative emphasis will simply breed hostility, tension and mistrust rather than greater co-operation and productivity. Unfortunately, research suggests that the budget is often used as a pressure device and that great emphasis is place on 'meeting the budget' under all circumstances. (*Carrath, Cledon & Ballard: 42*)

Rather than being used as pressure device, the budget should be used as a positive instrument to assist in establishing goals in measuring operating result and in isolating areas that are in need of extra efforts or attention.

The problems of separating controllable and no-controllable costs also cause tension among managers particularly when the responsibility is joint labour efficiency caused by inferior material (purchasing function), defective material (inspection function) or poor calibre (personnel function) is appropriating example. This problem calls for clear delegation of authority, effective communication of information and understanding of the mechanism of human behaviour.

D. OVER EMPHASIS OF SHORT-RUN

Measurement of managerial effectiveness in short-term on the basis of profit criterion may jeopardise the long-run health of organisation if the short-run increase in profits are gauged on the cost of inadequate attention or the neglect of resources and development and of maintenance. This kind of shift

in emphasis may transform the means into end and thereby frustrate the long-term objectives of organisation.

E. DEPARTMENTAL SELF CENTRELINES

The process of delineation of responsibility and evaluation of performance accordingly make the manager self centred to his units or departments which, in turns obscures the important departmental relationship resulting into loss of economics which may accrue from greater inter-departmental collaborations.

F. OVERT AND COVERT RESISTANCE

Another problem encountered in introducing PPC program is overt and covert and overt resistance from individuals and groups; lack of understanding of the performance and how it is to operate, concern about the potential consequence and their effect on status, distaste for performance measurement of the consideration in view of their potential effect on the motivation of the individuals concerned.

Management must keep cleanly in mind that the human dimension in budgeting is of key importance. It is easy for the manager to become pre-occupied with technical aspects of the budget program to the exclusion of the human aspects. The use of the budget data in a rigid and inflexible manner was the greatest single complaint of persons whose performance was being evaluated through the budget process. (*Carrath, Cledon & Ballard: 42*)

In light of this fact, management should remember that the purpose of the budget are to motivate employees and to co-ordinate efforts. Pre-occupation with the dollars and cents in the budget or being rigid and inflexible in budget administration, can only lead to frustration of these purpose.

The importance of these human aspects cannot be over emphasised without

a thoroughly educated and co-operative management group at all levels of responsibility budgets are drains on the funds of the business and are a hindrance instead of a help to efficient operations. A budgeting program is not a remedy for weak managerial talent, faulty organisation or poor communication system. (*Horngren, 1977: 126*)

In brief, the implementation of PPC program may result into dysfunctional effects hindering the relation of organisational goals, if it is use in the traditional way without considering the sophistication. Hence, the effective implementation of the PPC program must be in harmony not only with dimensional (time and structure) but also with behavioural aspect.

2.13 CLASSIFICATION OF BUDGET

Although, different bases and methods have been proposed for classification of budget, the commonly bases are as follow:-

2.13.1 BASED ON TIME FACTOR

In term of time factor, budgets are classified into three types namely long-term, short-term and current budgets. These budgets are concerned with planning the operation of a firm over a perspective of 5- 10 years. They are usually in the form of physical quantity. Short-term budgets are usually for a period of a year-two and are in the form of production plan in monetary term. Current budgets cover a month or so and are the short-term budgets adjusted to current conditions as prevailing circumstances.

2.13.2 BASED ON CLASSIFICATION

On this basis of classification budgets correspond and are co-terminus, 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 functional budgets are sales, selling and distribution cost budgets, production budget, production cost budget, purchase budget, personnel budget, research budget, cash budget, plant

utilisation budget, office and administrative budget, capital budget, master budget, etc.

2.13.3 BASE ON FLEXIBILITY

On the basis of flexibility, budgets can be categorised as fixed and flexible budget. Fixed budget 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.

Flexible budgets, the figure used in this form of cost and expense budgets are made acceptable to any given set of operating conditions which any month of the fiscal year.

2.14 PROFIT PLANNING AND BUDGETING

One systematic approach for attaining effective management performance is profit planning or budgeting is an integrate part of management. The controller would be particularly interested in profit planning since it helps to regulate flows of fund which is his/her primary concern.

Profit planning is a heart of management and budgeting is sole appropriate technique. Most of the Nepalese PEs has been suffering from the problem of poor performance and sometimes losses also. The functional budgets are the tools for planning and controlling the profits of any enterprises. In budgeting we plan the desired profit and in the time of execution the performance is verified and control is closely related to the broad system of planning and control in any organisation planning involves the specification of the basic objectives that is organisation will pursue and the fundamental policies that will guide it. In operational terms budgeting involves four steps:-

- I. Setting the objectives.
- II. Specialisation the goals.
- III. Laying down the strategies

IV. Preparation of budgets and profit plans

It has been said and applied by different persons and organisations, comprehensive PPC is viewed as a process designated to help management effectively perform significant phases of the planning and controlling functions. PPC is not confined in the traditional view of budget as a clerically derived set of quantitative schedules prepared by an accountant following the stereotyped reporting formats used in financial statements. The traditional view in which PPC was thought to be mathematical model for an organisation developed by computer programmers overlooks the three relevant aspects of PPC concepts:-

- I. PPC requires major planning decisions by management
- II. PPC entails pervasive management control activities.
- III. PPC recognises many of the critical behavioural implementations throughout the organisation.

Thus, it can be said that comprehensive PPC is the recent origin in the field of management but budgeting is the traditional view of accounting and presenting financial statement which can not include all management functions:- planning, organising, directing, leading, decision making, co-ordinating, reporting as the basic foundation for effective management.

2.15 AN OUTLINES OF FUNDAMENTAL CONCEPT OF PROFIT PLANNING AND CONTROL

The fundamentals concern effective implementation of the management process in reasonable complex endeavours. The fundamentals, as we define them at this point, represent desirable management organization activities and approach, necessary for proficient and sophisticated application comprehensive profit planning and control.

Profit planning and control is based on some fundamental assumption. The fundamental concept of PPC includes underlying activities or tasks that

must generally be carried out to attain maximum usefulness from PPC. (Welsch, Hilton & Gordon, 1997: 29-30) The major fundamentals are as mentioned and described below:-

2.15.1 MANAGERIAL INVOLVEMENT AND COMMITMENT

Managerial involvement and commitment involves the activities related to managerial support, confidence participation and performance orientation. The involvement of all levels of managers in PPC is preferred however; the top management involvement is indispensable. The management must:-

- I. Understand the nature and characteristics of PPC.
- II. Be convinced that the particular approach to managing is preferable for their situation.
- III. Be willing to devote the effort required to make it operative.
- IV. Support the program in all its ramifications and
- V. View the results of the planning process as permanent commitment.

Managerial involvement on comprehensive PPC program is directly related to confidence of management to confidence of management and its known ability to influence the future with the idea of setting goals in advance. Managerial involvement also deals with the idea of direct participation of the lower staff on the program. But one should not forget the fact that the idea of “Protect own self” should be totally controlled. The Plans are generally prepared by the lines executives but top management has the responsibility of coordination budgets of different departments and approving them finally modern concepts of PPC program or budgeting has emphasis an managerial involvement, due to the fact that modern budgeting believes on performance expectation rather than on fiscal expectation because modern business believes on the principle of attaining set objectives of goals rather than earning short run more monetary profit.

2.15.2 ORGANISATIONAL ADAPTATION

The success of the PPC program rest upon the sound organizational structure and also on a clear cut designation of the lines of authority and responsibilities of all departments of an enterprise. The authorities and responsibilities of each manager should be clearly identified and established. Sometimes indirect relationship of responsibilities also plays a great role in the organisation. So, it is advisable to clearly define and coordinate all round responsibilities and authority of and between the departments.

For easy and effective control, sometimes the organisational structures are divided into different functional sub-units and each sub-unit chiefs are assigned with specific responsibilities. These sub-units are known as decision centres. Sometimes there responsibilities centres are used to be in form of a division or departments or a sales district. But in most of cases these centres are used to be a functional like:-

- I. Cost Centre: which is only responsible for controllable cost incurred in the sub-unit but not responsible for profit or investment.
- II. Profit Centre: Which is responsibility centre cost and revenue and hence, and profit and
- III. Investment Centre: A responsible centre that goes one step further than a profit centre. In an investment centre, the manager is responsible for cost, revenue, profit and amount of resources investment invested on assets used by the centre. The planning and control focuses on the return on investment earned by the centre.

2.15.3 RESPONSIBILITY ACCOUNTING

Planning is done with the help of historical data supplied by accounting section and control is done by comparing actual data with planned data. So, for this reason accounting systems of any enterprises should be build around the responsibility structure of organisation or around functional sub-units. This is called responsibility accounting. A responsibility accounting system

is primarily oriented towards the organisational responsibilities and is a means to achieve effective control within this primary accounting structure secondary classifications of costs, revenues and other relevant financial data may be used to meet the enterprises needs.

As its origin cost accounting was given emphasis only on costing of goods produced. But now-a-days situation has changed and it is given mere attention on cost planning them only to costing. This changed in priority is based upon the responsibility accounting principle and principle of product cost has been given secondary importance. At first, data generated from historical cost accounting are used for cost planning and control purposes then the same cost data are used for costing purpose.

If the parameter of cost and revenue used for planning purpose are not used in accounting system or are not used for costing purpose valuation of the result by comparing it with planned goal will not be effective. So, for evaluation purpose and for accounting purpose, each of the responsibility centre have to prepare a chart of accounting parameters to be used for planning purpose and have to supply it with full instruction to respective unit. Then, only the main objective of responsibility accounting can be fulfilled.

2.15.4 FULL COMMUNICATION

Communication is a necessary activity in all facets of management communication can be broadly define as an interchange to thought or information to bring about a mutual understanding between two or more parties. All communication involves a sender, a message and a receiver. Communication may be thought of as the link that brings together the human elements in an enterprise managerial decision and leadership are actuated by communication, the means by which behaviour is affected, modified energised.

For comprehensive PPC, effective communications means development of

well defined objectives, specification of goal, development of profit plans and reporting and follow up of activities related to performance evaluation for each responsibility centre. To have effective communication for comprehensive PPC, both the parties related with planning activities must have some understanding, responsibilities and goals. Full participation in all matter, well defined down ward flow of information and well defined reporting system is required.

2.15.5 REALISTIC EXPECTATIONS

PPC must be based on realistic approach or estimation. The management does not take irrational optimism or unnecessary conversation. Perfection as setting goals or objectives of the future sales, production levels costs capital expenditures, cash flows, and so on determine the success of PPC program form PPC purpose enterprise objectives and specific budget goal should represent realistic expectations. So, for PPC purpose, a realistic reared with time dimension and external internal environment that will prevail during the time span should be considered.

For budgeting purpose, also realistic expectation is required. Because of both over and under estimation the use of the budget in one unit have negative impact on the other units which ultimately destroy whole planning of the enterprise.

2.15.6 FLEXIBLE APPLICATION

PPC Program of any other managerial tool must be flexible, not rigid because these are techniques of only not the end of the management itself. Because the main aim or end of the management to utilised the resources in most effective way and earn high return on investment and for this purpose comprehensive PPC or other techniques are used as means only.

Unlike, budget, which imposes rigidity on any activity and puts constraint on the decision making freedom of managers. PPC program permits freedom to all managers. This is possible in profit planning because in the course of

preparation PPC program all level of managers are involved and hence, the top level management will have privilege to make necessary decision and delegate more responsibilities to the managers. This position gives more power to unit managers. The power of making favourable decision in such a situation the profit plan place management in the position of being able to assess, on the on more objective basis, the soundness of contemplated decision PPC approach also use to have place for such unanticipated events and adjustment for the same.

In conclusion, it can be said for PPC purpose budget not be regarded as 'Straight Jacket' and for management purpose the PPC approach should not be regarded as the constraints for management to seize the opportunities which is going to most beneficial for the enterprise in long-range.

2.15.7 INDIVIDUAL AND GROUP RECOGNITION BEHAVIOURAL POINT OF VIEW

Behavioural aspects of human being are the field of study of the psychologist, education and businessman and finding is that there can be so many unknown misconception and speculations which has been considered for efficient management. A good and dynamic leadership can resolve this problem by integrating all the group of efforts for betterment of the organisation. This fact also has been well considered under comprehensive PPC approach and a focus has been given to resolve the behavioural problem.

Goal orientation is the characteristics of ambitious and competent individuals who are normally involved in management process. The goal which has been identified for an individual can enhance such persons to identify their performance. To motivate people there should be a good harmony between their personal interest and organisational interest and goal has to be identified accordingly. More than monetary benefits personal satisfaction from the work counts a lot from the competent people. The lack of understanding between

the working groups of the programs and its operation, effect of program on them, expectation of over pressure and disagreement with planning and control approach are the causes of management failure. So, a careful management has to tackle these problems and have to direct the attention of the workers in positive way.

Finally, of the relevant study conducted by industrial psychologist has described about the effects of pressure on human behavioural pressure up to moderate limit is needed to purpose, the working staff to work but excess pressure will have negative effects. The comprehensive PPC approach has been developed on this principle. In some of the traditional enterprises budget and personnel as a means of pressure and were found very negative in result.

2.15.8 FOLLOW UP

The importance of follow up action on comprehensive PPC approach is much more. Follow up action after a careful study is required to:-

- I. Correct the action of sub-standard performance in a constructive manner.
- II. To recognise and transfer the knowledge of outstanding performance to other.
- III. Can the basis of the study and evaluation to provide a sound basis for further comprehensive PPC program.

2.15.9 MANAGEMENT CONTROL USING PPC

Control may be defined simply as the action necessary to assure that objectives, plans, policies and standards are being attained. Control has many facts such as direct observation, oral expression, narratives memoranda policies procedure, report to actual result and performance report. A comprehensive PPC program aids control in man way underlying planned objectives, goals and standards and reporting of that measurement

in what is commonly referred to as performance reports. This measurement and report extends to all areas of operations and to all responsibility centres in the enterprises. From the point of view of methodology involve reporting:-

- I. Actual result
- II. Planned result
- III. The different between the two variances

2.16 MANAGEMENT BY EXCEPTION

Objective is desired outcome. An organization is established to attaining its objective. All of the organization needs to be conducted within the framework of objectives. A managerial objective is the intended goal that prescribes definite scope and suggests direction to the planning efforts of a manager. The clearer the organization's objectives, the easier to run the organization. In spite of the exclusive efforts towards the accomplish must of objective an organization cannot meet it. The accomplishment of an organization can be equal to below or less than target. While setting objective resources of organization must consider its resources.

Management by Exception (MBE) is a conservative management approach that constitutes a foundation. A manager can build many different kinds of things on this foundation. He can focus his attention on offense, knowing that his defense is solid. MBE is starting at the end and working backward. Not working backwards, that is something else. It requires that managers model the business process, and that they objectify it, and quantifies it. The idea of an exception presupposes the definition of some range of normal outcomes.

MBE is also a group communication strategy. When an exceptional condition occurs, the involvement with the event widens. More people are drawn into the process of dealing with this problem. MBE allows the escalation of response to

situations in a similar manner.

The basic approach to MBE consists of definition of exceptions, identification of exceptions, and follows through.

We choose to define norms, they must be measurable. Not only do we all see with our own eyes, but in business, we tend to see all situations in terms of what we measure. If we are only measuring sales and profits, then sales and profits are the two measurements that all our problems (and successes) get expressed in. Statistical information about our business is just as important to our ability to manage as financial information.

The entire idea of MBE requires that once we have identified an exception, we follow up on it. It is possible to use most computer systems to email a specific employee that an exception has occurred, and to continue to email that person and to escalate the notifications until the process has been completed. If one is late, the reason should become known.

At some point, we think, executing the puzzle solving routing should become pretty simple. Unfortunately, many managers appear to think that work is like that: executing the instructions should produce desired outcomes, and better and better efficiency. The real world is not like that – it is not like a puzzle.

If we find that one job has double the normal material, and another has none, it is very important to be able to correct that. For this, we have to seek and find the reasons behind achievement of the untrustworthy outcome rather than reward to it. The viable reasons can be under estimation while formulating the plan, effective use of resources, motivated staff, favorable external environment, consistency between objective and policy etc. in effect evaluation and control process are set up to be sure the gap between expected and desired objectives will be closed according to the strategy. In terms of our gap analysis approach, we want to determine whether the gap between expected and ideal

outcomes are being closed; and we want to know if any internal or external changes the plan might alter our expectation regarding these gap. The evaluation system should alert us to these conditions to that corrective action can be taken-getting back on track, changing the tract or changing our belief about the gap and objective. In other, unless evaluation and control are integrated with a plan, strategic planning may be little more than pious hope rather than a means of achieving the desired future. Everyone has to be committed to having everything right all the time. Anything less is an opportunity to misunderstand our business.

The idea of MBE is to allow us to focus on areas where we can make the most difference, not to allow us to ignore our workers. Another popular management style these days is “MBWA” or “Management by Walking Around.” It’s a fancy name for having time to spend looking at what our people are doing, and talking to them, answering their questions, and reinforcing our priorities. It’s not a new Management style; it’s an old way to stay connected to your network! One of the dangers of MBE is that performance within statistical norms doesn’t exactly mean the same thing as good performance. We will never know when that is the case unless we are in touch with the people whose work we are measuring.

It is not enough by itself to make an organization successful. As we said before, it’s not about winning, it’s about not losing. MBE has to be combined with other approaches to successfully manage a company.

2.17 ESTABLISHING THE FOUNDATION OF PPC

Establishing a sound foundation is necessary for the successful implementation of the of the PPC program. For this, the enterprise should take certain steps and these steps are as follows:-

- I. There must be commitments by the top management to the broad

concept of PPC and sophisticated understanding of its implications and operations.

- II. The characterises of the enterprise and the environment in which it operates-including the controllable and non-controllable variables-must be identified and evaluated so that relevant decisions may be made about the characteristics of a PPC program that would be effective and practical.
- III. There should be an evaluation of the organisational structure and assignment of managerial responsibilities and implementation of changes deemed necessary for effective planning and control.
- IV. There must be an evaluation of the organisation of the accounting system to ensure that it is tailored to the organisational responsibilities (responsibility accounting) so that it can provide data particularly useful for planning and control purposes.
- V. A policy determination must be made about the time dimension to be used for PPC purposes.
- VI. A program of budget education should be developed to inform management at all levels about (a) the purposes of the program; (b) the manner in which it will operate, including the basic management polices and guidelines for its administration; (c) the responsibility of each level of management in the program; and (d) the ways in which the program can facilitate the performance of each manager's functions. (*Welsch, Hilton & Gordon, 1997: 59*)

These six steps, if taken seriously at the outset, should pave the way for instituting a sound PPC program.

2.18 ELEMENTS OF PPC

A comprehensive PPC program encompasses much more than the traditional idea of a periodic budget. Moreover, it encompasses the

application of a number of management concepts through a variety of approaches, techniques and sequential steps. Basic components of comprehensive are as follows:-

A. The Substantive Plan

- (a) Broad objectives of the enterprise
- (b) Specific enterprise goals
- (c) Enterprises strategies
- (d) Executive management planning instructions

B. The Financial Plan

(II) Strategic Long-Range Profit Plans

- (a) Sales, cost and profit projection
- (b) Major project and capital additions
- (c) Cash flow and financing
- (d) Personnel requirement

(III) Tactical Short-range (Annual) Profit Plan

(i) Operating Plan

- (a) Planned income statement
- (b) Sales plan
- (c) Production plan
- (d) Administrative expenses budget
- (e) Distribution expenses budget
- (f) Application type budget (e.g. research & development, promotion, advertising etc.)

(ii) Financial Position Plan

- (a) Planned balance sheet: assets, liabilities, and owner's equity.

(iii) Cash flow plan

C. Variable Expenses Budget

D. Supplementary Data

E. Performance Report

F. Flow up, Corrective Actions and Re-planning Report

2.19 THE OBJECTIVES OF PROFIT PLANNING AND CONTROL

A comprehensive profit planning is a systematic and formalised approach for stating and communicating the enterprise's expectations and accomplishing management in such a way to maximise the use of the profit plan to achieve the maximum benefits from scarce resources available to an organisation over a particular span of time. It serves basically as a tool of management. The prime objective of PPC is to assist in systematic planning and control of the operation of the enterprise. Indeed, it is the best source of communication and an important tool in hands of management. Following points outline the objectives of PPC:-

- I. To state the enterprise's expectations (goals) in clear and formal terms to avoid confusion and to facilitate their attainability.
- II. To communicate expectations to all concerned with the management of the enterprise in order to they are understood, supported and implemented.
- III. To provide a detailed plan of action for reducing uncertainty and for the proper direction of individual and group efforts to achieve goals.
- IV. To co-ordinate the activities and efforts in such way that the use of resources is maximised.
- V. To provide a means of measuring and controlling the performance of individual and units and to supply information on the basis of which the necessary corrective actions can be taken.

2.20 ADVANTAGE OF PROFIT PLANNING AND CONTROL

The meaning of profit planning is the development and acceptance of objectives and goals and moving an organisation efficiently to achieve the predetermined objective and goal by substantive and financial plan and techniques. Profit planning is a prominent to emphasise on developing positive reinforcement, improving motivational goals, coping with the effect of budgetary pressure resolving budget, padding problems and using budgets for control. When asked the objectives of the business enterprise, all most of all businessmen reply “to realise profit”. However, in the last few years, some businessmen have tended to more frequently to soft-pedal profit maximisation and to emphasise the modern corporation’s growing for social obligation. Yet, the phrase “social responsibility” really defined remains a lazy concept. Profits are the vital elements in a successful business enterprise. A firm making insufficient profit will not only survive but will become a social or economic disaster to the every society it is expected to support. The social responsibility is a fair weather concept. Management cannot start to think in terms of philanthropy unless profits are adequate. (*Kulkarni, 1992: 100*) Management must execute a series of thinking of process and action which will guide to produce specific products or render services in a definite manner or method in a volume at a time, at a cost and at a price that will in the long-term, assure a profit and also with the co-operation of employees give the goodwill of customers and meet social responsibilities. Business logic and changing public expectation suggest that plan should be formulated of four major parameters- economical, technological, social and political so that a business has always thinking about sound profit planning. It is because profit planning has importance or advantage in an enterprise. (*Welsch, Hilton & Gordon, 1997: 60-63*)The

importance of profit planning can be cited in the following point:-

- I. It forces early consideration of basic policies.
- II. It needs adequate and sound organisation structure i.e. there must be definite assignment of responsibility for each function of the enterprise.
- III. It compels all members of management, from the top to down to participate in the establishment of goals and plans.
- IV. It compels departmental managers to make plans in harmony with the plans of other departments and of the entire enterprise.
- V. It needs that management put down in figures what is necessary for the satisfactory performance.
- VI. It requires adequate and appropriate historical accounting data.
- VII. It compels the management to plan for the most economical use of labour, material and capital.
- VIII. It installs at all levels of management the habit of timeliness careful and adequate consideration of the reliable factors before reaching important decision. (*Welsch, Hilton & Gordon, 1997: 60*)
- IX. It frees executives from many day to day internal problems through predetermined policies and clear cut authority relationship it thereby provides more executive time for planning and creative thinking.
- X. It tends to remove the cloud of uncertainty that exists in many organisations, especially among the lower level of management, relative to basic policies and enterprise objectives.
- XI. It pinpoints efficiency and inefficiency and promotes understanding among members of management and their co-workers problems.
- XII. It forces a periodic self-analysis of the company and management to give adequate attention to the effect of general business conditions.
- XIII. It aids in obtaining bank credit. Banks commonly require a projection of future operations and cash flows to support large loans.

- XIV. It checks progress or lack of progress toward the objectives of the enterprise.
- XV. It forces recognition and correctives action (including reward).
- XVI. It forces management to consider expected future trends and conditions.

2.21 PROBLEMS AND LIMITATION OF PROFIT

PLANNING AND CONTROL

Obviously, Profit Planning and Control is systematic approach to the solution of problems, but it is not full proof. It is confined from certain problems and limitations. The prime problems in developing a PPC system are:-

- I. Seeking the support and involvement of all level of management.
- II. Developing meaningful forecasts and plans especially the sales plan.
- III. Educating all individual to be involved in the PPC process and gaining their full participation.
- IV. Establishing the realistic objectives, policies, procedures and standard of desired performance.
- V. Applying the budgeting or PPC system in a flexible manner.

Maintaining effective follow up procedures and adopting the budgeting system whenever the circumstances changes. (*Pandey, 1983: 306*)

The management must give attention on following limitations while formulating the comprehensive profit planning and control:-

- I. The profit plan is based on estimates.
- II. A PPC program must be continually adapted to fit changing circumstances.
- III. Execution of a profit plan will not occur automatically.
- IV. The profit is not a substitute for management
- V. It is difficult, if not impossible, to estimate revenue and expenses in

our company realistically.

- VI. Our management has not interest in all the estimates and schedules. Our strictly informal system is better and works well.
- VII. It is not realistic to write and distribute our goals, policies and guidelines to all the supervisors.
- VIII. Budgeting places too great a demand on management time, especially to revise budgets constantly. Too much paper work is required.
- IX. It takes away management flexibility.
- X. It creates all kinds of behavioural problems.
- XI. It places the management in straitjacket.
- XII. It adds a level of complexity that is not needed.
- XIII. It is too costly, aside from management time.

The managers, supervisors and other employees hate budgets. (*Pandey, 1983: 60-61*)

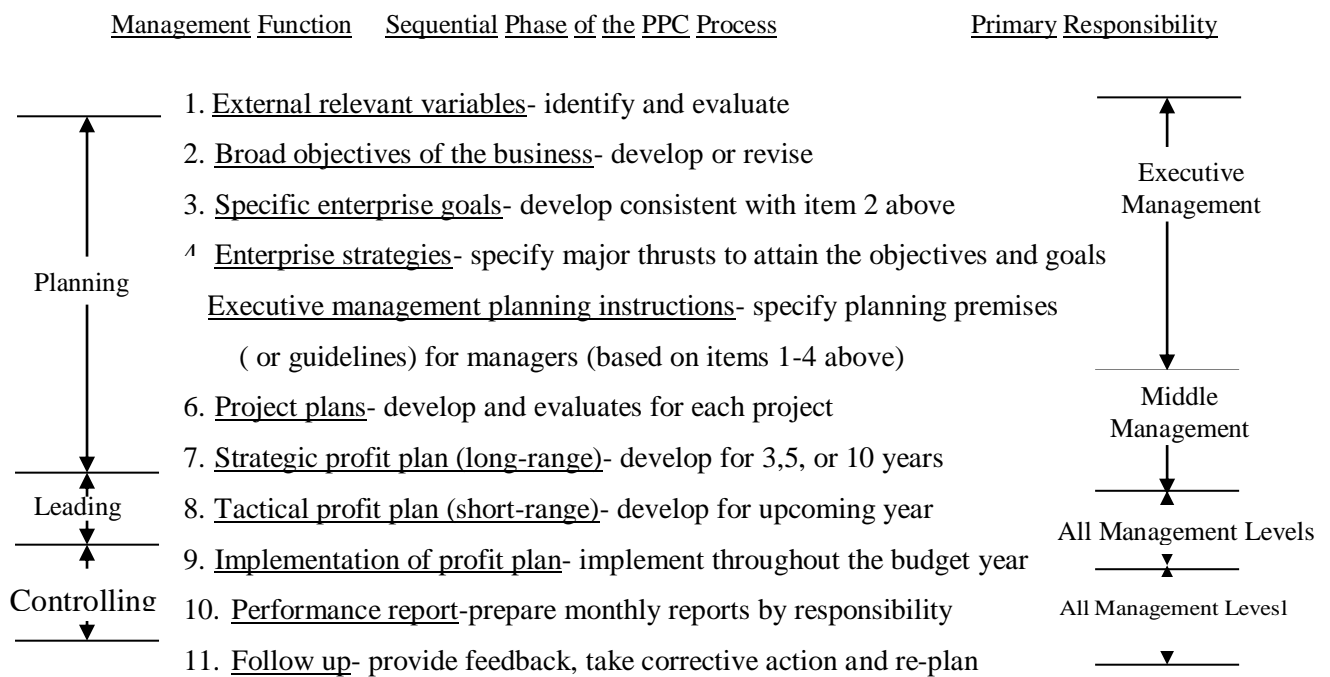
2.22 PROFIT PLANNING PROCESS

Profit planning process integrates the planning, leading and control function of management. A PPC program includes more than the traditional idea of periodic or master budget. It encompasses the application of a number of related management concepts through a variety of approaches techniques and sequential steps.

PPC process outlines the sequential phases that management must perform from development of objectives for the business through control corrective action and re-planning, consistent between the processes and competent of PPC is vital. The PPC process typically is repeated each budget year. Also the competent of a PPC program typical are restarted each budget year the strategies long-range profit plan covers a five years them span and the tactical short-range profit plan encompasses a year planning period. Assume that the formal PPC program is repeated on annual basis. Thus, the entire

basis steps in the planning. Phases reviewed and evaluated annually in a particular year some of the components such as the broad objectives of the enterprise, may not be changed in any major respects when other components may be completed revised for the upcoming year. The following table depicts an overview of the PPC progress:-

OVERVIEW OF THE PPC PROCESS



Source: *Welsch, Hilton & Grodon, Budgeting Profit Planning and Control*

2.22.1 IDENTIFICATION AND EVALUATION OF EXTERNAL VARIABLES

The relevant variables can be classified as external (uncontrollable) and internal (controllable) variable. The variable identification phase of PPC process focuses in (a) identifying and (b) evaluating the effects of the external variables, management planning focuses on how to manipulate controllable variables. But for the non-controllable variables management planning focuses on take to the advantage of them potential favourable impacts and to minimise their potential unfavourable impacts of the organisation. By relevant variables, we obviously imply those that with have

direct and significant impacts on the enterprises. This activity should involve all executive managers, how in turn should expect various staff groups to provide data and recommendations. Management must evaluate the present strength and weakness of the enterprise. The planning must necessarily start with an objectives and realistic understanding of the present status of the products, price service, markets, profits, return on investment, employees, cash flow availability of capital productivity capabilities etc. Planning without proper evaluation the enterprise strength and weakness at present will be unworthy because the capacity of the enterprises for the future activities cannot be anticipated well.

2.22.2 DEVELOPMENT OF THE BROAD OBJECTIVE OF THE ENTERPRISE

On the basic of the realistic evaluation of the relevant variable of the enterprise and an assessment of the strengths and weakness of the enterprise, executive management is in a position to specify the broad objectives of the enterprise. The statement of broad objectives should express the mission, vision and ethical character of the enterprise. Its purpose is to provide enterprise identify continuity of purpose and definition. The purpose of the statement of objectives can be summarised as follow:-

- I. To identify the purpose of the company
- II. To clarify the philosophy character of the company
- III. To create a particular climate within the business
- IV. To set down a guide for manage to that the decisions they make well reflect the best interact of the business with fairness and justice those concerned.

The statement of broad objectives normally should not specify quantitative goals; rather it should be a narrative expression of the purpose.

2.22.3 DEVELOPMENT OF SPECIFIC GOALS FOR THE ENTERPRISE

The purpose of the “goal phase” of the PPC process is to bring the statement of broad objectives into sharper focus and to move from the realm of general information to more specific planning information. It provides both narrative and quantitative goals that are definite and measurable. Executive management should exercise leadership in this planning phase so that these will be a realistic and clearly articulated framework within which operations will be conducted toward common goals. The statement of specific enterprise goals should define such operational goals as expansion or contraction of product and service lines geographic area, share of market by major product or service line, growth trends production goals, profit margins, return on investment and cash flow. These specific goals in large measure are quantified and specified for each major sub-division of the enterprise.

2.22.4 DEVELOPMENT AND EVALUATION OF COMPANY’S STRATEGIES

Company’s strategies are the basic thrusts, ways and tactics that will be used to attain planned objectives and goals. A particular strategy may be short-term or long-term. The purpose of developing and disseminating enterprise targets is to find the best alternatives for attaining the planned broad objectives and specific goals. In the development of basic strategies for the enterprise executive management must focus on identification of the critical areas that influence the long-range success of the enterprise.

2.22.5 PREPARATION OF PLANNING PREMISES

This phase involves communication of the substantive plan to middle and lower levels management. It explains the broad objectives and enterprise goals. Enterprise goals, strategies and any other executive management instructions needed to develop the strategic and tactical profit plan. It also is

called the statement of planning premises or the statement of planning guideline.

2.22.6 PREPARATION AND EVALUATION OF THE PROJECT

PLANS

Project plans encompass variables time horizons since each project has unique time dimension and each project is considered and planned as separate unit. The project once approved by the top management then must be fitted into strategic and tactical profit plans. Project plans include such items as plans for improvement of present products, new products, expansion of physical facilities, entrance into industries, exit from product and industries, new technology and other major activities.

In addition to any ongoing projects, management should encourage continuing basis projects throughout the enterprise. Consistent with this approach, during the formal planning cycle, management must evaluate and decide upon the plan status of each project in process and select any new projects to be initiated during time dimensions coverage such as the upcoming strategic and tactical profit plans. Preparation and evaluation of current and future project plans are essential on a formal basis.

2.22.7 DEVELOPMENT AND APPROVAL OF STRATEGIC AND

TACTICAL PROFIT PLANS

When the management of the various responsibility centres in the enterprise receive the executive management planning instruction and the project plans, they can begin incentive activities to develop their respective strategic and tactical profit plan. The strategic long-range plan and the tactical short-range profit plan are usually developed concurrently. This approach is seldom advisable because it denies full participation in the planning process by middle managers. Assuming participatory planning and receipt of the

execute management instruction, the manager of each responsibility centre will immediately initiate activities within his/her responsibility centre to develop, strategic long-range profit plan and in harmony with the five years plan. All of this activity must be co-ordinate among the centres in conformity with the organisation structure.

As the both profit plans are being completed, the approval process must be initiated. This process involves approval disapproval or revision based on (a) action by executive management (b) presentation and justification by the managers of the responsibility centres to the next higher level of authority. The manager of each major responsibility centre should be given the opportunity to make a complete presentation of the plans and to use member of his/her staff and line people in this meeting.

2.22.8 IMPLEMENTATION OF THE PROFIT PLANS

Implementation of management plans that have been developed and approval in the planning process involves the management function of leading subordinates in attaining enterprise objectives and goals. Thus, effective management at all levels requires that enterprise objectives, goals and strategies understood by subordinates. However, a comprehensive profit planning and control program may aid substantially in performing developed through significant participation establish the function plans, strategies and policies developed for effective communication. The principles are effective in the development process, the various executives and supervisor will have a clear understanding of their responsibilities on the expected level of performance.

Distribution of the profit plan within the enterprise, it is desirable that the distribution of the profit plan include a “statement of planning premises” from the top executive that emphasise performance challenge and positive motivation. The special emphasis should be devoted to the manner in which

unanticipated events and problem will be handled at various management levels.

Profit plan cannot manage the business and they must not constrain management is taking advantage of opportunities even those not anticipated in the profit plans.

2.22.9 USE OF FLEXIBLE EXPERIENCE BUDGETS

The flexible expenses budgets is also referred to as the variable budget sliding scale budget, expenses control budget and formulation budget and formulated budget. It is completely separate from the profit plan but it is used to complement it. Flexible expenses budget gives realistic information about expenses that make it possible to compute budget amount for various output volumes or rates or activity in each responsibility course. It provides as formula given the relationship of each expenses to output in the centre. Each formula induces a constant express factors and a variable expenses rate.

2.22.10 USE OF PERIODIC PERFORMANCE REPORT

Profit plans are being implemented during the period of time specified in the tactical plan, periodic performance reports are needed. The performance reports are prepared by the accounting department on a monthly basis. Also some special performance reports are prepared more often on an as needed base the performance reports are:-

- I. Compare actual performance with planned performance and
- II. Show each difference as a favourable or unfavourable performance variation.

A clear distinction must be made between external and internal financial reports. Internal reports can be further classified as:-

- I. Statistical reports that gives the basic quantitative internal statistics about the operations of the enterprise.

- II. Special managerial reports about nonrecurring and special problems.
- III. Periodic performance reports focus on dynamic and continues control tailors to the assigned managerial responsibilities.

2.23 MASTER BUDGET FOR SHORT-RANGE

Budgeting for the short-range is concerned with facilitating and controlling the activities of responsibility centre on an annual or even monthly basis. Short-range budgeting provides managers with a means for comparing actual operations with budgeted figures and reporting the result of these comparisons to higher managers.

The master budget is the organisation's primary short-term budgetary device. This comprehensive budget is often prepared through a standard cycle of events that occur on a specific timetable each year. (*Schamerhon: 482*)

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.

The complete budget for a firm is often called master budget. The master budget consists of many functional budgets. These budgets include sales budget, production budgets, purchase budget, expenses budgets, equipment budget and cash budget. Once all these are completed, the master budget of entire firm is prepared which is a summary of functional budgets and planned profit and loss during the budget period. (*Flesher & Flesher, 1980: 141*). It may be recalled that a budget with reference to planning and control refers to comprehensive and co-ordinated budgets generally known as master budget. A master budget normally consists of three types of budget:-

- I. Operating budgets
- II. Financial budgets and
- III. Special decision budges

The preparation of master budget is major event in any organisation. This complex process involves the efforts of many people from all levels of management. Master budget preparation is a negotiation process in which initial proposals by responsibility centre managers are subject to revision as the different components of the budget are brought together and reviewed. They are highlighted as follows:-

- I. Forecast demand for products and or services
- II. Identify cost patterns for responsibility centres.
- III. Estimate production cost.
- IV. Specify operating objectives.
- V. Develop sales budget.
- VI. Develop production budget.
- VII. Develop purchase budget.
- VIII. Develop budgets for responsibility centres.
- IX. Formulate profit plan.
- X. Compare profit plan with operating objectives.
- XI. Formulate projected cash budget.
- XII. Prepare projected statement of financial position.

2.24 DEVELOPMENT OF PROFIT PLAN

2.24.1 SALES BUDGET OR PLAN

2.24.1.1 MEANING OF SALES BUDGET

The sales budget or plan is said the beginning stone of profit plan. It is a forecast of total sales of all the products or services expressed in term of physical quantities and values in respect of each product of a future budget period. (*Rothmans: 14-15*)

The sales forecast provides the foundations for the sales budget. The sales budget is generally for one year to concern with the financial year. (*Alpine:*

77) After the planning premises have been received development of the sales plan is next step in preparing the profit plans. The sales plans have three distinct parts:-

- I. The plan sales volume at the planned sales price per unit for each product,
- II. The sales promotional plan and
- III. The sales expenses plan (*Welsch, Hilton & Gordon, 1997: 135*)

The sales budget is the sales master plan for the future period. The sales budget itself is an estimate of three main figures (a) the income that will be earned from sales (b) the cost and expenses of making these sales and (c) the sales surplus. The income from sales will depend on the quantity and the price of the goods which will be sold. The sales plan should be worked out on a sound and reasonably detailed basis. It should reflect resonant influences and any anticipated irregularities. The primary purposes of sales plan are:-

- I. To reduce uncertainty about future revenues,
- II. To incorporate management judgements and decisions into the planning process,
- III. To provide necessary information for developing other elements of a comprehensive profit plans and
- IV. To facilitate management control of sales activities (*Hongreen, 1976: 172*)

A preliminary sales budget is prepared production and then a detailed budget is also prepared on the basis of salesman's estimates. It is worth to make up the sales budget again (a) by products (b) by theory and (c) by type of customers.

2.24.1.2 SALES PLANNING COMPARED WITH FORECASTING

Sales planning and forecasting are not the same. But they are related with

each other. A forecast is not a plan: rather it is a statement and quantified assessment of future conditions about a particular subject based on one or more explicit assumption. A forecast should always state the assumption upon which it is based. A forecast should be viewed as only one input into the development of a sales plan. The management of a company may accept, modify or reject the forecast. In contrast a sales plan incorporates management decisions that are based on forecast, other inputs and management judgments about such related items as sales volume, price, sales efforts, production and forecasting. (*Welsch, Hilton & Gordon, 1997: 172*)

The term sales forecast is sometimes distinguished from sales budget as follow: the forecast to the estimate, predications that may or may not become the sales budget. The forecast become the budget only if management accepts. It as an objective often than the forecast leads to adjust of managerial plans, so that the final sales budget differs from the original sales forecast. (*Welsch, Hilton & Gordon, 1997: 135*)

It is important to make distinction between sales forecast and the sales plan that the technical staff should not be expected or permitted to make the fundament all management decisions and judgments implicit in every sales plan. Moreover, the influence of management actions on sales potential is difficult to express for sales forecasting so the elements of experienced management judgment must mould the sales plan. (*Welsch, Hilton & Gordon, 1997: 172*)

The short-term sales forecast provide the basis for the current year's sales plan and finished goods inventory plan. At the same time the influence of the long-term sales forecast is reflected to the capital expenditure plan and in the finished goods inventory plan. The long-term sales forecast issues at what might be called another and of the finished goods inventory plan.

There are generally three steps in forecasting the sales. The initial step is to

forecast the total market demand for the product. The second step is to forecast, the company's share of the market and the third step is to identify and relate change in the environment (social, economic and political) to the total sales of the company and industry sales. Forecasting methods are broadly classified as (a) quantitative (b) technological (c) judgment. The forecasting methods includes sales force composite, sales division supervisors composite, executive opinion, method time sense, regression analysis, correlation analysis, modelling smoothing, regression analysis, correlation analysis, modelling smoothing etc.

2.24.1.3 STRATEGIC VS TACTICAL SALES PLAN

A comprehensive sales plan includes two separate but related plans the strategies and the tactical sales plan. The strategies sales plan is long-term sales and it covers usual case to five or ten years and tactical sales plan is short-term horizon which covers one year period. Many sales and product decision commit a large amount of resources involving a life span of many years.

Long-term sales plans are usually developed as annual amounts. The long-term sales plan uses broad groupings of product with separate consideration of major and new products and services. Long-term sales plans usually involve in depth analyses of future market potentials which may be built up from a basic foundation such as populations and finally company objectives. Long-term managerial strategies would affect such areas as long-term pricing policies development of new products and innovations of present products, new directions in marketing efforts, expansion or change in distribution channels and cost patterns. (*Welsch, Hilton & Gordon, 1997: 173-174*)

Long-range sales planning is at least from the following point of view and the general application of a three-stage model are:-

- I. A forecasting model from the general economy,
- II. A forecasting model from determine industry sales and
- III. A unique model for assessing the company's market potential.

(Welsch, Hilton & Gordon, 1997: 140)

The tactical sales plan includes a detailed plan for each major product and for groupings of minor product. Short-term sales plans are usually developed in terms of physical units and in sales and service dollars. The amount of detail in a tactical sales plan is a function of the company's environment and characteristics. A short-range sales plan should include considerable detail whereas a long-range plan should be in broad terms.

Sometimes, it may be helpful to view the development of long-range and short-range sales plans as separate activities. However, they must be integrated because the short-range sales plan should dovetail with the strategic long-range plans in all major respects. *(Welsch, Hilton & Gordon, 1997: 173)*

2.24.1.4 COMPONENT OF COMPREHENSIVE SALES PLAN

The components of comprehensive sales planning are as follows:-

- (A) Components of the foundation for comprehensive sales plan
 - I. External variable identifies and evaluated.
 - II. Broad enterprises objectives and goals formulated.
 - III. Strategies for the company developed.
 - IV. Planning premises specified.
- (B) Comprehensive of a comprehensive sales plan.
 - I. Management policies and assumptions.
 - II. Marketing Plan (sales and services revenues)
 - III. Advertising and promotion plan.
 - IV. Distribution expensive plan. *(Welsch, Hilton & Gordon, 1997: 172/173)*

2.24.1.5 DEVELOPING A COMPREHENSIVE SALES PLAN

Starting with the foundation of enterprises, objectives, strategies and planning premises, the managers responsible for the sales functions develop the sales plan with help of sub-ordinates. According to Welsch, Hilton and Gordon the following steps are taken in developing a comprehensive sales plan:-

- Step 1 Develop management guidelines specific to sales planning including the sales planning process and planning responsibilities.
- Step 2 Prepare one (or more) sales (market) forecasts consistent with specified forecasting guidelines including assumptions.
- Step 3 Assemble all other data that will be relevant in developing comprehensive sales plan, where:-
 - i. Manufacturing capacity
 - ii. Source of raw materials and supplies or goods for re-sales
 - iii. Availability of key people and a labour force
 - iv. Capital availability
 - v. Availability of alternative distribution channels
- Step 4 Based on above steps apply management evaluation and judgment a comprehensive sales plan (develop the strategies and tactical sales plan). There are four different participation approaches widely used in the process of developing sales plan:-
 - i. Sales force composite (maximum participation)
 - ii. Sales division managers composite (participation limited to managers only)
 - iii. Executive decision (participation limited to top management)
 - iv. Statistical approaches (technical specialists plus limited participation)

Step 5 Secure managerial commitment to attain the goals in the comprehensive sales plan.

It is emphasised that these steps must be revised and implemented in various ways depending on the characteristics of the business and the expertise of management. (*Welsch, Hilton & Gordon, 1997: 182-185*)

2.24.1.6 CONSIDERATION OF ALTERNATIVE

Developing a realistic sales plan involves consideration of numerous policies and related alternatives and a final choice by executive management among many possible course of action. Important decision must be made about such issues as new products, discontinuance of present products, pricing, expansion or contraction of sales areas, size of sales force, new distribution channel cost limitations and advertising and other promotional policies to the extent that the sophisticated approaches shed addition of uncertainty. For illustrative purposes, we shall consider two pervasive sales planning problems:-

I. Price-cost-Volume consideration in sales planning

Price is vital part of sales planning. In a competitive market, price and sales volume are mutually interdependent because sales volume and price are so closely tied together; a complicated problem is posed for the management of almost every company. Thus, two related basic relationship involving the sales plan must be considered:-

- i. Estimation of the demand curve that is the extent to which sales volume varies at different offering price.
- ii. The unit cost curve which varies cost volume relationship has a significant impact on the managerial strategy that should be adopted.

II. Product-Line consideration in sales planning

Determination of the number and variety of products that a company will

plan sales is crucial in the development of a sales plan. Sales plan includes tentative decisions about new product lines to be introduced, old product line to be dropped, innovation, and product mix.

A primary objective in sales planning should be to maximise profits in the long run rather than the short run. The long-range sales include changes in product line with broad specification as to the timing of such changes, those changes anticipated for the coming year must be brought into sharp focus through management decision and be included in the short-range plan. To develop the annual sales plan, top management must make decisions about product line development and marketing activities. Policies must respond to such issues as the following:-

- I. Which products will be pushed?
- II. When will the new product be available for shipment?
- III. Which product will be dropped and when?
- IV. What quality and quality style changes will be made?
- V. What about 'loss leader'?

These policy decisions about both long-term and short-term sales plans will usually have a major effect on plans in other areas of company, such as plant capacity, financing, territorial expansion and research. (*Welsch, Hilton & Gordon, 1997: 185*)

2.24.2 PRODUCTION PLANNING

The next step in short-range profit planning that follows the sales plan is the development of production plan. The production plan involves the determination of the number of units of each product that must be manufactured to the planned sales and to maintain the planned inventory levels of finished goods. One of the vital decisional inputs in developing a production plan is the management decision about planned inventory levels of finished goods.

Production plan is based on estimate sales. Production must be planned to allow sufficient time to manufacture the products before the estimated data of sales. It is prepared in the basis of sales budget, plan capacity, opening inventory of finished goods, required closing stock of finished goods and policy of management. Production budget is divided in to monthly budgets for the purpose of the production planning. In production planning the following factors are determined:- (a) economic batch quantity (b) delivery schedules (c) seasonal conditions (d) optimum utilisation of plant capacity (e) optimum utilisation of labour without much overtime and idle time (f) reduction of bottlenecks such as shortage of man materials (g) stock requirements (h) work-in-progress.

In developing a comprehensive profit plan, the requirement of sales plan must be converted into production manufacturing requirement. The production plan entails the development of policies about efficient production levels, use of production facilities and inventory levels. The quantities specified in the marketing plan adjusted to conform to production and inventory policies, given the volume of goods that must be manufactured by product and by interim time period. Thus, the production budget can be represented in this way:-

$$\text{Production} = \text{Sales volume} \pm \text{Change in inventory of finished goods.}$$

A complete production plan should show budget data classified by (a) products to be manufactured, (b) interim time period and (c) activities of each responsibility centre in the manufacturing process.

Production manager is responsible for preparing the production budget. He prepares the production program on the basis of the sales plan and this production plan should be consistent with managerial policies such as inventory levels, stability of production, capital addition and so on. (*Welsch, Hilton & Gordon, 1997: 210*)

2.24.2.1. OBJECTIVES OF PRODUCTION PLAN

The objectives of preparing production budget are:-

- I. To bring to a common focus all the factors necessary to establish policies and to determine operations.
- II. To project these established policies into the future by on analysis of past performance.
- III. To plan and control the operations being carried out to implement policies decided upon.
- IV. To make provisions for materials at right time and place.
- V. To plan the sequence of operations required for economic production.
- VI. To co-ordinate the various aspects of factory operation as to make them a vital link in the chain of profitable program.

2.24.2.2 RESPONSIBILITY OF PRODUCTION PLANNING

Production managers are responsible for the development of production plan. The complete and detailed marketing plan is given to the production manager translating it into a production program the consistent with managerial policies and subject to certain constraints. Production managers are fully responsible for production plan and so they have to consider top management policies in respect of:-

- I. Inventory levels,
- II. Stability of production and
- III. Capital additions.

An efficient and co-ordinate production plan requires the careful attention of executive management, particularly where there is multiple production requiring the determination of both time and place of production. The production manager must plan an optimum co-ordination between sales, inventory and production levels.

2.24.2.3 GENERAL CONSIDERATIONS IN PLANNING

PRODUCTION AND INVENTORY LEVELS

The production plan does not merely aim to set the precise amount and timing of actual production during the budget period. Rather, the production plan represents the implications of planned sales volume for planned production volume as a basis for planning the various aspects of the manufacturing function, plant capacity requirement, direct labour requirement and costs and factory overhead. The importance of co-ordination of production planning cannot be over emphasised because it affects so many decisions relating to cost, capital commitments, employees and so on. Therefore, following basic facts should be considered while planning the production: - (*Welsch, Hilton & Gordon, 1997: 213*)

- I. Total production requirement (by product) for the budget period.
- II. Inventory policies about levels of finished goods, work-in-progress and the cost of carrying inventory.
- III. Plant capacity policies such as the limit of permissible departures from the stable production level throughout year.
- IV. Adequacy of manufacturing facilities (expansion or contraction of plant capacity).
- V. Availability of direct materials, purchased components and labour.
- VI. Length of processing time.
- VII. Economic loss or run.
- VIII. Timing of production throughout the budget period by product and responsibility.

2.24.2.4 STEP IN DEVELOPING THE PRODUCTION PLAN

The development of production plan involves the recasting of sales budget, production analysis, scheduling, dispatching and inspection. But basically there are three major steps to be followed while developing a production plan:-

- I. Establishing policies for inventory levels.
- II. Planning the total quantity of each product that is to be manufactured during budgets period.
- III. Scheduling this production by interim period.

Symbolically, the given formula can be used to determine the planned production:-

Requirement of sales unit	XXX
Desired ending inventory of finished goods	<u>XXX</u>
Total requirement for the year	XXX
Less: Beginning inventory of finished goods	<u>XXX</u>
Planned annual production	XXX

2.24.2.5 SETTING INVENTORY POLICIES

To develop production requirement, consideration must be given to the finished goods and work-in-progress inventories. It is impossible to develop a realistic production plan without definite inventory policy. The objective of inventory policy should be:-

- I. To plan the optimum level of inventory investment and
- II. To realistically maintain these optimal through proper control.

But in most business, inventories represent a relatively high investment and may have a significant impact on the major functions of the enterprise and its profit. Inventory levels should be maintained between two extremes; an excessive level causing excessive carrying costs, risks and investment and an inadequate level to meet sales and production demands promptly. An important consideration when planning and controlling inventories is that they must absorb differences in stock between sales volume and production levels.

Inventory policies should include (a) the establishment of inventory standard, such as maximum and minimum levels or target turnover rates and (b) the application of techniques and methods that will ensure conformity

with planned inventory standard. Budgeting requires that inventory policies be established and provides for reporting variances of actual inventory levels from standard levels from month to month. To determine inventory policy for finished goods, management should consider the following factors:-

- I. Quantities (in units) needed to meet the sales requirements.
- II. Permissibility of items.
- III. Length of the production period.
- IV. Storage facilities.
- V. Adequacy of capital to finance inventory production, sometimes in advance of sales.
- VI. Distribution time requirement.
- VII. Cost of holding inventories.
- VIII. Protections against direct material and component storage.
- IX. Protection against labour shortage.
- X. Protection against materials and parts price increase.
- XI. Risks involved in inventory due to (a) price declines (b) obsolescence of stock (c) casualty loss and theft (d) lack of demand and (e) customer return policies. (*Welsch, Hilton & Gordon, 1997: 220-221*)

2.24.2.6 SETTING PRODUCTION POLICIES

There are three available to the production manager for setting production policies:-

I. Stable Production Vs Unstable Inventory Policy

Under this policy, fixed amount or units of goods are to be produced within the specified time period while the level of finished goods inventory fluctuates due to the sales budget.

II. Unstable Production Vs Stable Inventory Policy

This policy emphasises that production level should fluctuate in each period

where as the closing inventory of finished goods remains constant in each period. The units to be produced and sold are directly related in this policy.

III. Flexibility in both Production and Inventory Levels

The fixity about the level of production and requirement is uncertain under this policy.

The choice of those policies of production and inventories just depends upon the nature of sales and inventory policies. In many companies, where sales of the primary products are seasonal, production levels are established by developing new products that can be stored or that can have inversed seasonal patterns. Stability of production is desirable for a number of compelling reasons and generally results in significant reduction of cost and improvement in operations.

One potential hazard of significant up and down in production is the effect of personnel. Periodic layoff and subsequent effort to hire employees for overtime tends to lower morale and efficiency of workers and may discourage competent employees. Such a policy is a counter to an important objective of management i.e. to provide reasonable job security.

2.24.3 MATERIAL PLAN

2.24.3.1 MEANING

Once the sales production plans are formulated, the next step in developing comprehensive profit planning is the development of material plan. The production budget gives information about the units to be produced for sales and inventory levels to be maintained and on the basis of this budget requirement of materials is estimated. A comprehensive PPC program includes planning and controlling raw materials and components used in the manufacturing of finished goods (products) which, in turn, leads to the solution of a problem of when and how much to purchase each type of raw materials. So, an adequate control and co-ordination should be maintained

among (a) factory requirement for raw materials (b) raw materials inventory levels and (b) purchase of raw materials.

To ensure that the right amount of raw materials and component parts are available on hand at the required time and to plan for the cost of such materials and part, the tactical short-range profit plan should include:-

- I. A detailed budget that specifies the quantity and cost of such materials and
- II. A related budget for raw materials purchase.

The planning of raw materials usually requires the following sub-budgets, viz. materials and parts budget, materials purchase budget, materials inventory budget and cost of materials used budget.

2.24.3.2. MATERIALS AND PARTS BUDGET

Direct materials, as a manufacturing cost is represented by the materials and parts used directly in manufacturing finished goods. This budget specifies the planned quantity of each raw materials and parts required for planned production. It should specify the quantity of each raw material and parts by time, product and responsibility centre. The basic input is the number of units of each type of materials and parts required to manufacture each unit of finished goods. Thus, preparation of the direct materials and parts budget requires a careful study of the products to determine unit usage rate. The unit usage rates are multiplied by the planned number of unit of finished goods to be produced to compute the total units of materials and parts required. (*Welsch, Hilton & Gordon, 1997: 240*)

The materials budget includes only the quantities of direct materials, factory supplies and indirect materials that are included in the manufacturing a factory overhead budget The budgeted quantities of each raw materials and parts needed for each finished product must be specified in the materials and parts budget by interim period and by responsibility centres. The

manufacturing manager must be responsible for developing the data included in this budget

The basic inputs required to develop the direct materials and parts budget are:-

- I. Volume of planned output and
- II. Standard usage rate by types of raw materials and parts for each type of finished products

The unit usage rates can be derived

- I. During initial development of the products
- II. From engineering studies
- III. From past consumption records and bill of materials and
- IV. The size of the unit of finished goods. In many practical situations determination of usage rate is not a problem where product type varies frequently due to demand pattern it is really a critical problem to determine the appropriate usage rates.

2.24.3.3. MATERIALS AND PARTS PURCHASED BUDGET

The purchase budget specifies the estimated quantities to be purchased and the estimated cost for each raw material and the required delivery dates. The materials and parts budget provides the purchasing manager with the data needed to develop a purchase plan. Careful planning of purchase can result in significant cost savings in many enterprises. The purchasing manager should be assigned the responsibility for preparing a detail plan of purchaser. It is direct responsibility of purchasing manager to have knowledge about the market for items that must be purchased and to plan the unit cost for use in purchase budget. The purchase budget specifies both quantities of raw materials to be purchase and amount (in RS) to purchase materials. The purchase budget is directly concerned with the timing of actual receipt of raw materials rather that with the timing of usage of

purchase orders. So, in order to develop the favourable purchase budget, the purchasing manager should be responsible for:-

- I. Adhering to management policies about materials and parts inventory levels,
- II. Determining the number of units and the timing of each type of materials and parts to be purchased and
- III. Estimate the unit cost of each type of materials and parts to be purchased. Formulating these responsibilities in an equation from we get,

**Planned materials and parts purchase = Total material and parts usage
± change in inventory**

2.24.3.4. MATERIALS AND PARTS INVENTORY BUDGET

This budget specifies the planned levels of raw materials and part inventory in terms of quantity and cost. The difference in units between the requirements as specified in material and parts budget and the purchase budget is shown as planned increase and decrease in materials and parts inventory budget. This budget provides the cushion between materials and parts requirement and purchase. The primary considerations in preparing materials and parts inventory budget are:-

- I. Timing and quantity of manufacturing needs
- II. Economy in purchasing through quantity discount.
- III. Availability of materials and parts.
- IV. Lead-time (between order and delivery)
- V. Perishable of material and parts.
- VI. Storage facilities needed.
- VII. Capital requirements to finance inventory.
- VIII. Cost of storage
- IX. Expected change in the cost of materials and parts.

- X. Protection against storage and shortage.
- XI. Risks involved in inventory storage.
- XII. Opportunity cost (due to excessive or inadequate inventories).

Like finished goods inventory policies, raw material and parts inventory policies are intended to minimize the sum of two categories of costs i.e. the cost of carrying inventories and the cost of not carrying enough inventories. Management policy with respect to purchase and inventory should be specified. The two basic decisional factors are (a) how much to purchase at a time and (b) when to purchase. How much to purchase at a time is determined by a popular approach called Economic Order Quantity (EOQ) which is shown as:-

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

Where,

A= Annual requirement in unit

O= Average annual cost of placing on order

C= Annual carrying cost for one unit of inventory for a year.

The second question about when to purchase is determined by re-order point. The re-order point is reached when the inventory level equal to the time to re-order and receive the replacement.

2.24.3.5 COST OF MATERIAL USED BUDGET

This budget specifies the planned cost of materials and part that will be used in the production process. The quantity of materials and parts required for the planned production is specified in the materials and parts costs are specified in the purchase budget. Thus, quantity and cost data are available to develop the budgeted cost of materials and parts that will be used. If the purchase budget anticipates a constant unit cost for a planned period, multiplication of units by unit cost yields the budgeted materials and parts

cost. Alternatively, when the unit rate changes from time to time within the specified period, the materials and part cost budget and inventory budget should be developed by using one of the inventory flow pattern such as FIFO, LIFO, moving average, simple average or weighted average. FIFO is usually referred because of its internal consistency.

2.24.4 DIRECT LABOUR COST BUDGET

2.24.4.1 MEANING

Direct labour is defined as those labour costs directly identifiable with the production of specified units of finished goods. The direct labour budget includes the planned direct labour requirements necessary to produce the types and quantities of outputs planned in the production budget. (*Welsch, Hilton & Gordon, 1997: 280*)

Direct labour budget is the pre-determination of planned direct labour hours and labour cost. After preparing the production budget, the direct labour hours are calculated by multiplying the units to be produced and estimated labour hours for each product.

The production plan provides the underlying data for planning the labour requirement in both hours and rates. The basic decisional inputs for preparing labour budgets are (a) the standard direct labour hour per unit of each finished goods and (b) the average hourly wage rate. (*Welsch, Hilton & Gordon, 1997: 39*)

The direct labour budget includes the planned direct labour requirements necessary to produce the types and quantities of output planned in the production budget. The responsibility for preparing the direct labour budget should be assigned to the executive responsible for the manufacturing functions. The cost accounting and personnel departments provide support and supplementary information for this purpose. When the direct labour budget is completed by the manufacturing manger, it should be given to the

budget manager for review and next submitted to the executive committee. When the direct labour budget is tentatively approved, it becomes a part of the profit plan. (*Welsch, Hilton & Gordon, 1997: 39*)

The direct labour budget should be prepared in detail. In order to calculate the cost of production of each type of product, the labour budget should specify the planned direct labour hour and cost by each finished product. Similarly, it should be prepared to plan the labour requirement of interim time period and by responsibility centre. Direct labour hour budget is converted into direct labour cost budget by use of the pay scale or rate per direct labour hour expected to be in effect during the coming budget period. Direct labour budget is meant to the management for planning manpower requirement, training and assessment and other manpower development program. (*Welsch, Hilton & Gordon, 1997: 281*)

2.24.4.2 APPROACHES IN PLANNING DIRECT LABOUR COSTS

The approaches used to develop direct labour budget depend on the (a) method of wage payment, (b) type of the production progress involved, (c) availability of standard labour time and (d) adequacy of the cost accounting records relating to direct labour costs.

Basically, there are three approaches used in developing the direct labour budget:-

- I. Estimate the standard direct labour hour required for each unit of each type of product, and then estimate the average wage rates by department, cost centre or operation. Multiply the standard time per unit of product by average hourly wage rate, giving the direct labour cost per unit of output from department, cost centre or operation by the unit direct labour cost rate to obtain the total direct labour cost by product.
- II. Estimate ratios of direct labour cost to some measure of output that

can be planned realistically.

- III. Develop personnel tables by enumerating personnel requirements (including costs) for direct labour in each responsibility centre. (*Welsch, Hilton & Gordon, 1997: 282*)

2.24.4.3 PLANNING DIRECT LABOUR HOURS AND WAGE RATES

Planning and control of labour hour and cost involves the major and complex areas such as manpower needs, recruitment and training, job evaluation and specification, performance evaluation, union negotiation and wage and salary administration.

Labour costs, in broad sense, are composed of all expenditures of employees such as top executive, middle management personnel, staff officers, supervisor, foremen, skilled workers and unskilled workers. But, the focus in this context is on direct labour easily identifiable to production. Many internal factors may indicate the most practical approach to plan and use direct labour hours. An important function of industrial engineering is to develop standard labour time for various operations and products. Some producing department, reliable labour time standard can be developed. Generally, there are four approaches are used to plan the labour times as follows:-

- I. Time and motion study
- II. Standard costs
- III. Direct estimate by supervisors
- IV. Statistical estimate by a staff group

If it is possible to relate planned production to direct labour hours and to plan wage rates realistically for each productive department, computation of planned direct labour cost involves multiplying planned labour hours by planned wage rates.

2.24.5 OVERHEAD (EXPENSES) BUDGET

2.24.5.1 MEANING

In developing the tactical profit plan, the next step is to plan the expenses. There are three broad categories of expenses: - (a) factory or manufacturing overhead, (b) selling and distribution expenses and (c) general administration expenses. To accomplish the planning and controlling objective expenses should be classified by responsibility designated as controllable and non-controllable and estimated with respect to their cost behaviours pattern.

Expenses planning should not merely focus on lowering the volume of expense rather on the better utilization of limited resources. Expenses planning and control should focus on the relationship between expenditure. The desired benefits should be viewed as goals and sufficient resources must be planned to support the operating activities essential for their accomplishment. (*Welsch, Hilton & Gordon, 1997: 307*)

Knowledge of cost behaviour is essential in cost planning and control. Cost behaviour is a response of a cost to different volume of output. As a matter of fact, costs can be categorised as fixed, variable and semi-variable (mixed) expenses.

I. FIXED EXPENSE

Fixed expenses refer to such type of costs which remain constant throughout the period or production level irrespective of fluctuation in output or volume of work done. Examples are salary, house rent, general expenses and administrative expenses etc.

II. VARIABLE EXPENSES

Those expenses, which change in total directly with change in output or volume of work done or directly proportional to the level of production. They can be easily traced to the volume of output.

III. MIXED EXPENSES

These expenses are partly fixed and partly variable. They have the characteristics of both fixed and variable costs. Such costs also change with the change in the volume of production in the same line but not proportionately.

2.24.5.2 MANUFACTURING OVERHEAD BUDGET

Manufacturing overhead is that part of total production cost which is not directly identifiable with specific products or jobs. It consists of indirect materials, indirect labour and other factory expenses such as taxes, insurance, rent etc.

Manufacturing overhead includes varieties of expenses. Therefore, it causes problems in allocation of these costs to typical products. There are two distinct responsibility centres in most manufacturing company's viz. products and services. Responsibility for the operation of each department should be classified separately in the chart of accounts used by the cost accounting department. After all, the development of manufacturing overhead budget should be followed by the following considerations:-

- I. Translate the requirements specified in the production plan into output or activity in each department.
- II. Plan departmental overhead expenses
- III. Allocate the planned departmental expenses to the producing department
- IV. Allocate the producing department's expenses to the products.

The above steps of overhead allocation help to determine the per unit overhead rates for each type of product. Thus, the unit cost of goods manufactured can be obtained by adding unit direct material cost and unit direct labour cost to the above unit overhead rate.

2.24.5.3 SELLING AND DISTRIBUTION EXPENSES BUDGET

Distribution expenses include all costs related to selling and distribution and delivery of products to customers. These expenses are not identified to specific product and hence, are not allocated directly to each product. A separate distribution expenses plan should be developed from each responsibility centre in the distribution function. Many companies allocate these expenses as a certain percentage out of total expenses. The top marketing executive has the overall responsibility for developing the distribution expenses plan. The manager of each responsibility centre should be assigned direct responsibility for that department's distribution expenses plan. Thus, the promotion manager should be responsible for developing promotion plan and the field manager for developing both their marketing plan and distribution expenses budget. These budgets should be detailed by interim period. The distribution expenses budget prepared by the sales manager should be based on planned volume activity or output. Usually, the activity base chosen is the sales amount in Rs or Dollars. Careful planning of such expense affects the profit potential of the firm.

2.24.5.4 ADMINISTRATIVE EXPENSES

Administrative expenses include those expenses other than manufacturing and distribution. They are incurred in the responsibility centres that provide supervision of and service to all functions of the enterprises rather than in the performance of only one function. Because large portions of administrative expenses are fixed rather than variable, the notion persists that they cannot be controlled. General administrative expenses are generally determined by top management. Therefore, there is strong tendency of overlook their magnitude of effect on profits. Each administrative expense should be directly identified with responsibility centre and the concerned manager should be responsible for planning and

controlling the expenses. Many companies have found it helpful to apply the fixed/variable expenses concept to administrative expenses.

It is advisable to budget the administrative expenses on specific plans and programs. Past experience adjusted for anticipated charges in management policy and general economic conditions is helpful. Because almost all administrative expenses are fixed, an analysis of the historical record will often provide a sound basis for budgeting them.

2.24.6 CAPITAL EXPENDITURE BUDGET

2.24.6.1 MEANING

The investment decisions of a firm are often referred to as capital budgeting; a capital expenditure decision. A capital budgeting decision may be defined as the firm's decision to invest its current funds most efficiently in long-term assets in anticipation of an expected flow of benefit over a series of years. (*Pandey, 1983: No. 353*)

Capital budgeting is the making of long-term planning decisions for investment and their financial capital budgeting then consists in planning the deployment of available capital for the purpose of maximising the long-term profitability of the firm. (*Hongreen, 1976: 452*)

A capital expenditure is the use of funds to obtain operational assets that will (a) help earn future revenues or (b) reduce future costs. Thus, capital budgeting is the process of planning and controlling the strategic and tactical expenditures for expansion and contraction of investment in operating assets. Capital budgeting includes such fixed assets as property, plant, equipment, major renovation and patents. Typically, capital expenditure project involves large amount of cash, other resources and debt that are tied up for relatively long period of time.

Capital expenditure becomes expenses in the future as their related goods and services are being used to earn higher future profits from future

revenues or to achieve future cost savings. Therefore, capital expenditure involves two major planning and controlling phase's viz. investment and expenses. (*Welsch, Hilton & Gordon, 1997: 394-395*)

Capital expenditure budget is the firm's formal plan for the expenditure of money to purchase fixed assets. It is an internal corporate document that lists the allocated investment projects from a given fiscal period.

Capital budgeting involves the generation of investment proposals, the evaluation of cash flows, the selection of projects based on acceptance criterion and finally continual evaluation of investment projects after their acceptance. (*Van Horne, 1990: 66*)

- I. Thus the capital budgeting involves the following steps:-
- II. Consideration of investment proposal including alternatives
- III. Application of profits, cash flows and analysis of cost benefits of the project
- IV. Estimation of available funds and utilisation of funds
- V. Maximum of profit with the utilisation of available funds (*P.V. Rathman: 154*)

The top executive working with other members of executive management has the primary responsibility for the capital addition budget. However, the primary responsibility for the projects and other proposals should include divisional and departmental managers. 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 processes for planning and controlling capital expenditure as suggested by Welsch, Hilton & Gordon are the following:-

PHASE

COMPONENT (ACTIVITY)

- 1 Identify and generate capital additions projects and other needs- this activity should be continues in most cases.
- 2 Develop & refine capital additions proposal- collection of relevant data about each proposal, including any related alternatives.
- 3 Analyse and evaluate all capital additions, proposals, and underlying financial and operational data.
- 4 Make capital expenditure decisions to accept the best alternatives and the assignment of project designations to selected alternatives.
- 5 Develop the capital expenditure budget:
 - (a) Strategic plan-Replan and extend the long-term plan by dripping the past year and adding one year into the future.
 - (b) Tactical plan-Develop a detailed annual capital expenditures with budget, by responsibility centre and by time, that is consistent with the comprehensive profit plant
- 6 Establish control of capital expenditure during the budget year by using periodic and special performance reports by responsibility centres.
- 7 Conduct post completion audits and follow-up evaluations of the actual results from capital expenditures in periods after completion.
(Welsch, Hilton & Gordon, 1997: 401)

2.24.6.2 CAPITAL EXPENDITURE DECISION

The crucial capital expenditure decisions are the choice of management from the competing capital expenditures alternative. Such decisions most focus on tow riding problems:-

Investment Decision

Selecting the best alternatives based on their economic worth to the competitive investment worth to the company- called investment worth.

Financing Decision

Determining the amounts and sources of funds needed to pay for the selected alternatives. This cash constraint may necessarily limit the projects and proposals that can be initiated.

2.24.6.3 METHODS OF PROJECT EVALUATION

There are numerous methods available for evaluating the projects. The main methods are highlighted as follows:-

(A) DISCOUNTED CASH FLOW METHOD

Under this method explicitly recognise the effect on the time value of money and in that way measure economic value or investment worth as true interest rate. The basic concept is that investment cost is a cash outflow at present valued and the related cash inflows necessarily are future values. These future cash inflows must be discounted to their present values so that they can be appropriately subtracted, added and compared with investment cost. The true rate of interest for any investment is the rate that will discount the future net cash inflows to a sum that exactly equals the investment cost. Discounting a future amount to the present involves the concept of present values.

This method is divided in two categories for evaluation the project as follows:-

I. NET PRESENT VALUES (NPV)

This method compares the present value of the net cash inflows with 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, it is presented as:-

$$NPV = \sum_{t=0}^n \frac{At}{(1+k)^t}$$

Where,

K= Cost of capital or target rate of return

t= No. of years

C=Initial cash outflow

A= Expected cash inflow

The decision about acceptance or rejection of the project depends upon the positive or negative of the NPR i.e. the project will be accepted if NPV is positive.

II. INTERNAL RATE OF RETURN

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

$$A_0 = \frac{A_1}{1+r} + \frac{A_2}{(1+r)^2} \dots \dots \dots \frac{A_n}{(1+r)^n}$$

Where,

R=IRR

A=Expected cash inflows in future

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

The profitability index (PI) is simply a ratio of total present value of cash inflows to initial outlay.

(B) TRADITIONAL OR SHORTCUT METHOD

Next two methods of measuring investment worth that are often described as providing simple, practical and ballpark answers but they ignore the future value of money.

I. THE PAYBACK METHOD

This method is considered the number of years within which the cash inflow will recover the cash investment from the annual net cash inflows from the investment. Therefore, the formula is:-

$$\text{Payback period in years} = \frac{\text{Net cash investment}}{\text{Annual net cash inflow or net cash cost savings}}$$

The alternative project having shorter payback period will be preferable.

II. AVERAGE RETURN ON TOTAL INVESTMENT METHOD

The average return on total investment method is one variation of what sometimes is called the accounting rate of return method. This method yields the ratio of average annual cash inflows to the total investment. We prefer it to the other shortcut because it is a cash-basis analysis. The formula is:-

$$\text{Average cash return on total cash investment} = \frac{\text{Average annual net cash inflow}}{\text{Cash outflow (cost) of the investment}}$$

Both above methods of measurement of project are frequently used however, discounted cash flow method is superior since it is more scientific, logical, and reliable and considers the time value of money.

2.24.7 PLANNING AND CONTROLLING THE CASH FLOW (CASH BUDGET)

The planning and controlling cash inflows, cash outflows and the related financing is important in all enterprises. Cash budgeting is an effective way to plan and control the cash flows, assess cash needs and effectively use excess cash. A cash budget shows the planned cash inflows, outflows and ending cash position by interim periods for a specific time span. Most companies should develop both long-term and short-term plan about their cash flows. The short-term cash budget basically includes two parts (a) the planned cash receipts (inflows) and (b) the planned cash disbursement (outflows).

The cash budget focuses exclusively on the amount and timing of cash inflows and outflows. The primary purposes of cash budget are as follows:-

- I. To give probable cash position at the end of the each period as a result of planned operations.

- II. To identify cash excess or shortage by time.
- III. To establish the need for financing and or the availability of idle cash for investment.
- IV. To co-ordinate cash with total working capital, sales revenue, expenses, investments and liabilities.
- V. To establish a sound basis for continues monitoring of the cash position. (*Welsch, Hilton & Gordon, 1997: 433-434*)

2.24.7.1 TECHNIQUE FOR IMPROVING CASH FLOW

Planning the cash flows of an organisation should include consideration of how to improve cash flows. Improving cash flow basically involves increasing the amount of available cash on day to day basis. To accomplish these objectives, the management ought to focus on:-

- I. The cash collection process to speed up cash collections,
- II. The cash payment process to slow down the payments of cash and
- III. The investment policies for the immediate investment of idle cash balance to maximise interest earnings. (*Welsch, Hilton & Gordon, 1997: 454*)

Some of the ways often used to improve the efficiency of the cash collection process are as follows:-

- I. Review the lag from the date of sales of goods and services on credit to the mailing of (a) invoices of and (b) the first billing. To extend feasible, invoices should be designated to also be the first billing to encourage immediate payment by the customer. The time lag here can avoid a significant adverse affect on early collection.
- II. If cash discounts are given to customers for early payment, review their effect on early cash collections and whether the discount is too high or too low. Also, monitor whether the discount policy is being violated in the company (i.e. allowing the discount after its expiration date).alternatively, if discounts are not given, does inflow

is company assess an 'interest' penalty for late payment? How much cash inflow is lost by not charging for late payments?

- III. Review the credit-granting process to determine whether bad credit risks and collection screened out. Also, are delinquent receivables being identified early and collection action taken before the receivable becomes an uncollectible (i.e. a bad dept)?
- IV. Consider ways to decrease the time between the date that customers pay by check and the date that cash is available for user in the company's bank account. This time is called 'float' and it may vary from one day to ten days. Float can be very costly because (a) the cash inflow is slow and (b) the opportunity to earn interest on the cash during the float period is lost.

Similarly, some of the ways often used to improve the efficiency of the cash payment process are as follows:-

- I. Make all payments on the latest no penalty day. Do not pay early.
- II. Make all payment by cheque, preferably on Friday to maximise float in favour of the company. Does not use 'wire transfer' unless it is necessary. Less frequent mailing enhances cash flow and reduces clerical effort.
- III. Take all cash discounts allowed for early payment.
- IV. Establish a policy of no cash advances (to both outsiders and employees)
- V. Establish policies and a payment process to minimise the possibility of fraudulent payments by company employees.

The enterprises should develop a specific policy about the investment of in the short term idle cash. The policy should be specific about such issues as (a) types and mix of acceptable securities, (b) monthly reporting and monitoring of the portfolio and (c) safeguarding and disposal of temporary investment.

2.24.8 OTHER SUB-BUDGETS REQUIRED FOR COMPLETION OF THE PROFIT

The planning process involves a long-range and a short-range profit plan. In developing these plans, many budgets schedules are prepared detail plans for each phase of a company's operations. The final step in planning process is to complete the profit plan by combining the component schedules and preparing planned financial statements. Budgeted income statement, balance sheet and the statement of cash flows are prepared in order to determine the implication of the company's plans for its future financial conditions. (*Welsch, Hilton & Gordon, 1997: 491*)

At this point of profit planning, the budget director has an important responsibility. Aside from designing and improving the overall system, the budget director has been described as an advisor to the various managers' help to develop plans for each responsibility centre. To complete the annual profit plan of an enterprise, the following sub-budgets are required:-

- I. Planned statement of cost of goods manufactured
- II. Planned statement of cost of goods sold
- III. Planned income statements
- IV. Planned statement of cash flows
- V. Planned balance sheet

These sub-budgets, which have only tentatively approved, must now be combined by the budget director to compute planned net income, assets, liabilities, owners' equity and cash flows. These are the final steps in the development of the detailed plans. (*Welsch, Hilton & Gordon, 1997: 466-467*)

2.24.9 ALTERNATIVES IN DEVELOPING THE PROFIT PLAN

The clerical and mechanical parts of the profit plan might suggest that once the sales plan is complete, the can be followed by a series of simple clerical activities that result in the production, inventory, purchase, labour and material budget. This view is misleading because it ignores the fundamental

importance of decision making, policy formulation and consideration of alternative action through the planning process. The emphasis is given on the importance of participation by all members of management in providing the decisional inputs. The development of decisional inputs and preparation of sub-budget by the managers of each responsibility centre is the heart of the comprehensive profit planning and control program.

Numerous situations have been cited to show how management, in the process of developing the profit, faced with alternative decisions. Some illustrations demonstrated how to evaluate alternatives and select among them. Other important areas where planning alternatives must be considered and choices made are as follows:-

- I. **Sales price-** management must set pricing policy and estimate the quantities of goods that can be sold at given prices. Evaluation of such factors as product costs, the market, economic trends and competitor price is essential in selecting the optimal price.
- II. **General Advertising Policies-** Limitation of advertising expenditures local versus national and product versus institutional advertising- are decision areas where alternative choice must be made early in the planning process.
- III. **Sales Territory and Sales Force Expansion or Contraction-** Decisions in these functions should be based on knowledgeable studies of market potential, either by company personnel or by outside professional.
- IV. **Sales Mix-** Sales mix refers to the relative sales emphasis given to the various products sold by the company. The relative profitability of each product must be assessed. In the analysis of product profitability, it is important that the product costs be realistic. Fixed and variable cost identification, as in the flexible budget, provides a valuable tool for differential cost analysis by product.

- V. Balance between Sales, Production and Inventory Levels-** Mathematical models and computer applications are particularly useful in selecting the preferred economic alternative in this critical co-ordination problem.
- VI. Research and Development Expenditures-** This is one of the alternative decision areas that must be based primarily on long-range objectives, judgement, competition and the company's ability to finance research.
- VII. Capital Expenditure-** Cost and income analyses, evaluation of cost and income differentials, and discounted cash flow computations are the primary considerations for assessing alternative and making capital expenditures decision.
- VIII. Testing Alternative Decisions-** Perhaps the primary aspect of alternative decisions is projecting the probable profit result while the profit plan is being built, rather than waiting until the budgeted financial statements are developed. (*Welsch, Hilton & Gordon, 1997: 468-469*)

2.25 IMPLEMENTATION THE PROFIT PLAN

2.25.1 COMPLETION OF THE ANNUAL PROFIT PLAN

The formulation of an annual profit plan ends with planned income statement, balance sheet and planned statement of changes in financial position. These three statements summarise and integrate the details of plans developed by management for the period. They also report the primary impacts of the detailed plans on the financial characteristics of the firm. Before distributing the completed profit plan it is generally desirable to recast contain budget schedules so that technical accounting mechanic and jargons are avoided as much as possible.

The redesigned budget schedules should be assembled in a logical order,

reproduced and distributed before the first day of the upcoming budget period. Timely completion of the planning budget suggests the need for a budget calendar.

2.25.2 IMPLEMENTING THE PROFIT PLAN

The ultimate test of whether the effort and cost of developing a profit plan are worthwhile is its usefulness to the management. The plan should be developed with the conviction that the enterprise is achieving all its major objectives with every one's participation. The participation enhances communication. For effective participation and communication every concerned executives and supervisors should have a clear understanding of their responsibilities. The copies of the complete profit plan should be prepared and distributed to the members of executive management. Normally, distribution of the complete plan should be limited to vice-presidents and to the heads of certain staff groups. The guiding principle in establishing the distribution policy might be expressed to provide one copy to each member of the management team according to their overall responsibilities, taking into account the problem of security. The distribution policy should allow distribution of parts or segments of the profit plan to middle and lower level management.

The distribution of a profit plan should be followed by a series of profit plan conferences. The top executives comprehensively discuss the plans, expectation and steps in implementation. At this top-level meeting, the importance of action flexibility and continuous control should be emphasised. In particular each manager must understand that the budget is a tool. The profit plan regardless for how well designed and how carefully developed, cannot manage. Profit plan should be conveyed to each level of management through regular meetings and conferences. When all the manager of each responsibility centres receive on approved profit plan it

becomes the basis for current operations and exerts considerable co-ordinating and controlling effects.

2.25.3 PERFORMANCE REPORT

Management devotes and contributes its considerable effort and time in resources planning. So, the achievement of planned profit is essential. The evaluation of how efficiently and qualitatively the operations are being conducted and how effectively goals and targets have been achieved is measured through control activities. Control is the process of obtaining conformity of actual performance with planned course of action. Planning is laying the beginning stone and control provides the ceiling to the overall management of resources. Control is related with the reporting of evaluated results to concerned authorities. So, it is the most important part of comprehensive profit planning and control.

Performance report is a controlling tool of comprehensive PPC. It is prepared periodically on a monthly or quarterly basis and is submitted to concerned persons and departments through authorised channels. Performance reports are internal management tools and designed to facilitate internal control by the management. Performance reports are meant to report the comparison between actual results and budgeted targets. They show the reality about performance whether they are favourable or not. The efficiency of management in attaining the desired result depends by and large on the information availability and reliability. Performance reports act as an important tool to provide necessary information because they consolidate the information from different responsibility centres and present them in simple and readable form. The main objectives of such reports are the communication of performance measurement actual results and the related variances. To meet these objectives, performance reports should be prepared within the following criteria:-

- I. Tailored to the organisational structure and focus of controllability (i.e. by responsibility centre).
- II. Designed to implement the principle of management by exception (MBE)
- III. Repetitive and related to short time period
- IV. Adapted to the requirement of primary users
- V. simple, clear, understandable and essentially informative
- VI. Accurate and designated to pinpoint significant deviations
- VII. Prepared and presented promptly
- VIII. Constructive and timely

Performance report must be helpful to demonstrate the items as controllable and no-controllable directly. Careful attention should be given on designing format of performance report. Column heading and side captions should clearly identify the data and use of technical jargon should be strictly prohibited. It should be concise, meaningful and communicable.

Another, important aspect of performance report is to minimise the time gap between the decision and report. The firm may have to suffer a great loss if unfavourable situation arises continuously. As the report indicates the favourable and unfavourable variance between planned and actual performance, immediate corrective steps can be undertaken.

As already stated, the main purpose of performance report is to show variances. Such variations should be expressed in amount as well as a percentage of the planned figure. Statistical control tools should also be used to determine the significance of variances. Monthly performance report should show the performance for the period being reported and cumulative variances to date by each responsibility centre.

2.25.4 ANALYSIS OF BUDGET VARIANCES

Variance in general is the difference between two contemplated

assumptions. It shows the gap or deviation between budgeted or planned goals and actual results. Performance report just indicates these variances and the meaningful analysis of them is possible through the techniques of variance analysis. As such, variance analysis is the determination of reasons for a reported variance as to whether it is favourable or unfavourable.

The variance indicated through performance reports has some managerial meaning. If the variance is significant, a painstaking managerial attention is required to locate the underlying causes. Management can apply a number of approaches or techniques to analyse variances and to find out underlying causes. Some of the primary approaches are as follows:-

- I. Conferences with managers of responsibility centres, supervisors and other employees involved in the particular responsibility centres.
- II. Analysis of the work situation including the flow of work, co-ordination of activities, effectiveness of supervision and other prevailing circumstances.
- III. Direct observation.
- IV. Direct investigation by line managers.
- V. Internal audits.
- VI. Special studies.
- VII. Investigation by staff groups.
- VIII. Variance analysis.

Variance analysis is involved a mathematical analysis of two sets of data in order to gain insight into the underlying causes of a variance. One amount is treated as the base, standard or reference point. Variance analysis has wide application in financial reporting. It is frequently applied in the following situations:-

- I. Investigation of variances between actual results of the current period

and the actual results of a prior period.

- II. Investigation of variance between actual results and standard costs.
- III. Investigation of the variance between actual results and planned or budget goals reflected in the profit plans.

We can analyzed the variances in the following areas:

- I. Sales variances
- II. Material variances
- III. Direct labour variances.
- IV. Manufacturing overhead variances.

Generally, the following steps involved in analysing variances which are as:-

- I. Setting standard
- II. Measurement of performance
- III. Analyzing variances
- IV. Taking correcting action.

There are two kinds of variances i.e. favourable and unfavourable variance. We should analyze the variances on each of the functional budget variances and so on. Management of any enterprise should set a control limit of variances and those variances beyond the limits should be investigated property. Variance analysis is an important tool which increases the usefulness of periodic performance reports. It helps management to take corrective action.

CHAPTER-THREE

3 REVIEW OF LITERATURE

This chapter deals with the researches which have been made by different researchers in the field of profit planning, particularly Nepal Electricity Authority. The chief purpose of this chapter is to expound what works have been made on the area of research under the study and what has not been done in the field of study being undertaken. Whatever the study in this area have done, are not found in depth and detail.

It is needless to mention that the development of and prudent utilisation of natural resources is indispensable for the uplift of socio-economic status of Nepalese people. As a matter of fact, nature has granted a enormous water resource with vast potentially of power generation. Power development i.e. hydro electricity generation can be the ultimate and only one way that can sustain the nation's development like ours which is poorly setback.

Because of immense potentiality of hydro power generation and its commercial viability in Nepal, abundant literatures are available in this regard. Here, an attempt is made to review some researches for the topic of **Profit Planning and Control** as under:-

3.1 MR. CHIRANJIBI ACHARYA

A dissertation made by Mr. Charanjibi Acharya on the topic of "Profit Planning in Nepalese Public Enterprises: A case study of Nepal Electricity Authority". The main objective of the present study is to examine Comprehensive Profit Planning System applied in NEA and its effectiveness and the specific objectives are:-

1. Examine the profit planning system applied in NEA.
2. To analyse the various functional budgets those are prepared by NEA.
3. To analyse the variance between budgets and actual achievement

of the Authority.

4. To assess the financial performance analysis of NEA by applying financial tools i.e. Ratio Analysis.
5. To make relevant suggestion and recommendations to the management of NEA on the basis of finding from the above analysis.

His study conducted the following finding after his detail analysing the current practice of profit planning system of NEA which are highlighted some remarkable points as under:-

1. NEA prepares both short-term and long-term profit planning but long-term profit plan is confined only to the top-level executives.
2. There is perfect positive correlation between the planned sales and actual sales, between sales and production and between planned production and actual production showed by the different statistical tools.
3. The Authority is unable to manage its account receivables properly amount of accounts receivable is increasing each year.
4. All the expenses, such as manufacturing, administrative and selling and distribution are not separated systematically. Authority has combined all these expenses together and named it “Operation and Maintenance Expenditure Budget”.
5. Leakage, outage and theft are on the major consideration in NEA. Due to this leakage there is a vast gap between sales and production and this leakage is reducing the NEA’s profit annually.
6. NEA prepares cash flow plan for up-coming year but it does not describe sources and use of cash in detail. Also it does not apply the method of determining interim financing.
7. There is a large amount of cash and bank balance in balance sheet of NEA. It shows the inability of management of NEA because it is

lying idle.

8. Cost-Volume profit relationship is not considered while developing the sales plan and pricing strategy.
9. According to the break even analysis the authority is in satisfactory stage because the BE Sales in Rs. Lower than actual sales in Rs.
10. Due to the poor assets turnover ratio, it can be said that there is the absence of effective utilisation of assets.
11. Strength and weakness are not analysed in depth by NEA because of the monopoly situation or the absences of competitors and it is not alert toward its possible threats and opportunity.
12. NEA prepares program budget, however due to the lack of adequate knowledge of PPC, it is facing some problems in profit planning system.
13. There is lack of proper co-ordination between various directorates in regard of the goals, objectives and strategies.

RECOMMENDATION:-

1. NEA should have an effective management system to have control over cost. It must maintain the fixed cost to maintain the fixed cost to minimum standard should not leave the variable cost increase uncontrollably. It should apply standard costing system and should establish a cost- control centre.
2. NEA has large number of customers ranging from domestic, industrial to government and public undertakings. To save such large customers do not require efficient system of revenue collection so that revenues do not remain tied up in account receivables. The account receivables are unproductive. Therefore, the collection system should treat equally to all customers and should not be influenced by political pressures. Revenue accounting should be given adequate importance like expenditure

accounting by budget centre chief and responsible personnel should be appointed to handle this section.

3. NEA paying a huge amount as interest on long-rang loan, which is not good for authority. So, it should emphasise internal financing to minimise such burden. Therefore, NEA must restructure its capital structure and for this it can issue the shares and can redeem the debentures.
4. NEA should establish a separate public relation unit to arrange regular interaction with the customers. NEA should motivate its employees engaged in transaction and distribution line to control the leakage.
5. Overhead cost of NEA is large. It should be reduced and over budget should be separated in systematic and scientific way. Production overhead, Administrative overhead and selling and distribution overhead budget should prepare separately.
6. Most of projects of NEA are running at lower than their installation capacity. Therefore, careful attention should be given to lessen the errors and flows to very minimum level. Experienced personnel should be given chance of construction and designing work.
7. NEA should try to increase the sales volume and should reduce the power purchase. It can be done by either reducing leakage, establishing new plants or by increasing the capacity utilisation.
8. Cost volume profit relationship should be considered while developing the sales plan and price strategy.
9. Even if the authority is operating in monopoly situation strengths and weakness, treats and opportunity should be properly analysed.
10. NEA should make the effective collection policies for its account receivables. As large amount of account receivables remain to

government, semi-government and other public enterprises.

11. NEA should clearly classify as fixed, variable and semi-variable.
12. Top level executives of NEA should be undertaken regular inspection and monitoring of budget centres and if possible NEA should formulate the profit planning calendar.
13. For effective implementation of PPC system in NEA, some specific criteria should be introduced to open budget centre, review should be made, regular training should be arranged, budget approval should be made timely, timely evaluation of relevant variable should be made and NEA should be made effective, productive and result oriented to the fundamentals of profit planning and control.

3.2 MR. GUNAKAR BHATTA

Mr. Bhatt has conducted a research about “Profit Planning in Nepal Electricity Authority”. In this research he has tried to point out some features & problems of profit planning in NEA. The chief objectives of Mr. Bhatt’s Thesis are as below:-

1. To examine the present profit planning premises adopted by NEA.
2. To observe the NEA’s profit planning on the basis of overall managerial budgeting.
3. To analyse the variance between budgets and actual achievement of the Authority.
4. To recommend measure to be taken instantly and further to encounter with the identified budgeting and profit planning problems.

For accomplishing the above stated objectives, Mr. Bhatt has made in research covering the time period of 5 years i.e. from Fiscal Year 2049/50 to 2053/54. He has used primary as well as secondary data in his

dissertation. He has depicted the various findings and recommendations and chief of them are as under:-

FINDINGS:-

1. The NEA has high amount fixed costs and the interest payable on long term loans every year comprises the considerable portion of fixed cost.
2. Electricity leakage, theft and wastage are one of the remarkable problem of NEA and it is reducing the profit earning capacity of the authority. Likewise this leakage has become the main reason behind the high gap between actual production and actual sales.
3. The balance sheet of NEA shows the huge amount of cash and bank balance lying idle and it indicates some deficiency of the authority to utilise its liquid assets.
4. The accumulated amounts receivable which is increasing year by year denotes the inefficiency of the authority to collect its revenue in time.
5. Overhead budget is not prepared in scientific and systematic way. All expenses are shown under only one overhead budget named as “Operation and Maintenance Expenditure Budget”.
6. There is the absence of effective utilisation of assets. In comparison with the amount tied up in total assets, assets turnover ratio is poor.
7. NEA prepares both long term and short term profit plans, but long term profit plan is confined only to the top level executives.
8. The Authority fails to analyse its strength and weakness in depth. Because of absence of the competitors, Authority has become monopolistic concern and hence, it is not alert towards its possible treats and opportunities.
9. Cost volume profit relationships are not considered while

developing the sales plan and pricing strategy.

10. There are no clear cut boundaries to separate cost into fixed and variable. The cost classification is not scientific and systematic.
11. The Authority has been facing some problems in profit planning system. Management is in the lack of adequate knowledge about the following facts: nature and content of profit planning, corporate planning, participate management, evaluation of broad and long range objectives and co-ordination system in the organisation.

RECOMMENDATION:

1. NEA must restructure its capital structure and should emphasise the internal financing to minimise the burden of high interest in long term loans. For this, it can issue shares and can refund the debt.
2. Leakage of the electricity should be controlled. For this, meter reading and meter joining system should be improved. The most important aspect is to motivate its employees engaged in transmission & distribution line to control the leakage. Staffs who are themselves engaged should be strictly demoralised.
3. NEA should develop efficient system of revenue collection. It should make well defined rules and regulations in regard of revenue collection and if the customer of any category delays or denies, it should be charged penalty. In revenue collection, any kind of pressure nepotism and bias should strictly be undermined.
4. NEA should develop its overhead budget in a well classified and scientific way. All expenses related with production and purchase of power should be included indirect overhead or in manufacturing overhead and similarly administrative overhead and selling and distribution overhead should be classified systematically.

5. Cost volume profit relationship should be considered while formulating profit plan and the Authority should be accustomed with flexible budget system.
6. The Authority should be well familiar with its strengths and weakness and it should not be indifference about its competitors. Because of the liberalised economic policy of the government, many collaborated power companies may enter in the market and abruptly the NEA will have to manage itself to face the competition. That's way, the Authority should be aware of effective corporate planning system and strategic management.
7. There should be proper co-ordination between various directorates of the Authority in regard of budget formulation and implementation of the budget.
8. Cost should be clearly identified as fixed and variable.
9. NEA should try to reduce the volume of power purchases and replacement should be made by its capacity utilisation.
10. Regular inspection and monitoring visit of budget centres should be undertaken by the centre level.
11. The Authority should formulate the profit planning calendar (short term and long term).
12. To make profit planning system more progressive, the effective implementation of management system is very essential. And moreover, managerial involvement, organisational adaptation, responsibility accounting, full communication, realistic expectations, time dimension, flexible application, behavioural view point and follow up programs should be made more effective, productive and result oriented.

3.3 MR. SUMAN ACHARYA

A research paper made by Suman Acharya on the topic of Profit Planning in public utility undertakings of Nepal. The main objective of the present study is to evaluate the profit planning system in public utility undertaking of Nepal.

In accordance to this main objective the study will try to meet the following sub-objectives.

1. To interpret the trend of profit of NEA and NTC.
2. To see how far the public utility undertakings is participating on contributing the national development.
3. To examine the board and specific objectives of NEA and NTC.
4. To evaluate the variances between target and achievement in different responsibility centres.
5. To find out the major problems in developing and implementing profit planning in NEA and NTC.
6. To suggest some remedies for improving profit planning system.

FINDINGS

Major findings of his research work can be presented below:

1. Both in NEA and NTC goals and objectives are not communicated to lower level staff. There is the absence of MBO principle of participate management.
2. In both enterprises the top level executives are only involved in planning and decision making.
3. In both enterprises there is not any concept of profit planning system.
4. Budgeting procedure of NEA is realistic than NTC to some extent. Because in NEA there is less deviation between budgeted and actual data.

5. Both NEA and NTC are suffering from high fixed cost.
6. In NEA and NTC, overheads are not classified systematically and it creates problem to control cost.
7. NEA is suffering from power loss which is 24% of production and also in NTC there is an increasing trend of idle capacity which is very remarkable in profit planning system.
8. The main problem of public utility undertakings is whether it aims to minimize profits or to maximize social service is not clearly distinguished.
9. There is problem of autonomy, government directly interfere to the public enterprises. Any decisions like about pricing, services, personnel should be approved prior by the HMG.
10. NEA has established 56 DCS as profit centre but these centre cannot operated as objectives.
11. NTC has started home delivery services of bill in one exchange as trial to collect the telephone charges in minimum time. But this purpose is not fulfilled because the date of collecting cash is the same as other customers.
12. In NTC there is a system of Management Information System Report but in NEA there is not any system of MIS report.
13. Both NEA and NTC have not practice to follow the budget principle strictly because in both enterprises the actual overhead in out of budgeted limit.

SPECIFIC RECOMMENDATIONS REGARDING NEA:-

1. NEA should provide incentive to staff to encourage them for collective of overdue amount of receivable. In revenue collection any kind of pressure, nepotism and biases should strictly be discouraged.

2. Leakage of electricity should be controlled. Meter reading and meter joining system should be improved. The employee of transmission and distribution should be motivated. Stick and carrot policy should be established.
3. In NEA planning should be communicated to lower level management and coordination among them should be established.
4. Government should not interface to NEA only guidelines may be given. HMG should give real autonomy.
5. Political appointment at the post of M. D. is not suitable. There should be established the situation of inter authority promotion.
6. There should be followed the MBO system.
7. Cash and bank balance remains idle which is remarkable situation, it should be invested into own projects or returnable sectors.
8. Cost control program should be established. It should maintain the discipline of budget.
9. Overhead expenses should be classified in a systematic manner and fixed and variable cost should be segregated into activity levels within the relevant range.
10. NEA should try to maximize its operating profit for this cost control program can be launched in one respect and the alternative for the replacement of long term loans should be sought out.
11. Variance analysis should be effective. The causes of variance should be analyzed in time and respective employee should be made responsible for any deficiency.
12. Cost volume profit relationship should be considered while formulating profit plan and they should be recognized with

flexible budget system.

13. Clear objectives should be established. There is an increasing trend of account receivable.
14. The installed capacity of NEA should be utilized fully. It automatically reduces the operating costs.
15. Small hydro projects with low cost should be encouraged private sector should be attracted to invest in hydro projects.

SPECIFIC RECOMMENDATIONS REGARDING NTC:-

1. Idle capacity of NTC is a remarkable statement. This is the main cause of technical and legal provisions. But it is in increasing trend so to some extent it should be minimized and should distribute as much as much possible installed line.
2. Plane should be communicated from top to lower level management by which lower level management also interested in the corporation's operation.
3. The data between annual report and budget book shows different figure which is a serious problem NTC should take realistic data and maintain the similarly in both documents.
4. Some of the expenses are not budgeted but actually done. This should not be done. Budgeting system should be followed.
5. Actual overhead of NTC cross the budget limit so, for the effective operation of the corporation budget discipline should be established.
6. The amount of interest is very high in NTC so it should issue the share capital and refund the loan. It must use its own sources.
7. The huge amount of lying idle cash is a remarkable situation so it

should be used cash in profitable sector.

8. NTC has not practice of allocating overhead costs into different headings, it makes problem in controlling costs. So NTC should allocate overhead cost into appropriate headings.
9. The actual sales and production show the variance to budgeted figure. So, NTC should estimate on realistic ground.
10. NTC has not practice of allocating costs into fixed and variable which brings difficulty in preparing sales plan at different level of activity.
11. While preparing sales plan, NTC has not practice of C.V.P. analysis which brings problem in providing services. It is necessary to know that what is that profit less at what level. So, NTC should prepare the C.V.P. analysis.
12. Account receivable is in increasing trend which is a remarkable condition. For this purpose NTC should bring and effective program to collect the receivable amount government also should help to NTC because most of receivable is come to from HMG offices.
13. To increase the net profit of NTC there should be controlled the operating as well as non operating expenses. There is incurring some unnecessary and wasteful expenses.

3.4 MR. PURAN PRASAD SHRESTHA

Mr. Puran has made a Study on the Comparative Financial Analysis of Water Supply and Sewerage Cooperation and Nepal Electricity Authority.

OBJECTIVES OF THE STUDY

The specific objectives of the study are as follows:-

1. To analyze, examine and interpret the financial position of both PEs;
2. Identify the financial strength and weaknesses of both PEs;
3. To describe and analyse the changes in financial position and mobilization of both PEs; and
4. To compare the financial position of both PEs.

MAJOR FINDINGS:-

1. The debt-equity ratio reveals that WSSC and NEA both have not so high debt equity ratio. Even though, WSSC has been slightly more rely on loan than that of NEA, but the increasing trend of debt is higher in NEA. So it has been becoming highly levered than that of WSSC.
2. The interest coverage ratio indicates the worsening position of WSSC. It seems that WSSC has not utilized its funds in proper manner and there is no fund to pay interest charges. Where as in case of NEA; this ratio indicates the more desirable financial position. NEA has utilized the funds properly in some extent and it has few funds to pay the interest charges.
3. The return on assets reveals that WSSC has been suffered by unsound financial position so that the financial resources invested in its assets are not utilized properly and thus the financial position of WSSC has been worsening over the years. Whereas the return on assets of NEA has not been worsening and the financial resources invested in assets are utilized more properly than that of WSSC. Similarly, the return on capital employed of WSSC has been worst due to its heavy losses. So the operating position of WSSC is not good and it has not been able to utilize its creditors' fund and HMG equity and contributions properly. Where as in

case of NEA, the return on capital employed is not worst but insufficient in order to maintain its operating efficiency. NEA has been able to utilize its creditors' fund and owners' equity somehow efficiently than that of WSSC.

4. In view of current ratio, it reveals that even the current ratios of WSSC and NEA have been decreasing; the liquidity position of WSSC has been in far better position than that of NEA. However WSSC has maintained its assets idle, and more funds has been tightened up in advances, debtors and inventories. Even the current ratio of WSSC is higher, it fails to maintain the consistency in the short term solvency and there is erratic changes is current ratio where as in case of NEA the current ratio is lower than that of WSSC, and it seems that the liquidity position is unsound. Moreover, NEA is unable to meet its current obligations during the final two years of this study. However, NEA has maintained the consistency in short term solvency to some extent. The quick ratio of WSSC and NEA show the unsound financial position. Even the liquidity position of WSSC is somehow better than that of NEA in view of quick ratios, the slow paying debtors, non-liquid inventory and most of the cash needed to pay its operating expenses have made the unsound liquidity position of WSSC.

RECOMMENDATIONS

1. When there are temporary cash surplus, it should not remain idle but invested in some marketable securities. However a minimum cash balances is always essential for the corporation to meet unforeseen contingencies.
2. Sundry debtors should be converted in cash in time and the

position of sundry debtors should be improved by effecting recoveries as quickly as possible which should be done by taking recourse to legal procedures, and necessary provisions and reserves should be made to meet the doubtful and outstanding debts.

3. Deposits from customers, security deposits, and other deposits should also not remain idle, it should be invested in some marketable securities according to its nature. Payable to HMG, creditors and other payables should not remain idle for a long, its payment should be made on time and creditors' funds should be utilised efficiently in order to maintain better operating efficiency.
4. To control and reduce the high cost of production, distribution and operating expenses, WSSC and NEA, as possible, should utilise their production capacity. These PEs should improve their' sales, especially; WSSC is required to increase in water tariff. WSSC should increase present tariff rate proportionately by the rate of inflation so that it can maintain its operation, pay employees, cost and other various expenses.
5. Both PEs should take long term loans from the public so that the higher level technical as well as financial officers should naturally become conscious for repayment of loan amount as well as regular payment of interest. These loans should be utilised for the purpose of extending fixed assets and if there will any internal surplus, it should be put in reserve and a “Debt Redemption Fund” be created to meet redemption of such loans. The fixed assets obtained in such a way should be maintained in proper manner in order to generate more sales and ultimately to earn profit. More attention should be paid on it by WSSC.

3.5 MR. NARENDRA KANDEL

Mr. Narendra Kandel has submitted his research work entitled “Profit Planning in Nepalese Utilities Concern: A case study of Nepal Electricity Authority” in which he has tried to analyse and evaluate the profit planning performance under various functional budgets of NEA. The major findings are cited as under:-

1. Nepal Electricity Authority is only enterprise in power sector that is facing the threats from independent power producer and losing its absolute monopoly.
2. NEA prepares profit plan for both long and short term. Short-term profit plan is communicated to concerned departments and persons but long-term profit plan is strictly confidential to top level only.
3. NEA prepares both functional and financial budget and financial budgets as components of comprehensive profit planning and control. The major functional budgets are sales budget, generation and purchase budget and purchase budget, operation and maintenance budget and personnel budget. Similarly the financial budgets prepared by NEA are capital expenditure budget, cash flow budget and budgeted profit and loss account.
4. The authority is unable to sell all available energies to customers. It has been serving only about 15 percent of the total population.
5. NEA has not applied cost classification techniques till now. It consolidates all expenditures relating to manufacturing, administrative, selling and distribution under the single category as “Operation and Maintenance Expenditure Budget”.
6. There is wide gap between production and sales of electricity. The gap is due to power loss that has occurred increasingly by theft, leakage, outage and clumsy distribution.
7. NEA uses traditional techniques for capital budgeting. Capital

expenditure budget is prepared for both long-term as well as short-term.

8. NEA is unable to properly utilise the cash and bank balance.
9. NEA is unable to collect its debts from customers on time. The average collection period is 75 days, which is quite higher than the normal period of 60 days.
10. The proportionate increase of profit is less than the proportionate increase of investment.
11. Because of non-classification of overheads expenses as fixed and variable components, application of flexible budgeting technique and cost-volume-profit analysis is lacking in NEA.
12. The break-even analysis indicates that the break even sales are lower than actual sales, which is the indication of good operational situation.
13. There is a lack of proper co-ordination between various directorates and department.
14. The authority fails to analyse its strengths, weakness, opportunities and threats in real depth. Though it is facing competition from independent power producers and supplier, it has not yet made assessment of its present prospects and future potentiality seriously.

3.6 MR. YAGYA PRASAD TIMILSINA

An unpublished dissertation on utility concern entitled “Profit Planning in Nepalese Manufacturing Concern: A case Study of Nepal Electricity Authority” submitted to the central department of management by Mr. Yagya Prasad Timilsina states the following major findings:-

1. NEA prepares both long-term and short-term profit plan but they are confined only up to the top level executives.

2. The authority is unable to sell all services available to its grid.
3. The basis chosen for cost classification are not systematic and appropriate.
4. The significant gap between sales and production is mainly due to leakage, outage and theft.
5. NEA uses traditional methods of evaluation for capital budgeting.
6. Authority is unable to collect its debt from customers.
7. Return on net worth is positive and increasing, however, it is not satisfactory.
8. Power purchase should be discouraged which will reduce operational expenses.

3.7 DR. BHEKH BAHADUR THAPA & BHARAT

BAHADUR PRADHAN

“Water Resources Development: Nepalese Perspectives” published by IIDS study Directors Bhekh Bahadur Thapa & Bharat Bahadur Pradhan is one of important treaties in respect of the hydro power of Nepal. Some of the relevant findings are as follows:-

1. Forest in Nepal provide more than 95 % of the rural energy needs, about 20-25% of the fodder for livestock and all the domestic timber needs.
2. Deforestation is one of the most challenging and rapidly worsening environmental problems in Nepal.
3. Nepal’s energy scenario reflects imbalances between energy consumption and energy resources endowment.
4. The theoretical power potential of the water resources in Nepal is estimated to be about 83000 MW out of which 42133MW is estimated to be the output of technically and economically viable schemes. The installed capacity of hydro power stations developed till

now works out to be sold than one percent of the potential power generation identified up to date. Thus, Nepal's enormous potential of water resource to generate hydro power is in the early stage of exploitation.

5. Future development of agriculture-based industries and processing facilities would also need reliable supply of power, storage type projects can substantially increase opportunities for large scale year round irrigation as well as hydro power generation for export and use in power intensive industries.
6. Development of water resources is essential in order to meet human needs like increasing agricultural and industrial production, meeting energy needs and earning foreign exchange from power export.
7. The strategy from power development in Nepal should aim at maximising the economic benefits from hydro power development through an optimum development of country's river basins. Optimum utilisation of this resources calls for meeting full co-operation among the riparian countries.
8. High investment requirement for the development of hydro power and lack of financial resources are the major constraints at present.

3.8 MR. SURYA BAHADUR GURUNG

Mr. Gurung has submitted his research work entitled "Profit Planning in Nepalese Utilities Concern: A case study of Nepal Water Supply Corporation" in which he has tried to analyse and evaluate the profit planning performance under various functional budgets of NWSC. The major findings are quoted as under:-

1. The NWSC has to fail to maintain periodic performance report systematically.
2. The cooperation is suffering from high amount of fixed cost.
3. The lower level participation is not encouraged while planning

and decision making. Only top level executive are involved in planning and decision making process.

4. There is no systematic classification of overheads. So it creates problem to analyze its expenses properly.
5. NWSC is suffering from its high rate of water leakage i.e. 40%.
6. There is a lack of dynamic and effective cost control program as well as separate costing department.
7. There is a high pressure of political parties.
8. There is a lack of management by objectives (MBO) principles. So specific goals and objectives are conveyed only to higher level staffs.
9. The NWSC has no clear cut vision and concept of comprehensive profit planning system.
10. NWSC has no practice of preparing profit plans.

3.9 MR. SUMAN KUMAR RAI

Mr. Rai has conducted a research about “Profit Planning in Nepal Water Supply Corporation”. In this research he has tried to point out some features & problems of profit planning in NWSC. The major objectives of Mr. Rai’s dissertation are as below:-

1. There is lack of cost classification and cost control program.
2. There is not proper planning of production budget.
3. There is lack of systematic profit plan.
4. NWSC financial position is not satisfactory.
5. NWSC is suffering from a high rate of water leakage i.e. 37%.
6. There is lack of dynamic and effective cost control program as well as separate cost department.
7. Sales revenue is below than the BEP so the co-operation fails to maintain the BEP sales.

8. The corporation spends high amount of interest each year of loan.
9. The corporation operating expenses is in increasing trend.
10. NWSC has no practice of preparing profit plan.

3.10 RESEARCH GAP

All the research study mentioned above about profit planning system are basically related to the profit planning system in manufacturing concern or production oriented activities. All the thesis have pointed out the there is no proper profit planning system and have recommended for the effective implementation of profit planning system.

This thesis is a little bit different than the above studies. It may be the different than research study in the field of profit planning taking the case study of public utility undertaking. This study has tried to indicate the role of budgets for the effective formulation and implementation of profit planning system. Similarly, the study attempts to analyse the financial position of Authority by applying the tools of ratio analysis and finally it concludes the various findings of research and recommends for immediate and long-term improvement and correction.

CHAPTER-FOUR

4 RESEARCH METHODOLOGY

4.1 GENERAL MEANING

They systematic and well-organized way for solving the research problem can be referred to as research methodology. This study has an ultimate concerned with the applicability and effectiveness of profit planning and control system in manufacturing concern. So, the objective of this study is to analyses, examine and interpret the application of PPC in NEA. So, it requires an appropriate research methodology. The main contents of research methodologies are mentioned as below:

4.2 RESEARCH DESIGN

Research design generally means definite procedures and techniques, which guide to study and propounds ways for research variability. It is the planned structure and strategy of investigation conceived so as to obtain answers to research questions. The research design of this study is descriptive as well as analytical. This study is an examination and evaluation of budgeting procedure in the process of profit plan by Nepal Electricity authority, the study is closely related with the various functional and other accounting statements as well as actual results available on the date.

4.3 PERIOD COVERED BY THE STUDY

Profit planning has two types of time dimensions i.e. short-range and long-range. The research covers 5 years from FY 2064/65 to 2068/69

4.4 NATURE AND SOURCES OF DATA

Data are the arms and weapons for successful analysis. Data may be information, statistics, figures, charts etc. For successful analysis and to

draw meaningful conclusion, collection of data is necessary.

Data can be primary or secondary. The data directly obtained from the source through direct interview, questionnaire, dialogues and discussion, imperative if it is based on primary data. But the primary data for our purpose will be incomplete. Moreover, it will be too crude to be analysed.

Secondary data collected through different publications and direct approach to budget section of NEA, head office is the main basis of present study. Secondary data have been taken mainly from the accounting and financial statements of NEA, as a matter of fact, the annual report of 2012/13, the half yearly bulletin “Vidyut” , targets and achievements of public enterprises published by ministry of finance, oral interview with the personnel from different sections of NEA are the sources of data for present study.

4.5. TOOLS OF ANALYSIS

Secondary data collected from different sources are managed, analysed and presented in systematic way in proper table and formats. Tables of information are included wherever necessary with sufficient interpretation. The data have been analysed by using various statistical and financial tools such as arithmetic mean, standard deviation, coefficient variation, regression, correlation, time series analysis, variance analysis, ratio analysis, C-V-P analysis, flexible budget, graphs, diagrams etc. as per necessary.

4.6. RESEARCH VARIABLES

The research variables used in the present study are sales in units and amounts, generation and purchase of power in units, capacity utilization power loss figures, personnel status, profit and loss, capital expenditure, cash budget, balance sheet related to both short-term as well expenditure, cash budget, balance sheet related to both short term as well as long term time spans.

4.7. RESEARCH PROCEDURE.

The research procedure includes the following steps for present study:-

- (1) Collection of various books and other publications relevant for study.
- (2) assimilation of useful secondary data
- (3) Description and analysis of collected data in light of theoretical basis.
- (4) Arrangement (tabulation) and presentation of data through tables, charts, graphs.
- (5) Analysis of data by using approved statistical and financial tools.
- (6) Extraction of valuable conclusion and recommendation.

CHAPTER-FIVE

5 DATA PRESENTATION AND ANALYSIS

5.1 INTRODUCTION

The main objective of this dissertation is to highlight the corporate planning system and budgeting procedures in the context of profit planning in public utility concern and NEA has been selected for this purpose. To accomplish this objective, the chapter will be analysed the different functional budgets and their related variance of the NEA.

Profit planning is considered as the most important approach that has been develop to facilitate performance of management process and it is systematic approach for attaining management's goals. It is the formal expression of enterprises plan, goals and objectives stated in financial term for specific future period of time.

Generally, two types of profit plans are formulated by all most of enterprises to achieve their determined goals and objectives. NEA has a practice of preparing both strategic long-range and tactical short-rang profit plan. Though, it prepares strategic long-range profit plan, the present paper will not analyse it in detail due to the time and resources constraint. Therefore, the dissertation is mainly focused on tactical short-range profit plan of the NEA. However, the sales, production and other related figures of previous year are also presented and analysed to be acquainted with overall economic and financial trend and to estimate the possible future trend of NEA. For this purpose, the study covers the period of five years from FY 2064/065 to 068/069.

The short-term profit plan is analysed by taking relevant figures and various functional budgets of one FY. The one FY may represent the techniques, process and other procedures of preparing budgets, their use for the purpose of profit planning, comparison with actual achievement and analysis of

variance for other years because such process are same for every year and repeated each year in the time of preparing and analysing budgets. For this purpose, FY 2068/069 has been taken as representative year to analyse the short-term profit plan in order to grasp real profit planning situation of NEA. Various functional budgets of FY 2068/069, their bases of preparation, actual achievement and related variances between budgeted and actual are analysed in detail. This study attempts to point out the causes behind the deviation between budgeted and actual results.

5.2 SALES BUDGETS OF NEA

Formulation of sales budget is considered a basic and prime step in developing the overall budget procedure. Sales are the major source of cash and all other functional budgets are prepared on the basis of sales budget. For this, preparation of sales budget should be done on the realistic ground, otherwise which can lead to faulty and misleading planning periphery to other budgets.

NEA has practice of preparing sales budget for coming FY and it also forecasts demand for the long-term which is known as long-term load forecast. NEA prepares its sales budget in accordance the nature of consumers. The consumers are classified as domestic, industrial, commercial, non-commercial, water supply, irrigation, temple, transportation, street lights and temporary supply.

The sales budget is prepared based on sales forecast also called load forecast. Load forecasts are made for time period of various duration. Very short-term demand projections are made on a daily or weekly basis for purposes such as optimizing system operation and scheduling of hydro units, while short-term forecast ranging between one and three years are used in reservoir management distribution system planning and soon. The time horizon for medium-term demand projection is about four to eight

years which corresponds to lead time required for major transmission and generation projects. Long-term demand projections usually duration of at least ten years are extremely important in the long-range distribution system expansion planning and are most relevant one for rural electrification.

The demand forecast for aforesaid consumer category will depend upon the growth rates of number of connection and the number of users. Therefore, the evolution of each of these variables needs to be analysed distinctly. Specially, connection policy is a factor that must be carefully studied. In view of sordid gain in some areas, high connection charges could act as significant boundaries and negate the favourable effects of low electricity prices. The deterrent inputs of excessive connection charge may be adversely overlooked specially in case of quantitative demand forecast.

PRIMARY DEMAND DETERMINANT

There some factors that influenced or determined the demand of electricity are pointed as follows:-

1 Domestic

- I. Number of households (population)
- II. Real family income weighted by income distribution
- III. Price of electricity
- IV. Connection charge
- V. Availability or reliability
- VI. Cost and availability of electricity using fixture & appliances
- VII. Comparative cost of alternative energy sources (Kerosene, LPG gas, Coal, firewood, etc.)

2 COMMERCIAL SECTORS

- I. Tariff of electricity
- II. Connection charge of electricity
- III. Reliability of services
- IV. Cost of alternative fuels

- V. Working hours of various types of commercial establishment
- VI. Security situation

3 INDUSTRIAL SECTORS

- I. Tariff of electricity
- II. Influence of product market
- III. Type of industry and its electric intensity
- IV. Relative price of alternative energy sources and cost of auto generation
- V. Reliability and availability of service
- VI. Security situation

4 AGRICULTURE SECTOR

- I. Price of electricity
- II. Service availability and reliability
- III. Supply cost of alternative energy system e.g. diesel driven pump, milling and processing equipment.

Each and every organisation has to adopt a particular demand method. Similarly, NEA has adopted the following major methods for future projection of electricity demand:-

- I. Time trend extrapolation
- II. Economic multiple regression and
- III. Field survey method.

The sales budget is prepared by directorate of NEA coordination with revenue section. One of the NEA block planning and administration consist of three departments for planning. They are (a) corporate planning, (b) system planning and (c) monitoring and evaluation. Preparation of sales budgets is responsible to corporate planning department with maintaining coordination with other related sections or department. NEA has been enjoying absolute monopoly undertaking in power sector together with government's plan and policies and participation by private sectors has

given positive looks towards the future electricity development.

This chapter attempts to present the previous sales performance and their achievement to know about the sales trend in past and to forecast the future possible sales trend of NEA.

In this chapter, the attempt is made to present the relevant data in order to find out the actual achievement of NEA. First of all, previous sales performance and their achievement are presented in order to find out the sales performance and predict or forecast the future sales trends of NEA. For this, it has to be analysed the historical data of sales. The following table shows the budgeted and actual sales and achievement in term of unit as well as amount (Rs) from FY 2064/065 to 2068/069.

Table 1
Sales Budgets and Achievement

Unit in '000'				Rs in '000'		
FY	Budget	Actual	Achievement %	Budget	Actual	Achievement %
064/065	1031308	1051429	101.95	5069025	5173964	102.07
065/066	1112886	1113576	100.06	5516632	5496821	99.064
066/067	1242879	1269274	102.12	6181731	7025158	113.64
067/068	1531516	1407127	91.88	9101282	8377832	92.05
069/060	1642500	1540030	93.76	11521396	9687456	84.08

Source: Annual Budget and Report

The above table reveals the budgeted and actual sales performance of NEA in terms of unit and amount (Rs.) for five years period. The actual sales achievement of NEA is not consistent with budgeted sales. The budgeted sales targets are planned basis on historical sales performance which is not depicts as realistic and satisfactory a part from FY 2064/65 and 2065/66. The actual revenue is more than targeted in FY 2066/67 due to increase in tariff rate. But the actual performance for the FY 2067/68 and 2068/69 are in downward trend the reason behind it are the destruction small and

medium hydro plants transmission line and consumers service by Maoist's insurgency.

It is needed to calculate the arithmetic mean, standard deviation coefficient of variation of targeted and actual figures in order to find the nature of variability of planned and actual sales, for the study years. The detail calculation of those statistical tools is presented on Appendix 2.

Table 2

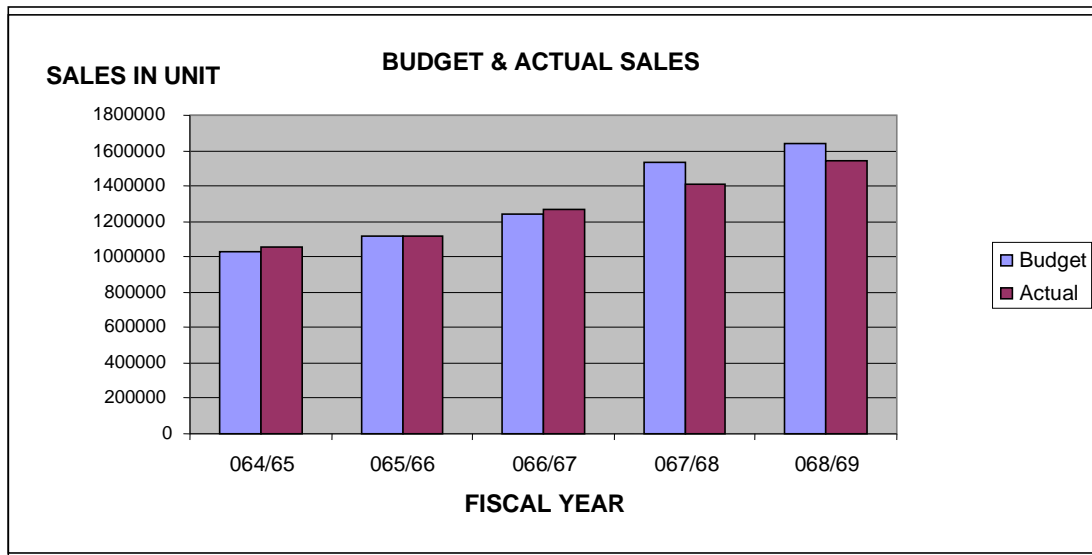
The summarised outputs from the Appendix 2 are presented below:

Description	Budgeted sale unit in '000'	Actual sales unit in '000'
Mean	1312218	1276287
SD	236909	180978
CV	18.05	14.18

The above result exhibits that the planned sales are more variable than actual sales. Since the coefficient of variation of planned sales is higher than actual sales, the actual sales are more consistent or homogenous or uniform to planned sales. A distribution with smaller C.V. is said to be more homogenous or uniform or less variable than other and vice versa. In this finds the actual sales is more homogenous than planned sales.

The planned and actual sales can be exhibited in graphical form as under:

Chart No 1



The above graph shows the gap between planned and actual sales is significantly remained almost variable throughout the study period. Comparatively, the gap is remarkable in FY 2066/67 due to tariff rate hike and the subsequent 2 years are decreased due to damaged small and medium hydropower plants, transmission, distribution line and consumer services (Transformer etc.) by Maoist insurgents.

Another statistical tool, coefficient of correlation can be applied in order to analyse the relationship between planned and actual sales. There should be positive correlation between planned and actual sales. Moreover, the sales achievement should increase as the budget increase or vice versa. The Karl Person's coefficient of correlation, denoted by (r) is applied in order to find out the correlation between budget and actual figures of sales. It is examined that whether or not the actual sales will be changed in the same direction of change in planned sales.

The planned figures denoted by X are assumed to be independent variables and actual figures denoted by Y are assumed to be dependent variable in order to compute the r. The achievement will be large if the planned figures are large and vice versa. Then, the significant of r will be tested positive error of r. The detail calculation of r and probable error is presented in

Appendix 1. From the Appendix 1, the value of r is 0.99

The value of r shows there is positive correlation between planned and actual sales. Since, the value of r is 0.99., there is perfect correlation between planned and actual sales. The examination makes clear that the actual sales changes in same direction as the planned sales.

The significant of r is tested by the help of probable error of r is 0.006, which is less than value of 'r' (0.99>0.006), the value of 'r' is definitely significant. Therefore, it can be said that the actual sales is going on same direction that of planned sales.

Another statistical tool, a regression analysis can be fitted to show how budgeted and actual sales are related and to predict or forecast the possible actual sales with given planned sales. For this, actual sales achievements have been assumed to be dependent upon planned sales. Let's X and Y denote planned sales and actual sales respectively, and then we will find the regression equation of Y on X (i.e. the regression equation for actual sales related to budgeted sales.)

Let regression equation of Y on X be

$$Y - \bar{Y} = r \frac{\sigma Y}{\sigma X} (X - \bar{X}) \text{ Where}$$

Table 3

Description	Budget (X)	Actual (Y)
Mean	1312218	1276287
S.D.	236909	180978
σ_{XY}	0.99	

Then,

$$Y - 1276287 = 0.99X \frac{236909}{180978} (X - 1312218)$$

$$\text{Or } Y = 1.2960X - 1700580 + 1276287$$

$$\text{Or } Y = 1.2960X - 424393$$

By the above regression equation, it is clear that the actual sales is decreasing trend and the actual sales will be decreased more than planned sales. By the help of this equation, it can be ascertained that the expected sales achievement with given value of target sales say x, ascertain the expected sales achievement for figure of FY 2069/70 will be 1708456 units.

Then,

$$\begin{aligned} \text{Expected sales achievement } Y &= 1.2960X - 1708456 - 424393 \\ &= 1789795 \text{ units in '000'} \end{aligned}$$

Next statistical tool, a least square method can be applied to analyse the trend of actual sales and to estimate the possible future sales of a given time. A straight line trend method shows the relationship between time or years and actual sales of the relevant year. Under this method, it is assumed that the sales is consistently changed (increase or decrease) with change in time and such change can be expected by component of time series. To fit the straight line trend, the time factor is considered as independent and sales is considered dependent factor upon time. Then, the straight line trend of actual sales Y upon time is expressed by:-

$$Y_c = a + bx$$

Where, x is the time when fit the straight line trend. Then, it can estimate the possible actual sales for given year.

Table 4

Computation the values required to fit Straight Line Trend

FY	Actual sales In unit '000'	X	X ²	XY
2064/65	1051429	-1	1	-1051429
2065/66	1113576	-2	4	-2227152
2066/67	1269274	0	0	0
2067/68	1407127	1	1	1407127
2068/69	1540030	2	4	3080060
N=5	$\sum Y = 6381436$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 1208606$

In above analysis, FY 2066/67 is assumed as base year. Therefore, the value of X in FY 2066/67 is 0, negative for 2064/65 and 2065/66 and positive in 2067/68 and 2068/69.

We have,

$$Y_c = a + bx$$

Substituting, the above values in straight line equation then we get:-

$$\begin{aligned} \text{Where } a &= \frac{\sum Y}{N} \\ &= \frac{6381436}{5} = 1276287 \end{aligned}$$

$$\begin{aligned} b &= \frac{\sum XY}{\sum X^2} \\ &= \frac{1208606}{10} = 120861 \end{aligned}$$

$$Y_c = 1276287 + 120861X$$

The result (trend) reveals that the positive sales figure for future. The sales will be increased by 120861x units in every year if the sales trend of the past years continues in the future. By using trend equation, the actual sales can be estimated for figure of 2069/70. The value of X for the FY 2069/70= 3(2067/68 base year) then, sales for FY 2069/70

$$\begin{aligned} Y &= 1276287 + 120861X3 \\ &= 1638870 \text{ '000' units.} \end{aligned}$$

By the result, if the trend does not change, the positive sales for 2069/70 will be 1338870 '000' units.

NEA has practice of preparing short-range sales budget for coming FY. This budget is manifestly prepared by classifying the types of consumers. The sales budget for FY 2068/69 by the category of consumers is presented in Appendix 16 and it shows both in terms of units and amount (Rs). The actual sales of electricity are presented in Appendix 12 and it presents the sales achievement of NEA from FY 2061/62 to 2069/70 except FY 2069/70

provisional figures.

The summary of sales Budget and Achievement for FY 2068/69 is cited follows:

Table 5
Sales Budget and Achievement for FY 2068/69

Particulars	Budget Sales		Actual Sales	
	Unit '000'	Rs. '000'	Unit '000'	Rs. '000''
Domestic	600000	4218000	557940	3641430
Non-commercial	81000	827820	78220	722121
Commercial	103600	1046360	90426	818752
Industrial	605000	4368100	596677	3608129
Water supply & Irrigation	31500	157815	29283	138676
Street Light	40700	197395	39517	200738
Temporary Supply	900	11925	282	3626
Transport	6500	32175	5635	27897
Temple	2800	14056	2476	12158
Community sales	500	1750	5717	-
Total Internal Sales	1472500	10875396	1406173	9173527
Block Supply to India	170000	646000	133857	514118
Grand Total	1642500	11521396	1540030	9687645

Source: Annual Budget & A Year in Review 2012/13

By the above analysis, the technique applied by NEA for preparing sales budget is satisfactory. The gap between planned and actual sales is slightly high than what is from the standard. Therefore, the management should pay the attention for those variables which create obstacles to meet the target. The analysis found that the Authority fails to meet demand of electricity as demanded by its customers. The following remarkable conclusions are extracted from various analyses of planned and actual sales of NEA for the study years:-

- I. NEA has practice of preparing long-range as well as short-range budget. Shot-rang budget is prepared according to types of consumers and long-range sales budget is not prepared in detail.

- II. There is significant difference between planned and actual sales.
- III. Budgeted sales is more variable than actual sales.
- IV. There is perfect correlation between planned and actual sales.
- V. The regression analysis shows that there is an increasing trend of actual sales.
- VI. The straight line equation shows a positive figure for the future.

5.3 PRODUCTION BUDGET OF NEA

Production budget is considered as the second step for formulating the Comprehensive profit plan. Profit planning is never complete in the absence of a production budget. The production budget is prepared on the basis of the Sales budget, a determinant factor for the production budget. Production of any goods and services are developed either to meet the planned sales requirement or to maintain the inventory level of finished goods. The sales plan needs to be translated into a production budget for manufacturing concerns; however, in the case of a public utility concern like NEA, a production plan will be prepared for a long-term period.

NEA has the practice of preparing a production budget under the heading of 'Power Generation and Purchase Budget.' The overall responsibility for the production budget goes to the production directorate in co-ordination with the planning directorate.

The problem of opening as well as closing inventories does not exist due to the non-storability nature of hydropower. NEA prepares the production budget for each fiscal year in short-term, and both the generation and purchase budget of energy are the parts of the production budget.

In respect of production, existing projects near about completion are adjusted, and government's policy is also considered by NEA while preparing its production budget.

Now, the attempt is made to analyse the previous trend of production and

forecast the possible future trend of NEA. The following table presents the production achievement in terms of units from FY 2064/65 to 2068/69.

Table 6

Budgeted Production & Actual Production & Their Achievement in '000'

FY	Budgeted units	Actual unit	Achievement%
2064/65	141900	1373170	96.77
2065/66	1462760	1475000	100.84
2066/67	1605810	1701450	105.96
2067/68	1989690	1868420	93.91
2068/69	2165606	2066330	95.42

Source: Annual Budget and Report

The above table presents budgeted and actual production in terms of units of NEA. This table shows that the gap between budgeted and actual sales significantly high except FY 2065/66. It is conclude that the planners are highly ambitious in planning for those years where actual productions are below the planned production. Another reason behind the gap is damaged of small as well as medium size hydro power plants and other assets by Maoist insurgents.

The actual production is increasing year by year due to commissioning of new project and repairing or overhauling of existing plants. The actual production is high in FY 2068/69 due to commission major hydropower like Kali Gandaki 'A' and overhauling of existing plants. Form the sales and production analysis, there is vast gap in compare with production and sales which indicates the power loss that to be remarkable considered for the better utilisation of its generated and purchase power.

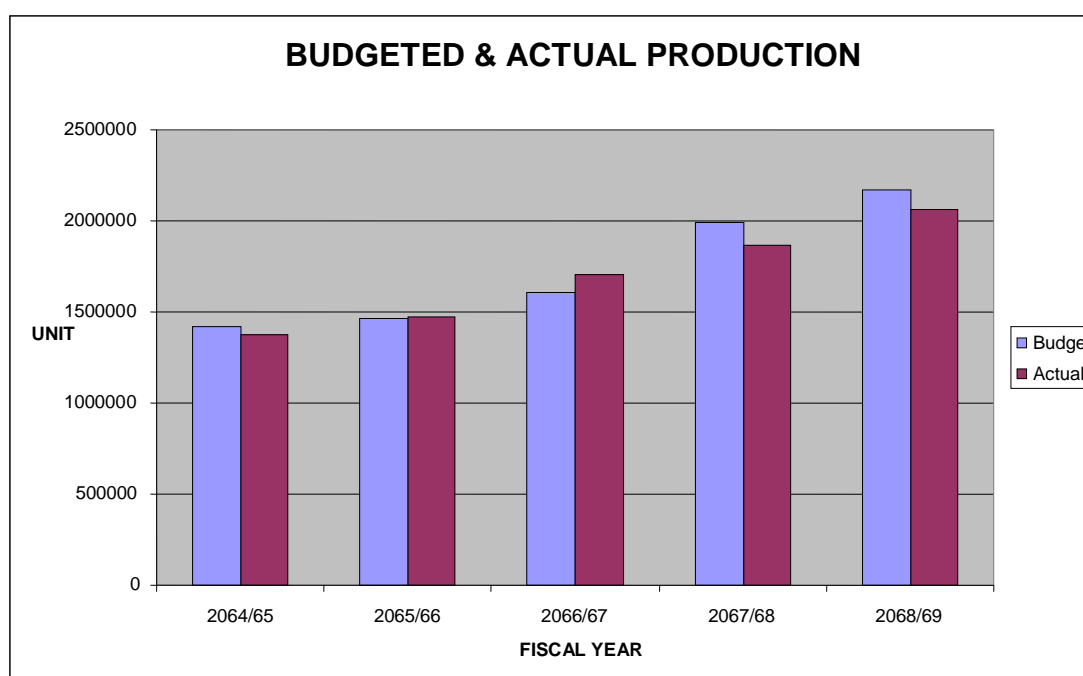
The statistical tools like arithmetic mean, standard deviation and co-efficient of variation one applied in order to find out the nature of variability of budgeted and actual production. The detail computations of these variables are presented in Appendix 2.

Table 7

Component	Budgeted production In unit '000'	Actual production in unit '000'
Mean	1728573	1696874
S.D.	296898	252966
C.V.	17.18	14.91

The above result shows that the co-efficient of variation is greater for budgeted production than actual production. Therefore, the budgeted production is more variable than actual production due to greater co-efficient of variation. The variability of planned production is significantly more, which requires to be improved. Budgeted and actual production can be presented in diagram as bellows.

Chart No 2



The diagram presents the budgeted and actual production and gap between them for the study years. Budgeted figures are higher than actual production due to the planner's high ambition while making plan except FY 2065/66. Anyway, the trend of actual production has been increasing in the study years because of commissioning new projects and improving the performance of existing plants.

Production budget depends upon sales budget or production should be done according to sale budget. Therefore, it is necessary to analyse or examine the relationship between production and sales budgets. The following table presents the actual production and actual sales for study years:

Table 8

Actual production and actual sales in unit ('000')

FY	Actual Production	Actual Sales	Loss in %
2064/65	1373170	1051429	23.43
2065/66	1475000	1113576	24.50
2066/67	1701450	1229274	27.75
2067/68	1867420	1407127	24.69
2068/69	2066330	1540030	25.47

Source: Annual Budget & A year in Review 2012/13

The above table reveals that the actual production is more than actual sales. The discrepancies between actual production and actual sales represent the picture of remarkable power loss in NEA. The statistical tools such as mean, standard deviation, co-efficient of variation correlation co-efficient are applied in order to find out the nature of variability of data. The detail computations are presented in Appendix 2 the summarizing results from Appendix 2 are as below:

Table 9

Actual Production and Actual Sales & Relationship.

Components	Actual Production in unit '000'	Actual Sales in units '000'
Mean	1696874	1276287
S.D.	252966	180978
C.V.	14.91	14.18

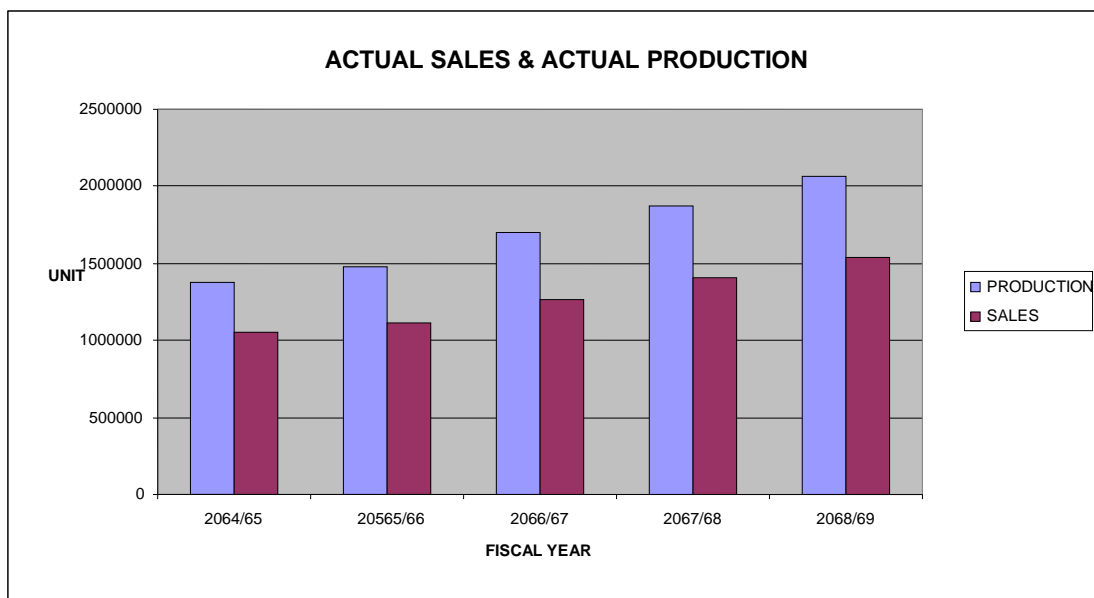
The above result reveals that the nature the actual production is more variable than actual sales due to the higher co-efficient of variation presented in above table.

There should be positive correlation between actual sales and actual production. The actual production should be changed into same direction as

actual sales changed. If sales are increased, the production also increases to meet the demand of electricity. The correlation co-efficient which is denoted by 'r' is applied in order to find out the relationship between actual sale and actual production. In other words, the test is made to examine whether there is positive correlation between actual sales and actual production or not. The actual production will be changed in the same direction as the actual sales. For this purpose, actual sales are denoted by X and it is assumed to be undependable variable actual production denoted by Y is assumed to be dependable variable upon actual sales. The detail computation of 'r' is shown in Appendix 2.

From Appendix 2 the value of r is 0.99 and it shows the positive correlation between actual sales and production and it also represents perfect correlation between them. Those figures can be presented in diagram too.

Chart No 3



This diagram shows that the both actual sales and actual production are in increasing trend. The gap between actual sales and actual production is very vast that obviously stands for the loss of electric power. The diagram also shows the increasing trend of power loss.

After analyzing the past trend of production, the attempt is made to analyses

the short-range production budget of Authority. NEA prepares its production budget after evaluating the peak demand of power. Similarly, NEA's production budget is affected each by HMG's policy in pertaining to electrification and the completion of new projects.

The production budget of Authority comprises power generated within NEA, purchase from India, generated by diesel and multifuel and power purchase from private sectors. The budgeted and actual power production budget for FY 2068/69 and its achievement is presented in following table:

Table 10

Budget and Actual Production and Achievement for FY 2068/69

Components	Budget Production	Actual Production	Achievement (%)
Hydro	1194640	1113130	93.18
Diesel	17920	17010	94.92
Purchase from Nepal	237728	238170	100.16
Purchase from India	715264	698020	97.54
Total	2165606	2060330	

Source: A Year in Review

The analysis of short-term production budget of Authority for FY 2068/69 obviously indicates that the budgeted production is greater than actual production. NEA fails to generate its targeted hydropower due to various causes such as damaged different power plants, assets, transmission lines etc. and no completion the ongoing projects on time. NEA has targeted to produce 2165606 thousand unit where as it about to only 2060330 thousand only in this fiscal year. The private sectors only able to produce as target production. The total available energy and peak demand of authority from FY 2061/62 to 2070/71 in Appendix 10 the following points are cited regarding production budget:

- I. NEA makes short-term as well as long-term production budget. The long term production budget influences with the government policy, completion

- of the new power projects and other environmental elements.
- II. The short-term production budget comprises the hydropower generation, multifuel, power purchase from Nepalese power Company and from India.
 - III. Budget production is more variable than actual production.
 - IV. Actual production is more variable than actual sales.
 - V. There is perfect correlation between actual sales and actual production.
 - VI. Actual production is significantly large than actual production and it is obvious that the power leakage is remarkable in NEA

5.4 OVERHEAD BUDGET OF NEA

NEA prepares its overhead budget under the heading of “Operation and Maintenance Budget.” The main objectives of this budget is to control over the factory and administrative expenses however, NEA dose not prepare overhead budget analytically and systematically as manufacturing overhead, administrative overhead and selling and distribution overhead budget. It prepares operation and maintains budget in integrated way by comprising the following items of expenditures:

- 1. Staff Expenses
 - a) Employees salaries and facilities
 - b) Employees welfare expenses
 - c) Pension and gratuity to employees
- II. Store and service
- III. Power purchase
- III. Repairs and maintenance
- IV. Vehicles maintenance
- IV. Administrative expenses
- IVI. Interest and financial expenses
- IVII. Depreciation and income tax
- IVIII. Royalty

By analyzing the NEA’s overhead budget, it has found that the practice of preparing overhead budget is not a systemic way. Due to this reason, it has created difficulties to analyses the overhead budget. The historical trends of overhead expenses (Operation and Maintenance Expenditure) have been presented in the following table:

Table 11

Actual overhead of NEA for previous year from 2064/65- 2068/69
in million

FY	Operation and maintenance	Interest on long term loan	Total
2064/65	4666.00	1317.20	5483.20
2065/66	5412.3	1141.30	6553.60
066/67	5925.0	1244.3	7169.29
2067/68	8733.8	1188.2	9922.00
2068/69	9749.6	1395.5	11145.10
Total	34486.70	6286.50	40773.20

Source: A Year in Review

The table shows the actual expenditure collectively under operation and maintenance including depreciation. The figure shows the increasing trend of expenditure in subsequent years due to increase in depreciation, interest on long term loans and other items of expenditures. NEA has been paying heavy amount of interest for long term loan and therefore, it is advised to utilise its own fund for large investment as much as possible to avoid such expenditures.

Table 12

Head wise Budgeted Expenditures of NEA
Operation & Maintenance (Except Depreciation)
For the Year 2068/69

Expenses Heading	Yearly Budget In Rs '000'	% in Total Expenditure	% in Total Revenue
Staff Expenses	1308047	15.05	11.35
Store Service	222685	2.56	1.93
Repairs & Maintenance	417015	4.80	3.62
Vehicle Maintenance	89843	1.03	0.78
Administrative Expenses	31739	0.37	0.28
Power Purchase	4692019	53.99	40.72
Royalty	603500	6.94	5.24
Long term Interest	1164669	13.40	10.11
Communication	18015	0.21	0.16
Travelling Expenses	27869	0.32	0.24
Consultancy Fees	7410	0.09	0.06
Development Expenses	19010	0.22	0.16
Interest & Financial Expenses	5404	0.06	0.05
Other Expenses	83975	0.97	0.73
Total	8691200	100.00	75.44

Source: A Year in Review

Total budgeted Revenue is 11521396 in '000'

The above table shows the budgeted overhead under each heading percentage of each item in respect to total expenditure and total budgeted sales revenue. The major portion of expenditure is in power purchase, 53.99% in respect of total expenditure and 40.72% in budgeted revenue respectively. Similarly, staff expenditures and interest on long term loan occupied second and third place respectively. The analysis reflects that the large amount is spending in power purchase, staffing expenses and interest. Expenses incurred in power purchase, it relates to supply of power demand and this is not controllable. Some expenses like staff expenses that can be controlled to some extent by retrenching unnecessary staff from Authority.

Similarly, the actual overhead expenses can be analyzed in order to find out the variation between budgeted and actual overhead expenses. The budgeted overhead expenditure is presented in Table No. 12 and actual overhead expenditures are presented in the following table.

Table 13
Head wise Actual Expenditures of NEA
Operation & Maintenance (Except Depreciation)
For the Year 2068/69

Expenses Heading	Yearly Exp. In Rs '000'	% in Total Expenditure	% in Total Revenue
Staff Expenses	1229384	16.12	12.69
Store Service	180775	2.37	1.87
Repairs & Maintenance	439553	5.76	4.54
Vehicle Maintenance	88919	1.17	0.92
Administrative Expenses	28574	0.37	0.29
Power Purchase	3740711	49.05	38.61
Royalty	591050	7.75	6.10
Long term Interest	1161751	15.23	11.99
Communication	20266	0.27	0.21
Travelling Expenses	29447	0.39	0.30
Consultancy Fees	5175	0.07	0.05
Development Expenses	20088	0.26	0.21
Interest & Financial Expenses	3824	0.05	0.04
Other Expenses	87152	1.14	0.90
Total	7626669	100.00	78.73

Source: A Year in Review

Total Actual Sales 9687645

The above analysis reflects that the actual overhead expenditure is within the limit of budgeted except power purchase which has incurred significantly larger amount than budgeted. This result shows that the NEA has emphasized on purchase the power from Nepalese compares as well as from India. In detail analysis, beside the power purchase some actual expenditure such as interest and financing expenses, store service and

consultancy fees are a little beyond the budget. There are uncontrollable expenditures that should be managed by taking favourable situation and controllable expenditures that should be control some extent.

5.5 ANALYSIS OF POWER LOSS IN NEA

Power loss has become a serious matter in NEA from the very beginning. The normal acceptance of power loss is considered up to 15% in developing countries where as the system loss of NEA accounted up to 50% of total gross generation. Now, NEA has claimed that the system loss in NEA is about 24.30% on gross generation. The distribution loss is about 18.90% non-technical loss estimated about 11% and 8% is technical losses. Major reason of power loss in NEA one is undeveloped distribution system, theft, misuse etc that increased the volume of power loss. The following table reflects the power loss situation for the study years.

Table 14

Power loss situation of NEA (In unit and Rs)

FY	Power loss in unit (000)	% of loss total power available	Average sales Rate	Sales Revenue in (000)
2064/65	321951	23.45	4.92	1583999
2065/66	338512	22.95	4.94	1672249
2066/67	406654	23.90	5.53	2248797
2067/68	428290	22.92	5.95	2548326
2068/69	507418	24.56	6.29	3191659
Total	2002825			11245030

Source: Annual Budget & Year in Review

The above table reveals that the power loss in NEA in term of unit percentage and amount for the study years. By this analysis, it can be observed that the power loss is increasing trend which has been losing it's a huge amount of operating profit for every due to wastage of power. The power loss problem is rated higher in Nepal in comparison with south Asian countries. Therefore, it can be manifestly said that the Authority fails to control over the leakage of power. It is vary remarkable challenge for the

management of Authority to be sensitive towards the power loss.

5.6 HUMAN RESOURCE PLANNING OF NEA

One of the primary reasons why greater attention is being given to the management of personnel is that the importance of human resource in the fulfilment of the objectives of the organization and the rising cost of these resources have become well recognized. While sources of a business organization depends upon having the proper equipment, procuring adequate raw materials and other factors. The personnel who comprise the organization represent the most important variable in the total operation. These human resources must be selected and developed carefully if the organization is to function efficiently. NEA has established human resources department that has been entrusted with following functions under NEA's present corporate structure:-

- I. Manpower planning
- II. Staffing
- III. Training and development Career management
- IV. Employees record keeping
- V. Staff welfare
- VI. Disciplinary action
- VII. Administrative management

Human resource budget plans the manpower requirement that need to produce the services it includes the assessment of manpower recruitment, selection, placement, training, job description and evaluation, performance, appraisal, union negotiation and wage and salary administration. The following table shows the manpower status for FY 2068/69.

Table 15**Human Resource Allocation for the Year 2068/69**

Description	Officer		Assistant		Total
	Tech.	Adm.	Tech.	Adm.	
Permanent	653	305	4105	2481	7544
Contract	190	10	571	324	1095
Daily wages	7	---	740	404	1151
Total	850	315	5416	3209	9790

Source: A year in Review 2012/13

The above table shows that total employees are 9790 in FY 2068/69. There are 7544 employees in permanent, 1095 in contract and 1151 in daily wages basis devoting their service to Authority. The employees can be classified in officer level and assistant level. There are 1165 employees working in officer level that 850 in technical personnel and rest are administration.

The employees in assistant level occupies major portion in NEA. There are all together 8625 employees are providing their service. Among them 5416 employees are engaged in technical service and rests are in administration.

In the most of Nepalese PEs are suffering from overstaffing due to political interference. They are unable to create sound working environment in organization. So, management of NEA is advised to create a sound working environment within the organisation to achieve the set of the objectives of the NEA.

5.7 CAPITAL EXPENDITURE BUDGET OF NEA

Capital budgeting is the process of planning and controlling long-term expenditures for expansion or contraction of investment in operation assets. It is a tool of decision making about long term investment that helps to earn future revenue by avoiding the uncertainty. This is intended to acquire some operational assets such as fixed asset, plants, equipments, machinery, land and building in the capital expenditure project, funds will be tied up for relatively long period of time. Capital expenditure budget enables

management to plan that amount of resources that should be invested in capital additions. A primary issues in the controlling the actual expenditure of funds is the problem of ensuring that the actual expenditures are consistent with the plans and that funds are available when the expenditures are incurred. NEA has the practice of preparing short-term as well as long-term capital budget is prepared in yearly basis and published through the Annual. Review Book of NEA where as long- term expenditure budget is only for internal use which does not published. The annual long-term expenditure budget comprises such items related to purchase of land, hydro electronic plants, transformers, office buildings, power house, electrical equipment and revenue collection counters etc. By preparing this budget, NEA estimates its cash requirement and gets support to prepare cash budget. Therefore, the capital expenditure budget provides the foundation for cash allocation. The following table reflects the capital expenditure budget for FY 2068/69 and revised estimates:

Table 16

**Nepal Electricity Authority
Summarised Capital Expenditure Budget**

For the year ended Ashad 31, 2069 (July 15, 2012)

Particulars	Budget '000'	Revised '000'
Land	5175	2927
Building	36823	35672
Plant & Machinery	606624	508660
Furniture & Fixture	5008	3292
Office Equipment	22399	10784
Other Misc. Assets	77298	25790
Total	753327	587125

Source: Budget Section of NEA, Head Office

5.8 CASH BUDGET OF NEA

Cash budget is related a plan of cash flows that is prepared interim period of

specific time span. This budget includes planned cash inflows outflows and opening and ending position of cash balance of the authority. Planning of cash flows refers the need for financing probable cash deficit and the needs for investment planning to put excess cash into profitable use.

Cash budget is prepared with help of other function budget and estimates the viable future cash deficit or surplus. The necessary future plans are prepared based on the estimation of cash surplus or deficit to meet the cash deficiency or to utilize the surplus of cash amount. The primary source of cash inflows of NEA is sales of electricity and other sources and income from other services, income from interest, amount received from HMG, loan and aid from foreign donors. Similarly, the major reason of cash outflows are capital expenditure, operation and maintenance expenditure, interest on long term loans, the amount reimbursed to HMG and investment in small and major hydropower projects. The following table shows the budgeted amount of cash of NEA for the FY 2068/69.

Table 17

**Nepal Electricity Authority
Summarised Cash Budget**

For the year ended Ashad 31, 2069 (July 15, 2012)

Particulars	Budget '000'	Revised '000'
Opening Cash Balance	625547	969291
Add: Total Received	19455861	16290377
Total Cash Available (A)	20081408	17259668
Less: Total Payments (B)	19544072	16769150
Closing Cash Balance (A-B)	537336	490518
Minimum Cash Balance	-500000	-500000
Net Cash Balance	37336	-9482

Source: Budget Section of NEA, Head Office

The above table depicts that NEA has positive cash balance as per budget for FY 2068/69 but revised estimate is shows negative balance. This result reflects that the cash should be managed in order to fulfil the deficit of cash.

5.9 PROFIT AND LOSS ACCOUNT OF NEA

Budgeted profit and loss account is prepared after all preparing of functional budgets. It reflects the possible future profit or loss for the budgeted period and it shows the final conclusion of operation of an accounting year. NEA has preparing projected profit and loss account in advance and actual profit and loss account is prepared at the end of accounting period. The following table reflects the profit and loss account for the study year:

Table 18

Trend of profit of NEA
From 2064/65 to 2068/69 (In million)

Particular	2064/65	2065/66	2066/67	2067/68	2068/69
Profit/loss after tax	137.30	(96.00)	(185.00)	(51.00)	(860.7)

Source: A year in Review 2012/13

Above analysis reflects that the trend of profit is observed as negative because of the large amount of NEA's revenue spent on the purchase of power from independent power provider. Studies were also initiated to revisit the power purchase agreements with independent power provider and see if amendments based on mutually acceptable terms could be made to lessen their undesirable impact of NEA finance. Other factors as weakness that impair NEA's performance take the shape of its relatively high tariff level and the system loss that drain its revenue. The profit also reduces from interest on long-term loan, repairs and maintenance cost, depreciation, differentiates cost of project are accounted as per its annual reports.

In conclusion, to improve financial position, concerted efforts were made to take stern action against those charged on cases of theft are misuse of its

supplies. The details of profit and loss account presented in Appendix 5

5.10 BALANCE SHEET OF NEA

A balance sheet is a financial statement that reflects the overall financial condition of an organization. It indicates the financial strength and weakness of the organization. Projected balance sheet is prepared in order to complete the profit plan and balance sheet is prepared at the end of accounting year. NEA has not practice preparing budgeted balance sheet and it has not found in any published or unpublished documents 2005to 2013 AD.

The balance sheet of NEA has been presented in Appendix 6 from 2005 to 2013 AD and the balance sheet for FY 2068/69 is represented by the balance sheet of 2012 AD. The analysis indicates that the liabilities side of long-term loan which Rs 414745000. Thus, this amount is 62.62% of total liabilities that indicate a large amount has been paying as interest by NEA from very beginning year. Similarly, in the assets side sundry debtors and other receivable is outstandingly increasing trend in sub-sequent years. It indicates that the weakness of NEA for collecting dept. Prepaid, advance, loan and deposit also occupies 44.42% which needs to control for some extent. The current assets are greater than current liabilities which indicates that the short-term commitment able to fulfil at a right time. It also found that NEA has being maintaining its financial structure in systematic way.

5.11 PLANNING PROFIT WITH COST-VOLUME PROFIT ANALYSIS

5.11.1 GENERAL MEANING OF COST-VOLUME PROFIT ANALYSIS

The study of the relation between cost-volume and profit is referred as cost-volume profit analysis. It is considered as an analytical management tool for studying the relationship between volume of production or sales, cost, price and profit.

Cost-volume-profit analysis is based on the assumptions that cost can be categorized as fixed and variable on the basis of their behaviour; fixed cost remains unchanged within the certain period of time or level of production. Changes in the stock position at the beginning and of pre-conceived will be insignificant.

The concept of expenses variability is applied to analyze and plan the profit. Identification of cost variability is necessary for the purpose of planning and control of cost. Generally, expenses behave in two ways with relation to the volume of output. Either it changes proportionately with the level of output produced or remains constant irrespective of change in output. The study of cost behaviour will help to understand the effect on cost and profitability due to increase or decrease of volume of output.

Classification of costs into fixed and variable is very useful for planning and controlling the cost efficiently. It helps to determine desired volume of operation to maintain the Authority profitable. NEA has not been maintained any clear cut criteria about cost categorization as fixed and variable components. Instead of classifying cost into fixed and variable components, NEA prepares operation and maintenance budget in an integration way. The following table depicts the category of cost fixed and variable components for the year 2068/69.

Table 19

Classification of cost into Fixed & Variable
For the year 2068/69

S. No.	Item of Expenses	Behaviour of Cost	Amount	
			Fixed	Variable
1	Staff Expenses	Fixed	1229384	
2	Store Service	Variable		180775
3	Repairs & Maintenance	Variable		439553
4	Vehicle Maintenance	Variable		88919
5	Administrative Expenses	Fixed	28574	
6	Power Purchase	Variable		3740711
7	Royalty	Fixed	591050	
8	Interest on Long term Loan	Fixed	1161751	
9	Communication	Fixed	20266	
10	Consultancy Fees	Fixed	5175	
11	Travelling Expenses	Fixed	29447	
12	Development Expenses	Fixed	20088	
13	Interest and Financial Expenses	Fixed	3824	
14	Other Expenses	Variable	87152	
Total			3176711	4449958

Source: The budget Section of NEA

The above presented costs are based on the transaction for FY 2068/69 in which NEA has generated and purchased 2066330 units and sold 1540030 thousand units. The summarized figures required for C-V-P analysis has been expected as below:-

Total sales units ('000') = 1540030

Total sales Revenue NPR ('000') =9687645

Total Fixed cost = Rs 3176711 Thousand

Total Variable cost = Rs 4449958 Thousand

Total other income =Rs 459500 Thousand

(Assumption: Sales and production of NEA is differ, in this case, sales is considered as the basis of computation)

Calculation of variable cost Ratio (VC Ratio)

$$VCRatio = \frac{Variable\ Cost(Rs)}{Sales\ Revenue(Rs)} \times 100$$

$$= \frac{4449958}{9687645} \times 100$$

$$= 45.93\%$$

Calculation of profit- volume Ratio (PV Ratio)

$$PVRatio = \frac{Sale - Variable\ cost}{Sales} \times 100$$

$$= \frac{9687645 - 4449958}{9687645} \times 100$$

$$= 54.06\%$$

Calculation of Brake- even point (BEP) expending other income

$$BEPRs = \frac{Fixed\ cost}{PVRatio}$$

$$BEPinRs = \frac{3176711}{0.5406}$$

$$= Rs5875182\text{Thousand}$$

The above result shows that the break even point is below then actual sales revenue that indicates. There is satisfactory position of NEA in term of cost volume profit analysis. The VC ratio is 45.93% is the variable cost incurred for earning revenue of Re. 1 is Re. 0.4593. The lower VC ratio refers the organization is able to utilise its resources efficiently. The profit volume ratio indicates that the NEA earns contribution margin of Re 0.5406 by selling service of Re 1. Greater contribution signifies the efficiency of an organization to mobilize its resources.

The break even point is that level of sales where the organization neither even profit nor incurs loss i.e. It is that point, where no profit and no loss.

Now, the forecast can be made to earn expected profit for coming year (2069/70) with help of budget sales revenue for the year 2069/70 and it is Rs. 12238800 thousand. Then expected profit or loss for the FY 2069/70

under the present structure will be:

Profit = (Sales Revenue X PV Ratio)-Fixed cost

Rs = 12238800 X 0.5406 -1376711

Rs. = 5239584 Thousand

It is noted that if present cost of structure remain constant, sales revenue will be according to budget then the profit for FY 2069/70 will be Rs. 5239584 thousand. The analysis reflects that NEA's future earnings trend will be increasing if it increases its revenue.

5.12 FLEXIBLE BUDGET OF NEA

The fundamental concept of flexible budget is that all expenses are incurred because of the passage of time, output or productivity activity and a combination of time, output or activity. Flexible budgeted is a budget which by recognising the difference between fixed, Semi-fixed and variable costs is designed to change in relation to the level of activity attends. By the help of this budget, an organization able to determine the operation level by taking into consideration of the cost and profit at difference level of activity. NEA has not any practice of preparing flexible budget. It is difficult to prepare flexible budget because NEA dose not segregate the cost into fixed and variable components in systematic way. For this, the rule of cost classification is followed as cost volume profit analysis this context. The following assumptions are taken while preparing the flexible budget for the FY 2068/69.

- I. Sales revenue is assumed to increase or decrease in constant ratio.
- II. The variable cost ratio will remain constant and fixed cost will also remain unchanged.
- III. The level of activity will be chosen arbitrarily.
- IV. The capacity utilization at present is calculated on the basis of the installed capacity.

V. Time by interim period is ignored.

Table 20

Flexible Budget of NEA

For the Year 2068/69

In '000'

Particular	Level of Activity			
	35%	60%	80%	100%
Sales in units '000'	1540030	2640051	3520069	4400086
Sales Revenue Rs '000'	9687645	16607391	22143189	27678986
Less: Variable cost @ Re 0.4593	4449535	7627775	10170367	12712958
Contribution Margin	5238110	8979617	11972822	14966028
Less: Fixed Cost	3176711	3176711	3176711	3176711
Operating Profit/(Loss)	2061399	5802906	8796111	11789317

Note: The total capacity utilization by Authority is calculated as under:

Total installed capacity = 584.557 MW (A Year in Review 2011/2012)

Total production = 206.633 MW

$$\begin{aligned}
 \text{Capacity Utilisation} &= \frac{\text{Total production}}{\text{Total Installed capacity}} \times 100 \\
 &= \frac{206.633}{584.557} \times 100 \\
 &= 35.35\% = 35\%
 \end{aligned}$$

The above analysis indicates the NEA has been operating at lower capacity utilization however; it has enabled to earn positive operating profit. NEA will be able to make a substantial profit by increasing the capacity utilization. The finding also makes clear that NEA's profit is positive at low level of electric tariff other than the efficiency of an organization to utilise its resource.

5.13 ANALYSIS OF FINANCIAL PERFORMANCE OF NEA

Financial analysis is the crucial factors to know the performance of any organization. It is a tool that helps to measure the financial efficiency, which is one of the significant elements to achieve the goals and objectives of any organization. It is necessary to encourage the financial efficiency to maintain financial strength and minimise or reduce financial weakness of the organization. Since financial efficiency is vital element to achieve goals and objectives, the management of the organization is moving. The management can predict the future financial position and take corrective action before it fails if present condition in which, the Authority is running assessed. It helps to improve the financial position of the organization, if management can take corrective action in time. Therefore, each and every organization needs to analysis it's financial whether it is running efficiently, effectively and economically or not.

For the purpose of financial analysis, the commonly applied tools are ratio analysis, funds flow analysis, cash flow statement etc. The ratio analysis, the financial tool is selected among those tools in order to analysis the financial position of Authority.

Ratio analysis is a widely applied tool for financial analysis. The terms 'ratio' refers to the numerical or quantitative relationship between two variables, in terms of mathematics. A ratio refers quotient of two figures or number that is calculated by dividing one item of the relationship by other item.

The ratio analysis is a financial tool that is applied to analyze and interpret the financial statement. Profit and loss account and balance provide the basis for ratio analysis which is prepared at the end of accounting year. Profit and loss account and balance sheet are summarize statement of the data and considered static and non- descriptive in nature. Therefore, the

ratio analysis is used to analysis the meaning and interpretation of those mentioned items.

Financial performance can be measured by applying various kind of ratio however, only some major and essential ratios have been computed in this chapter which are:

- I. Liquidity ratio
- II. Activity ratio
- III. Profitability ratio
- IV. Leverage ratio

5.13.1 LIQUIDITY RATIO

This ratio is used to examine an enterprise ability to meet its short-term obligation. It indicates the short-term financial strength of the organization. Particularly, these ratios are the comparison of short-term liabilities with the resource available to discharge them. There are two types of financial ratios are applied to measure the liquidity of an organization viz. Current ratio and liquid or acid test ratio.

5.13.1.1 CURRENT RATIO

It is widely used tool to measure the liquidity position of the organization. It shows the relationship between current assets and current liabilities. The following table presents the computation of current ratio of Authority for study years.

Table 21

Computation of Current Ratio in '000'

FY	Current Assets	Current Liabilities	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5692200	4005000	1.42:1
2065/66	5053200	4786300	1.06:1
2066/67	5761100	5477200	1.05:1
2067/68	6313600	6113800	1.03:1
2068/69	7322000	5948100	1.23:1
Average	6028420	5266080	1.16:1

Source: A year in Review 2012/13

Generally accepted standard for current ratio is 2:1 that is the resources available for the payment of short-term liabilities should be double of total short-term obligation. The greater ratio refers inefficiency of an organization to properly utilise its short-term assets where as lower ratio indicates the inability of an organizations to pay its short-term obligations on time.

The above table shows current ratios below the general standard, however NEA able to pay its obligation on time. NEA has good liquidity position but not enough to pay current liabilities immediately.

5.13.1.2 QUICK RATIO

It is considered the mathematical relationship between liquid assets and current liabilities. It is also known as acid test ratio, liquid ratio or acid test ratio which measures the accurate liquidity position. Quick assets are those possessions which are in cash form or can be converted into cash immediately. They are cash, debtors, marketable securities etc. The trend and position of quick assets and current liabilities in the form of quick ratio is presented below:

Table 22

Computation of Quick Test Ratio In '000'

FY	Quick Assets	Current Liabilities	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	3067700	4005000	0.77:1
2065/66	2679000	4786300	0.56:1
2066/67	2846800	5477200	0.52:1
2067/68	2717800	6113800	0.44:1
2068/69	2949500	5948100	0.50:1
Average	2852160	5266080	0.56:1

Source: A year in Review 2012/13

The above table shows the trend of quick ratio for study years indicates that the liquidity position is not satisfactory which observed below the normal accepted standard (1:1). The management of NEA should be taken corrective action to improve the quick liquidity position as soon as possible.

5.13.2 PROFITABILITY RATIO

Profitability ratio measures the profit position of the organization. It indicates the overall efficiency of the enterprises. Some major ratios indicative of Authority's performances are as follows:

5.13.2.1 NET PROFIT RATIO

Net profit ratio shows the relationship between net profits to sales. The trend of net profit and its relationship with sales have been shown in the following table.

Table 23

Computation of Net Profit Ratio In '000'

FY	Net Profit	Sales Revenue	Net Profit Ratio
Ref.	Input=1	Input=2	(1÷2)X100=3
2064/65	202500	5173964	3.91%
2065/66	167600	5496821	3.05%
2066/67	756500	7025158	10.77%
2067/68	-1900	8377832	-0.02%
2068/69	-717400	9678645	-7.41%
Average	81460	7150484	2.06%

Source: A Year in Review, FY 2012/13

The above result shows the net profit ratio (before tax) for 5 year period which indicates positive trend for first three years and negative for 2 subsequent years. The profit was greater in FY 2066/67 but in whole analysis reflects that the trend of profit has been drastically decreasing. Thus, the management should be taken an effective correction to improve the financial health of NEA.

5.13.2.2 RETURN ON NET WORTH

It is ratio of net profit after tax to net worth. The net worth of NEA is referred to equity owned by HMG/N as well as reserve and surplus. The high ratio indicates greater return on equity capital. The following table depicts the return on net worth of NEA for study years:

Table 24

Computation of Return on Net Worth In '000'

FY	Net Profit	Net Worth	Return on Net worth
Ref.	Input=1	Input=2	(1÷2)X100=3
2064/65	173700	25788800	0.67%
2065/66	-96000	25406100	-0.38%
2066/67	185100	26323600	0.70%
2067/68	-51000	25853000	-0.20%
2068/69	-860700	24755100	-3.48%
Average	-129780	25625320	-0.54%

Source: A Year in Review, FY 2012/13

The above analysis reflects that, there is not satisfactory the position of net worth. It shows negative return on net worth due to gradually decreasing trend of profit but share capital is increasing trend. NEA has to attempt to maintain its return in term of profit. The position of return on net worth is poor for FY 2068/69 due to drastically failed in loss or negative profit.

5.13.2.3 RETURN OF TOTAL ASSET

It is a profitability ratio that sets the relationship between total assets and net profit. It is used to measure the profit after tax against the amount invested in total assets to ascertain whether the assets are being utilised properly without any misuse. Following table is tested of return on total assets for study year commencing FY 2064/65.

Table 25

Computation of Return on Total Assets In '000'

FY	Net Profit	Total Assets	Return on T. Assets
Ref.	Input=1	Input=2	(1÷2)X100=3
2064/65	173700	50642200	0.34%
2065/66	-96000	54016700	-0.18%
2066/67	185100	61956500	0.30%
2067/68	-51000	68674300	-0.07%
2068/69	-860700	72177700	-1.19%
Average	-129780	61493480	-0.16%

Source: A Year in Review, FY 2012/13

The above result reveals positive result for FY 2064/65 and 2066/67 and rests are negative return on total assets. The analysis indicates the return on total assets is vast lower performance of Authority.

The government had formulated a clear cut policy guideline toward profit for PEs during 6th five years plan. It had clearly instructed to manufacturing and trading PEs to earn at least 10% profit on investment and 7% for service oriented PEs. But up to this period, almost all PEs have been suffering from loss and losing their commitment. NEA also not got ride from problem of making profit in subsequent years. The earring of profit is not consistent with the increase of investment and self financing.

5.13.3 ACTIVITY/ TURNOVER RATIO

Activity/turn over ratio measures the relationship between sales and assets. The ratio reflects that how efficiently the organisation has been managing its available resource. This ratio is very essential for a concern to examine how profitability the facilities and resources are being disposed off. This ratio is usually computed on the basis of sales or cost of sales and is expressed in fraction percentage a ratio. The greater ratio indicates the better

performance and vice versa.

The activity ratio comprises a set of compilation viz. inventory turnover, debtors turnover average collection period, fixed assets turnover, capital employed turnover etc. for efficient and prudent performance measurement purpose, only few selected ratios have been taken in this context.

5.13.3.1 CAPITAL TURNOVER RATIO

Capital turnover ratio indicates the efficiency of capital employed in the organisation by calculation how many times the capital employed in turnover in a stated period. This ratio is computed by dividing sales by capital employed. The following table reflects the trend of capital turnover for study period commencing FY 2064/65.

Table 26

Computation of Capital Turnover Ratio In '000'

FY	Sales Revenue	Capital Employed	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5173964	33172700	0.16
2065/66	5496821	37190100	0.15
2066/67	7025158	44789700	0.16
2067/68	8377832	52067800	0.16
2068/69	9687645	58075800	0.17
Average	7152284	45059220	0.16

Source: A Year in Review, FY 2012/13

The above calculation considers capital employed is shares capital and secured long term loan. The analysis reflects the capital turnover ratio is very less. Despite of the increase of the capital employed in each subsequent year, the ratio remains constant at very significant level. It reflects that NEA is unable to make sales in satisfactory level and to utilise its capital.

5.13.3.2 WORKING CAPITAL TURNOVER RATIO

Working capital turnover ratio measures the efficiency of an organization to utilise its working capital. Working capital is the amount of current assets that is excess that of current liabilities. This is obtained by deducting current liabilities from current assets of the contemplate period. The computation of capital turnover ratio of NEA has been presented in the following table.

Table 27

Computation of Working Capital Turnover Ratio In '000'

FY	Sales Revenue	Working Capital	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5173964	1687200	3.07
2065/66	5496821	266900	20.60
2066/67	7025158	283900	24.75
2067/68	8377832	199800	41.93
2068/69	9687645	1373900	7.05
Average	7152284	762340	19.48

Source: A Year in Review, FY 2012/13

The greater working capital turnover ratio is the signal of lower investment and higher profits. The analysis from above table indicates that NEA fails to utilize its working capital in proper way. The working capital turnover ratio is higher in FY 2065/66 to 2067/68 due to the increase of current liabilities at higher proportion then the increase of current assets. The higher ratio is the signal of good profitability and effective of an organization to invest its assets in one hand is the sign of poor solvency on the other hand.

5.13.3.3 DEBTORS TURNOVER RATIO

It is used to measure the speedily of debt collection by the organization. The higher ratio indicates that organization is more efficient in collecting the debtors. This ratio is obtained by sales revenue by debtors. The following

table presents the debtors turnover ratio of NEA for 5 years commencing FY 2064/65.

Table 28

Computation Debtors Turnover Ratio In '000'

FY	Sales Revenue	Debtors	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5173964	1435400	3.60
2065/66	5496821	1530900	3.59
2066/67	7025158	1525500	4.61
2067/68	8377832	1678500	4.99
2068/69	9687645	2284900	4.24
Average	7152284	1691040	4.21

Source: A Year in Review, FY 2012/13

The above analysis reveals that the first two years is poor performance in regarding debt collection and there has been improving gradually for subsequent years. The result suggests that NEA has to take corrective action towards debt collection.

5.13.3.4 AVERAGE COLLECTION PERIOD

This tool helps to measure the average number of days required for collection cash from debtors. The following table depicts the average collection period of NEA for study years commencing FY 2064/65

Table 29

Computation Average Collection Period In '000'

FY	Days	Debtors Turnover Ratio	Average Collection Period
Ref.	Input=1	Input=2	1÷2=3
2064/65	365	3.60	101
2065/66	365	3.59	102
2066/67	365	4.61	79
2067/68	365	4.99	73
2068/69	365	4.29	85
Average	365	4.22	88

Source: A Year in Review, FY 2012/13

Note: (a) 365 days are taken as the basis of computation

(b) Days are rounded up to nearest whole number

The above analysis presents the average collection period of NEA which has obtained by dividing days in years by debtors turnover ratio. The result indicates that there is higher than normal accepted standard of 60 days. The situation is actually adverse in during the study period. The maximum collection days of Authority are 102 which indicate serous condition of debt collection of Authority.

5.13.3.5 FIXED ASSET TURNOVER RATIO

Fixed asset turnover ratio measures the number of times fixed assets are being turnover in a contemplated period. It examines how effectively fixed assets are being utilized by the organization. This ratio is abstained by dividing sales revenue by fixed assets. The following table shows the computation of fixed assets turnover ratio of NEA for the study year commencing FY 2064/65.

Table 30

Computation Fixed Assets Turnover Ratio In '000'

FY	Sales Revenue	Fixed Assets	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5173964	29891300	0.17
2065/66	5496821	31222800	0.18
2066/67	7025158	35195700	0.20
2067/68	8377832	37103700	0.23
2068/69	9687645	58538200	0.17
Average	7152284	38390340	0.19

Source: A Year in Review, FY 2012/13

The above results indicate that the assets turnover ratio remains nearly constant irrespective investment in fixed assets each year. By examination, NEA has unable to utilise its assets properly and efficiency, in sum, the fixed turnover ratio is not good or satisfactory and it is advisable to utilise its fixed assets in efficient and proper way in order to achieve the maximum satisfaction.

5.13.3.6 TOTAL ASSETS TURNOVER RATIO

It is used to examine the relationship between sales revenue and total assets. It measures the efficiency of an organisation in utilising its total available assets for sales promotion. A greater ratio is sign of good performance of well managed the available resource and lower one is the over investment of organization is valuable and scares resource in useless assets. The following table shows the computation of total assets turnover ratio for study year commencing FY 2064/65.

Table 31

Computation Total Assets Turnover Ratio In '000'

FY	Sales Revenue	Total Assets	Ratio
Ref.	Input=1	Input=2	1÷2=3
2064/65	5173964	50642200	0.10
2065/66	5496821	54016700	0.10
2066/67	7025158	61956500	0.11
2067/68	8377832	68674300	0.12
2068/69	9687645	72177700	0.13
Average	7152284	61493480	0.11

Source: A Year in Review, FY 2012/13

The above analysis indicates the sales revenue as well as total assets is in increasing trend. The Authority has become successful to maintain its total assets turnover somehow constant. However, the theoretical point of view, the total assets turnover ratio should be two times of sales, Authority fails to achieve the standard level.

By the examination of various turnover ratios it can be observed that sales revenue and investment are increasing trend but NEA has been failed to achieve the targeted turnover ratio in almost every aspects.

5.14 FINDING

NEA encountered numerous internal and external difficulties in its process of formulating and implementing profit plans by analysis and observing the various functional budgets, their achievement, various analyses and the analysis of financial position. Though, the formulating technique of budget is observed satisfactory in comparison with its committed resource the achievements aspect is indicated its weakness. The overhead expenses are in increasing trend which necessary to control some extent. Utilization assets are major consideration of NEA which has been bearing high cost that

ultimately affected in profit. Being a public utility concern, it has to follow regarding rules and regulation of HMG as well as pay attention towards the satisfaction of its customer. A micro analysis of NEA's functional budget, financial statement, achievement and other practices in administration signifies that NEA has some difficulties still to be solved and somewhere better performance than expectation.

The C-V-P analysis shows the financial position is satisfactory. NEA enable to earn sufficient operating profit if it increases its operating capacity level which has been only installed 35.35 % as per flexible budget. There is a gap between the tariff rate for export and domestic sales in NEA. The export tariff rate should be discouraged to increase revenue. The damage to its assets, disturbance in development works, deteriorating industrial performance by Maoist insurgents consequently drop in its revenue and burden of high cost of internal power purchase energy all collectively affected its financial health. The following major findings are extracted from NEA on the basis of various analysis, observation and discussions with authentic sources and published documents:-

1. Budgeted sales are more variable than actual sales.
2. Budgeted production is more fluctuating than actual production.
3. Actual sales and actual production are significantly inconsistent.
4. Authority formulates various functional budgets as a part of comprehensive profit plan.
5. NEA has been running at a loss except FY 2064/65.
6. NEA has been paying a large amount of interest on long term loan.
7. Power leakage is significantly high in NEA.
8. The communication systems of NEA does not have effective to convey its goals objectives to the lower level staff.
9. There is the lack of co-ordination between various responsible departments.

10. Receivable is increasing trend for study years.
11. Lower level staffs are negligible in matter of planning and decision making process.
12. NEA has not any practice of cost segregation rather put it under single roof operation and maintains cost which creates burden to analytical aspect.
13. There is not separate responsibility centre for costing and it lacks dynamic and effective cost controlling schemes.
14. NEA fails to maintain its periodic performance report systematically.
15. NEA has introduced Information Technology (IT) in order to enhance its organisational efficiency, Computer software for computerised Accounting and Inventory system as well as Personnel Data Bank.

CHAPTER - SIX

6 SUMMARY CONCLUSION AND RECOMMENDATION

6.1 SUMMARY

Public, enterprises were emerged in both developmental as well as under developed countries as the strong and effective carriers of developmental activities. Despite of the increasing importance of private sector participation in the areas of manufacturing services, construction and such other fields and the trend of world's economy towards liberalisation, globalisation and privatisation public enterprises still occupied a substantive role as the vehicles of development in the nation like Nepal. The role and importance, of public enterprises in the infrastructure development in the nation is still vital because of initiative.

The main objectives of public enterprises should be to generate a fair rate of return on investment along with the quantitative as well as quantitative service to the general public. But most of the Nepalese manufacturing public enterprises do not set clear out objectives and specific goals. The ambiguity in objectives setting it conspicuous due to the lack of clear and unidirectional policies and procedures. Although all most every public enterprise has trained experienced manpower in field of planning, they lack initiative motivation and expertise in doing their jobs.

Profit planning and control is one of the most important management tools which helps to plan and control of business operation effectively. Profit planning really helps to achieve objectives and goals. Profit is one of the most important objectives of an organisation. In absence of profit, organisation cannot achieve its objectives within the time span.

Profit planning can be taken as a life blood of the organisation cannot achieve its objectives effectively, efficiently and economically in absence of profit planning. Profit plans can be divided into two categories. One is

short-term profit plan which is also known as tactical profit plan and the another is long term profit plan which is also known as strategic profit plan. The tactical profit plan covers the time Spain of one fiscal year and the strategic profit plan covers the period 5 to 10 or more years.

New initiatives by NEA the sole public sector under taking in power sector, together with the government's plan and policies and participation by private sector has given positive looks towards the future electricity development.

The past experience and growth in technical capabilities through production of highly qualified technical personnel have given the much needed confidence to undertake initiatives.

The main objectives of the present study is detailed examine the current practice and application of detailed and systematic approach of PPC and its effectiveness of NEA. The study also absorbed how far the functional budgets are applied as tools for PPC.

6.2 CONCLUSION

After in-depth and detail analysis, the present practice of profit planning in the Nepal electricity Authority, this study concludes the following points:

1. Rapid development of electricity sector is a must for accelerated national development. However, we have not been able to accelerate the rate of development in electricity sectors. Weak infrastructure and limited investment capabilities remain the major impediments in the development of power sectors.
2. The liberalisation policy that has attracted the private sector has created an atmosphere where the pressure for raising money for generation and expenses of electricity is now partially shouldered by the private sector as well. But what discourages is the fact that the private sector interest is still confined to the more lucrative

generation and whole selling of energy.

3. NEA prepares tactical as well as strategic profit plan but strategic plan is confined only top level management.
4. NEA prepares both functional and financial budget as components of profit plan. The main functional budgets are sales budget, purchase and generation budget, operation and maintain budget and personnel budget; and financial budgets are capital expenditure budget, cash flow budget and budgeted profit and loss account.
5. The statistical tools indicate that there is perfect correlation between actual sales and budgeted sales as well as actual production with budgeted production.
6. NEA has vast gap between actual sales and actual production. It refers that NEA has not able to sell available electricity.
7. There is no proper or systematic way to classify the cost. It consolidates all expenditure pertaining to manufacturing, administrative, salary and distribution under single roof as operation and maintains expenditure budget.
8. NEA has introduced Information Technology (IT) in order to enhance its organisational efficiency, Computer software for computerised Accounting and Inventory system as well as Personnel Data Bank.
9. Losses of electricity remain higher in Nepal then in any other countries of South Asia. Non-technical (commercial) losses arising from pilferage of electricity and other unauthorised use forms a sizeable percentage of the total system losses.
10. The operating cost is creating a drastic problem due to payment of the huge amount as interest on long term loan.
11. NEA has drastically running at loss. By absorbing its profit and

loss account only for FY 2066/67 succeed to make profit.

12. There is the absence of effective utilisation of assets. In comparisons with the amount tied up in total assets, assets turnover ratio is very poor.
13. By the financial analysis all must all results has been observed adverse position.
14. Increasing cost in each fiscal year in another remarkable matter for NEA. It has not adopted any cost control measures.
15. The accumulated amounts of account receivable are increasing trend which denotes the inefficiency of the NEA to collects its revenue in time.
16. NEA has not adequately considered controllable and non-controllable variable affecting the organisation.
17. The proportionate increase of expenditure is higher than the proportionate increase of sales Revenue.
18. The proportionate increase of profit is less than the proportionate increase of investment.
19. NEA fails to utilise its cash balance in proper way.
20. BE analysis shows that the break even sales are lower than actual sales which are the signal of good operational situation.
21. NEA ignores C.V.P. analysis while developing the sales plan and pricing strategy.
22. There is a lack of proper co-ordination among various directorates and departments.
23. NEA fails to analysis its strengths, weakness, opportunities and threat in-depth though, it has been facing competition from independent power producers and suppliers, and it has not yet made assessment of its present prospects and future potentiality seriously.
24. The Authority has been facing some difficulties in profit planning

system. Management is in the lack of adequate knowledge about the following fact: - nature and content of profit planning, corporate planning, participatory management, evaluation and broad and long-range objectives and co-ordination system in the organisation. For this, there is the need of change in NEA's management system.

6.3 RECOMMENDATIONS.

Based on the above study, the following suggestions are recommending improving the formulation and implementation of comprehensive profit planning and control system of NEA:-

- 1) The past experience with independent power producers in concluding power purchase agreements has brought to lack of transparency on the part of independent power producers. A public - private partnership in generation and distribution could therefore be vouched as an appropriate model to ensure greater transparency.
- 2) NEA should restructure its capital structure and should emphasis the internal financing to avoid burden of high cost (interest) on long term loans by issuing share capital.
- 3) NEA should develop the efficient system for revenue collection. It should formulate a well defined rules and regulations pertaining to revenue collection and if customer of any category delays or denies, it should be charged penalty. In respect of revenue collection, any kind of pressure nepotism and biases should strictly be under mined.
- 4) NEA should stress on efficient control over costs. The widely accepted controlling tools such as standard costing should be applied and separate cost centre should be established.
- 5) NEA develops its overhead budgets in a systematic and scientific way. All expenses related with production and purchase of power

should be comprised direct overhead or manufacturing overhead and similarly, administrative overheads and selling and distribution overhead should be classified systematically.

- 6) Electricity generation projects should be selected strictly based price of low generation cost priority basis and there should be a justifiable limit in share of investment for infrastructure facilities. Distribution projects should be also be implemented based upon relatively low power delivery cost and high potential load density for industrial growth and irrigation uses.
- 7) Industrial strengthening of electric utilities should be implemented to reduce system losses, corruption and to achieve proper revenue recovery. Special measures should be implemented for economic operation of power system. It is recommended to manage all the distribution transaction of the utilisation through private operation or co-operatives to minimize system losses and cost operation.
- 8) Technical executives of NEA should be encouraged to undergo business administration courses (short-term or degree) so as to make them better prepared to work in business environment. The management should provide due recognition to the importance of such training.
- 9) NEA should stress on efficient utilisation of fixed assets. Such amount should not be tied up haphazardly in plant and high cost assets. For this, NEA should apply capital budgeting tool more effectively. The sales revenue should be generated in comparison with the fixed cost amount tied up.
- 10) NEA should increase it operating capacity for all plants and projects. Construction and designing of power plants should be reviewed and technically expert personnel should be involved.
- 11) NEA should stress on power generation within the country by itself

rather than purchased from India. For this, it should invest its earning in small hydro project which are feasible and financially attractive.

- 12) Cost volume profit analysis should be considered while formulating profit plan and the NEA should be accustomed with flexible budget system.
- 13) Variance analysis should be applied in effective way to control operating activities. Valance should be classified favourable and adverse and causes for adverse should be diagnosed and identified timely. Controllable adverse various should be controlled in time the respective officials should be made responsible for and discrepancy.
- 14) Liquidity position of NEA has not been satisfactory. Therefore, it should maintain its liquidity position in adequately.
- 15) Tariff fixation process should be more progressive and transparency. Electricity distribution should be more flexible easy and under access of consumer.
- 16) NEA should apply it Information Technology (IT) to enhance its organisational efficiency more appropriate manner.
- 17) There should be proper co-ordination among different departments and directorates. There should be encouraged in participation in planning objectives setting and implementation for lower level staff.
- 18) NEA should develop the culture of maintaining periodic performance report of its activities. The budgeted targets and actual achievements should be frequently reviewed through performance reporting and unfavourable gap should be minimised to a greater extend.
- 19) Uses of local manpower and indigenous low cost material should be promoted in electricity generation, transmission and distribution

projects. Special codes of construction should be developed to make power projects cost effective. Initiations should be taken for domestic production of electric materials and machinery within the country.

- 20) Measures should be taken to upgrade standard of local consultants to share and replace use of light cost foreign consultations in power projects.
- 21) Norms for prices of materials, equipments, machinery and work for generation, transmission and distribution projects should be developed prices of inventories bought even through limited tenders must be complied with such norms. Projects developed through grants should be revaluated as per such norms.
- 22) Small and medium hydro projects with low cost should be encouraged and major hydro projects should be launched by private sector. Private sector should be attracted to invest in hydro project. If necessary, amendment should be made in existing rules and regulations.
- 23) The political interference and the role of interest group (political party wise union) should be strictly sought out. Also government involvement in minor cases such as employees appointment, extension of transmission line to unprivileged sectors, revenue collection etc. should be discouraged. It should be granted with full autonomy in making its policy decisions.
- 24) NEA should be well familiar with its strengths as well as weakness and it should not be indifference about its competitors. Because of the liberalised power companies may enter the market and abruptly the Authority will have to manage itself to face the competition. That's way, the Authority should be aware of the effective corporate planning system and strategic management.

- 25) Highly qualified, dynamic and energetic skill inventory should be made by the Authority. Staff should be properly and without bias trained, motivated and higher study opportunity should be provided. Similarly, refreshment system should be applied for staffs without any prejudice. Staffs should be given the theme that 'Customer is God'.
- 26) To make profit planning system more efficient and progressive, the effective implementation of management system is very essential. There should be timely evaluation of relevant variations. Moreover, managerial involvement, organisational adaptation, responsibility accounting, full communication, realistic expectations, time dimension, flexible application, behavioural view point and follow up programs should be made more effective, productive and result oriented.

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Appendix 1

Computation of Arithmetic Mean, Standard Deviation & Coefficient of Variation & Correlation Coefficient

Budgeted Sales & Actual Sales in Unit '000,000'

FY	Budgeted Sales (X)	Actual Sales (Y)	$\frac{X-\bar{X}}{\bar{X}}=u$	$Y-\bar{Y}=v$	$(X-\bar{X})^2=u^2$	$(Y-\bar{Y})^2=v^2$	uv
2064/65	1031.308	1051.429	-280.91	-224.858	78910.4281	50561.12016	3989799637.357
2065/66	1112.886	1113.576	199.332	-162.711	39733.2462	26474.86952	1051932509.426
2066/67	1242.879	1269.274	-69.339	-7.013	4807.89692	49.182169	236462.799
2067/68	1531.516	1407.127	219.298	130.84	48091.6128	17119.1056	823285398.066
2068/69	1642.5	1540.03	330.282	263.743	109086.2	69560.37005	7588076406.128
N=5	$\Sigma X=$ 6561.089	$\Sigma Y=$ 6381.436	$\Sigma u=-$ 0.001	$\Sigma v=$ 0.001	Σu^2 =280629.384	Σv^2 =163764.6475	Σuv =13453330413.776

1. Computation of Mean

For Budgeted Sales,

$$\begin{aligned}\bar{X} &= \frac{\sum X}{N} \\ &= \frac{6561.089}{5} \\ &= 1312.218 \text{ '000000'}\end{aligned}$$

For Actual Sales,

$$\begin{aligned}\bar{Y} &= \frac{\sum Y}{N} \\ &= \frac{6381.436}{5} \\ &= 1276.2872 \text{ '000000'}\end{aligned}$$

2. Computation of Standard Deviation

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{1}{N} \sum (X - \bar{X})^2} \\ &= \sqrt{\frac{1}{5} \times 280629.384} \\ &= \sqrt{56125.87671} \\ &= 236.909 \text{ '000000'}\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{1}{N} \sum (Y - \bar{Y})^2} \\ &= \sqrt{\frac{1}{5} \times 163764.6475} \\ &= \sqrt{32752.9295} \\ &= 180.978 \text{ '000000'}\end{aligned}$$

3. Computation of Co-efficient of Variation

$$\begin{aligned}\text{C.V.} &= \frac{S.D.}{\bar{X}} \\ &= \frac{236.909}{1312.218} \times 100 \\ &= 18.05\%\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \frac{S.D.}{\bar{Y}} \\ &= \frac{180.978}{1276.287} \times 100 \\ &= 14.18\%\end{aligned}$$

4. Computation of Karl Person's Correlation of Coefficient (r)

$$\begin{aligned}\text{Correlation between } r_{xy} &= \frac{\sum uv}{\sqrt{u^2 X v^2}} \\ &= \frac{13453330413.776}{\sqrt{280629.384 \times 163764.6475}} \\ &= 0.99\end{aligned}$$

5. Computation of Probable Error:

$$\text{P.E.}(r) = 0.6745 \times \text{S.D.}(\sigma)$$

$$\begin{aligned}\text{and S.D.}(\sigma) &= \frac{1 - r^2}{\sqrt{n}} \\ &= \frac{1 - (0.99)^2}{\sqrt{(5)^2}} \\ &= 0.006\end{aligned}$$

Appendix 2

Computation of Arithmetic Mean, Standard Deviation & Coefficient of Variation & Correlation Coefficient

Budgeted Production & Actual Production in Unit '000,000'

FY	Budgeted Production (X)	Actual Production (Y)	$X - \bar{X} = u$	$Y - \bar{Y} = v$	$(X - \bar{X})^2 = u^2$	$(Y - \bar{Y})^2 = v^2$	uv
2064/65	1419	1373.17	-309.57	323.704	95833.5849	9386.315689	10041853156.765
2065/66	1462.76	1475	-265.81	221.874	70654.9561	39486.85637	3478207257.286
2066/67	1605.81	1701.45	-122.76	4.576	15070.0176	180763.5766	315562.793
2067/68	1989.69	1868.42	261.12	171.546	68183.6544	350621.4897	2006510635.102
2068/69	2165.606	2066.33	437.036	369.456	191000.465	624167.9418	26071131075.627
Total	$\sum X = 8642.866$	$\sum Y = 8484.37$	$\sum u = 0.016$	$\sum v = 0$	$\sum u^2 = 440742.678$	$\sum v^2 = 319959.0573$	$\sum uv = 41598017687.573$

1. Calculation of Mean

For Budgeted Production,

$$\begin{aligned} \bar{X} &= \frac{\sum X}{N} \\ &= \frac{8642.866}{5} \\ &= 1728.573 \text{ '000000'} \end{aligned}$$

For Actual Production

$$\begin{aligned} \bar{Y} &= \frac{\sum Y}{N} \\ &= \frac{8484.37}{5} \\ &= 1696.874 \text{ '000000'} \end{aligned}$$

2. Calculation of Standard deviation

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{1}{N} \sum (X - \bar{X})^2} \\ &= \sqrt{\frac{1}{5} \times 440742.678} \\ &= \sqrt{88144.53} \\ &= 296.898 \text{ '000000,} \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{1}{N} \sum (Y - \bar{Y})^2} \\ &= \sqrt{\frac{1}{5} \times 319959.0573} \\ &= \sqrt{63991.811} \\ &= 252.966 \text{ '000000'} \end{aligned}$$

3. Calculation of co-efficient of variation

$$\begin{aligned} \text{C.V.} &= \frac{\text{S.D.}}{\bar{X}} \\ &= \frac{296.898}{1728.573} \times 100 \\ &= 17.18\% \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \frac{\text{S.D.}}{\bar{Y}} \\ &= \frac{252.966}{1696.874} \times 100 \\ &= 14.91\% \end{aligned}$$

Appendix 3

Computation of Arithmetic Mean, Standard Deviation & Coefficient of Variation & Correlation Coefficient

Actual Production & Actual Sales in Unit '000,000'

FY	Actual Sales (X)	Actual Production (Y)	X-X=u	Y-Y=v	(X-X) ² =u ²	(Y-Y) ² =v ²	uv
2064/65	1051.429	1373.17	-260.79	96.883	68010.9025	9386.315689	638371801.356
2065/66	1113.576	1475	-198.64	198.713	39458.6442	39486.85637	1558097814.619
2066/67	1269.274	1701.45	-42.944	425.163	1844.18714	180763.5766	333361862.566
2067/68	1407.127	1868.42	94.909	592.133	9007.71828	350621.4897	3158299602.383
2068/69	1540.03	2066.33	227.812	790.043	51898.3073	624167.9418	32393259680.35
Total N=5	$\sum X =$ 6381.436	$\sum Y =$ 8484.37	$\sum u$ =179.65	$\sum v =$ 2102.935	$\sum u^2 =$ 170219.759	$\sum v^2 =$ 1204426.18	$\sum uv =$ 38081390761.276

For Actual Production,

For Actual Sales

$$\bar{X} = \frac{\sum X}{N}$$

$$\bar{Y} = \frac{\sum Y}{N}$$

$$= \frac{6381.436}{5}$$

$$= \frac{8484.37}{5}$$

$$= 1696.874 \text{ '000000'}$$

$$= 1276.287 \text{ '000000'}$$

2. Calculation of Standard deviation

$$S.D (\sigma) = \sqrt{\frac{1}{N} \sum (X - \bar{X})^2}$$

$$S.D. (\sigma) = \sqrt{\frac{1}{N} \sum (Y - \bar{Y})^2}$$

$$= \sqrt{\frac{1}{5} \times 170219.759}$$

$$= \sqrt{\frac{1}{5} \times 319959.0573}$$

$$= 252.966 \text{ '000000'}$$

$$= 180.978 \text{ '000000'}$$

3. Calculation of co-efficient of variation

$$C.V. = \frac{S.D.}{\bar{X}}$$

$$C.V. = \frac{S.D.}{\bar{Y}}$$

$$= \frac{252.966}{1696.874} \times 100$$

$$= \frac{252.966}{1276.287} \times 100$$

$$= 14.91\%$$

$$= 14.18\%$$

4. Computation of Karl Person's Correlation of Coefficient (r)

$$\text{Correlation between } r_{xy} = \frac{\sum uv}{\sqrt{\sum u^2 \sum v^2}}$$

$$= \frac{38081390761.276}{\sqrt{170219.759 \times 1204426.18}}$$

$$= 0.99$$

Appendix 4

SUPPLEMENTARY RESEARCH QUESTIONNAIRES

NAME OF RESPONDENT:

POSITION:

DEPARTMENT:

Please tick as (✓) on the one or more options and fill in the blanks as per required properly.

1. Would you mention the short term and long term objectives of the NEA?
Short term:
 - (a)
 - (b)
 - (c)
 - (d)Long term:
 - (a)
 - (b)
 - (c)
2. Would you mention the financial position of the NEA?
 - (a) Very good
 - (b) Good
 - (c) Satisfactory
 - (d) Poor
3. If poor, would you mention the causes?
 - (a)
 - (b)
 - (c)
4. Would you state which department is responsible for profit planning in NEA?
 - (a) Planning Department
 - (b) Finance and Account Department
 - (c) Corporate Finance Department
 - (d) Other
5. Would you mention the periods covered by profit planning in NEA?
 - (a) Long term (Strategic) Planning in Years
 - (b) Short term (Tactical) Planning in Months
6. Would you mention, to what extent planning is communicated?
 - (a) Top level only
 - (b) From top to middle
 - (c) From top to lower
 - (d) More than one
 - (e) Others
7. Would you mention the major problem faced by NEA?
 - (a)
 - (b)
 - (c)

- (d)
8. Who formulates the sales budget?
- (a)
- (b)
- (c)
- (d)
9. Would you state the methods are used for sales forecasting?
- (a)
- (b)
- (c)
10. Would you mention the average collection period?
- (a)
- (b)
- (c)
11. Who determine the tariff rate?
- (a)
- (b)
- (c)
12. What are the bases of production budget?
- (a) Sales budget
- (b) Last year production budget
- (c) Capacity of NEA
- (d) Others
13. What are the bases of segregation cost i.e. fixed and variables?
- (a) High low method
- (b) Statistical method
- (c) Others
14. Would you mention the wages payment system?
- (a) Daily basis
- (b) Monthly basis
- (c) Piece work basis
- (d) Others
15. What evaluation criteria are used to evaluate major capital expenditure?
- (a) PBP
- (b) ARR
- (c) NPR
- (d) IRR
- (e) PI
16. Would you mention, what are the performance evaluation systems adapted by NEA?
- (a) Ratio Analysis
- (b) CVP Analysis
- (c) Flexible Budget
- (d) Standard Costing
17. Would you mention, the chief steps should be taken to improve the profit planning system in the NEA?
- (a)
- (b)
- (c)
- (d)

Appendix 5
Budgeted Profit & Loss Account of NEA for FY 2068/69

In '000'

Particulars	Budgeted Amt.	Revised Amt.
Income:		
Sales of Electricity (Internal)	10875396	9746400
Export to India	646000	574493
Total Sales	11521396	10320893
Less: Rebate/Discount on Sales	(200748)	(224460)
Net Sales	11320648	10096433
Income from Other Sources	525000	670000
Total Income	11845648	10766433
Expenses		
Staff Salary & Allowances	1243307	1308047
Fuel Expenses	90250	105824
General Operation & Administrative Expense	809003	821101
Power Purchase	4600000	4692019
Royalty	614100	603500
Depreciation	2450000	2200000
Differed Expenses/ Write off	200000	422390
Bonus		20000
Less: Capitalized Overhead	(40000)	(35000)
Total Operating Expenses	9966660	10137881
Operating Income/Loss	1878988	628552
Adjustment of Previous Years	(50000)	(50000)
Interest on Long-term Loan	(2174400)	(1164669)
Transferred from Revaluation	1109000	1000000
Income/Loss Before Tax	763588	413883

Appendix 6
Budgeted Cash of NEA for FY 2068/69

In '000'

Particulars	Budgeted Amt.	Revised Amt.
Receipt:		
Opening Balance	625547	1039291
Adjustment Opening Balance		(70000)
Electricity Sales	10369256	9244592
Income form Other Sources	400000	550000
Interest and Other Income	125000	120000
Others: Short term Loans		500000
Received from HMG/N:		
(a) Receivable from Street Light	160000	
(b) Development Budget		
1. Local Sources	732800	626941
2. Rural Electrification	425000	375364
3. Foreign Sources	7243805	4873480
Total Cash Available A	20081408	17259668
Payment		
Operating Expenses	2097093	2214457
Interest on Long-term Loan	1250000	953051
Capital Expenses	716243	502186
Rural Electrification	425000	425000
Investment in HMG owned Projects:		
(a) Source of NEA	1310481	851526
(b) Source of HMG/N	732800	626941
(c) Foreign Sources	7243805	4873480
Payment of Long-term Loan (installment)	300000	380000
Payment of Short-term Loan with Interest	201750	201750
Royalty	400000	473235
Income Tax	150000	709200
Loan Fund Release	50000	36000
Purchase Budget (net)	84700	127500
Contingency Fund	224000	193065
Refund for HMG release	78200	78200
Power Purchase	4170000	4123559
Property Insurance Premium	50000	
Pension & Gratuity	60000	
Total	19544072	16769150
Surplus/Deficit	537336	490518
Minimum Balance	(500000)	(500000)
Net Surplus/Deficit	37336	(9482)