CHAPTER -I

INTRODUCTION

1.1 Background of the Study

Nepal is a landlocked country with a total area of 147,181 sq. km., situated between 26°.22' north 30°27' north latitudes and 80°4' east 88°12' east longitudes resembling with roughly rectangular in shape.

Nepalese economy is underdeveloped compared to the giant and rapidly progressive economics of two neighbors. Northern neighbor has exhibited the highest and one digit growth throughout the past decades and aspires for a double digit in the near future. Similarly, the neighbor in the south with open boarder bearing close culture and social ties since ages has made as attractive growth nearly equivalent to the northern neighbor.

Nepal is a developing country with per capita income of $ 473. The population living below poverty live is 24.8%. Nepalese economy in the F/Y 2010/2011 is expected to grow at 3.5% as against 4.7% of the F/Y 2009/2010 (http://www.indexmundi.com/nepal/gdp_real_growth_rate.html).

There are no two opinions that sustainable growth can be achieved through the development of industrialization. In economic development of the country like Nepal, industrialization is the most essence element of rapid economic development. Industrialization increases the value of agricultural products and helps to shift labor force from agriculture to industries.

Nepal has insufficient physical infrastructure and resources. But the important is that the reason behind Nepal's under developed is due to lack of proper utilization of available resources. For the productive and effective utilization of resources, there must be proper plan and control system. Profit planning and control is important tool for the same purpose, which helps to achieve desired goals and objectives according to its plan and control standard.

Management is essential for every types of organization. Management is the process of planning, organizing, directing, controlling and coordinating effectively, efficiently and economically to achieve the goal and objectives of an enterprise, organizations may be viewed as the total management effort operating in an application of selected techniques and procedures and the motivation of industrial and group to accomplish specified objective. Management manage every aspects of organization, planning enables manager to achieve confidence in its ability establish realistic objectives and to device efficient strategies to attain those objectives. The first essence of management is planning. NO firm can get its goal and objective without proper plan. All the functions of management are performed within the framework of planning. So, it is known as sole concept of enterprises, whether it is large size or not. Planning is generally recognized as the most difficult task facing by the manager and it helps manager to take right decision at right time, efficiently effectively and economically. It is a continuous process and life blood of any organization because a firm can get hardly success without presentation of proper and scientific planning.

“Income is to state it as increase in the net worth of the business arising out of business operations. Income increases the net worth of business. On the other hand, any loss incurred by the business will result in a decrease of the net worth of business. Business income might be described as the maximum amount of resources that could be distributed to the owners over a given period of time and leave the business as well off at the end of that period as it was at the beginning " (Walter, Meigs and others, 1991: 90).

“The term expenditure is useful only for the current year. In other words, no use can be derived out of it in the future period. If it is fund that a portion of an item can be use in the future period then to that extend it is not treated as expenditure. This means that the term expenditure has been used in the same sense in which we have so far used the term expenses” (Gupta & Radhasdamy, 1999:434).

1.2 Historical Background of Electricity Development in Nepal

The development of electricity in Nepal based on the development of hydropower ,the development of this infrastructure has been essentially carried by the government but the private sector was recently also contributed and set a qualitatively important footing in this sector . There have been several government organization through the development is considered. The first project is Pharping, which was established in 1911 A.D. (1968 B.S.) with the capacity of 500 KW. Then second project is Sundarijal established in 1935 AD with the capacity 640 KW. In 1940 some small project with capacities around 100 KW began with separate operations from others, the Morang Hydropower Company was established. It was followed by the Birgunj Electric Supply Company and the Dharan Electric Power Company. The first step of institutional development within the ministry of water resources, which was organized with the specific role to developed electricity in Nepal. In the second 3 year plan (1962 - 1965) the Nepal Electricity Corporation (NEC) was established on August, 18th, 1962 as public enterprises to undertaken marketing and development electricity as better way. In 1975 Small Hydro Development Board was established to cover the specific sub sector of hydro power in the remote & rural areas and to development hydro power range between 100-500 KW because to keep a part rural area, promoting their electrification while suddenly coming the difficulties of electricity transmission to remote & different local situation. In 1976 Water and Energy Commission (WEC) was established with direct dependence from the ministry f water resources. This body has an advisory function toward the government policy mater and for the coordinator to develop of water and energy resources. After then an executive board was created in 1989. The Water and Energy Commission secretarial (WECS) to work out the policy recommendation for the Water and Energy Commission (WEC) (Manandhar, 2052:156).

"During the sixth five year plan (1980-1985) because of the poor performance of public enterprises, the government came out with a new corporate policy with the intention for better performance, modifying operational principle toward commercial principles. So that as for policy analyzing similar PEs. In this context setup single the institution responsible for the power sector, the NEA was established by government". (6^{th} year plan of Nepal).

1.3 Significance of Hydro-Electric Power in Economy

Electric energy has an important role to play in the economic development of a nation. On the one hand, the availability of electricity is a basis of overall development and on the other hand the consumption of electricity is regarded an indicator of economic situation in the country. Hence, for the supply of electricity that plays an important role in the overall development of the nation. It has become necessary to change existing immense quality of water resources into electricity. It can be suggested that there is an ample opportunity and potentiality for hydropower development in Nepal. Since energy plays an important role in the balance development of agriculture, industry and other sector nit is essential to supply energy in affordable price and utilized it effective. Undoubtedly, energy development is an immense for balanced development of the nation. Since large amount of financial investment is needed for the development of energy sector, maximum utilization of available financial resources is essential.

1.4 Overview of Butwal Power Company

The history of BPC started in 1963 when Butwal Technical Institute (BTI) was founded to provide industrial training for young Nepalese with assistance from United Mission to Nepal.

Mr. Odd Hoftun , who came to Nepal in 1958 all the way from Norway, is the person behind this concept for the development for providing full set of services through these organization in hydro-power field. The Butwal Power Company was established in 1966 when total capacity of the power in the country was only 3.45 MW. BPC with assistance from the United Mission to Nepal, Tinau project was developed in 1967 to light of the town Butwal and to promote industrial development in the area.

BPC is not only designed and constructed but also owns and operates the 12 MW Jhimruk Hydropower plant and the 5.1 MW Andhikhola Hydropower plant. The

company supplies power to the national electricity grid and also lights up 22000 local households.

During the project development of Andhikhola and Jhimruk , the Butwal Power Company has participated in the establishment of numerous organizations, including Himal Hydro and General Construction Ltd. in 1978; Nepal Hydro and Electric P. Ltd. in 1982, and Hydro Lab Pvt. Ltd. in 1999. Established an engineering consulting wing BPC Hydro consult within BPC in1986 to provide services in hydropower, water, irrigation and environment sector.

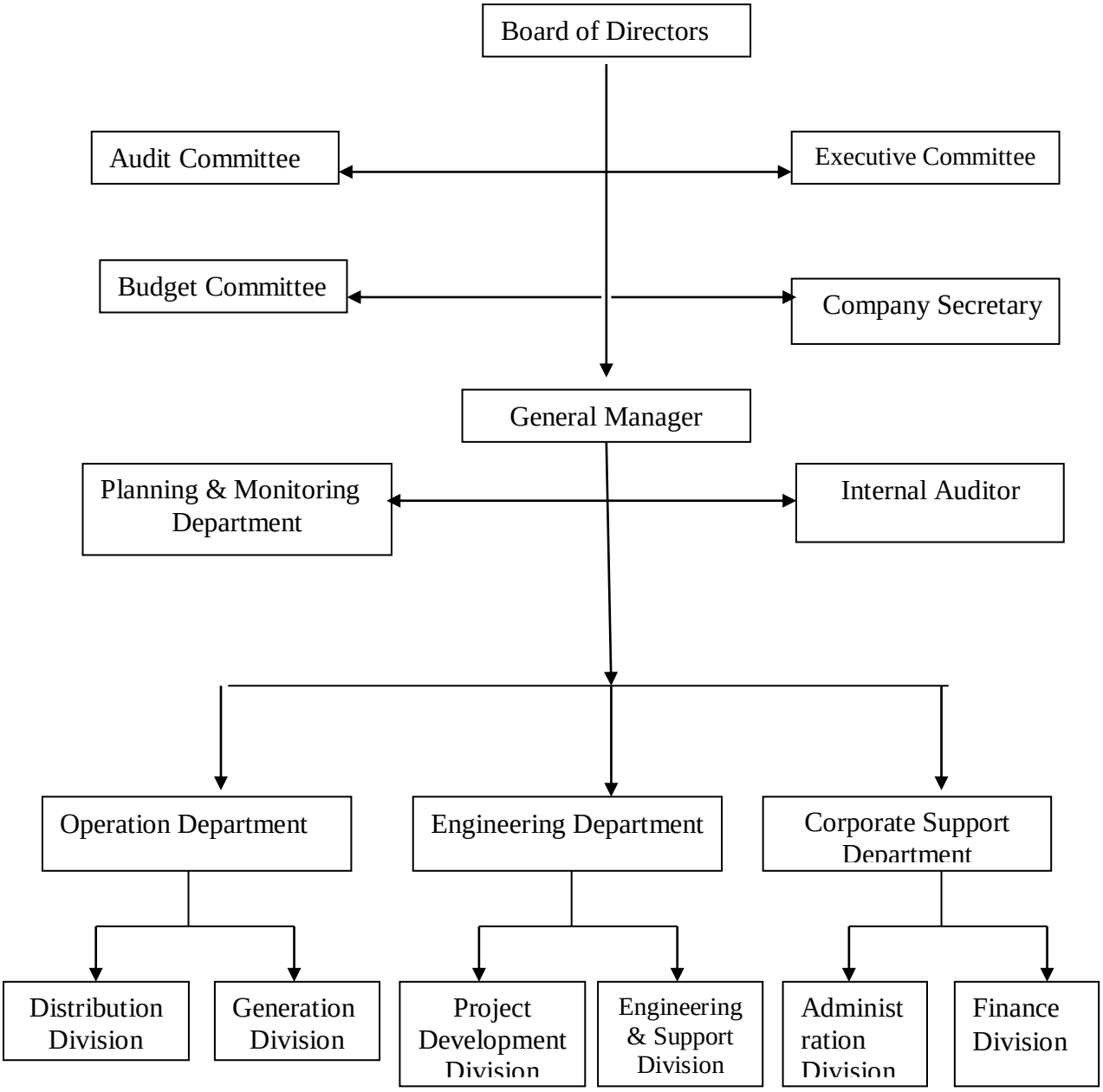
BPC also established Jhimruk Industrial Development Centre Pvt. Ltd. in 1998 to mitigate the impact of Jhimruk Hydroelectric project. The aim of establishing all these companies is to provide all necessary services from design and construction to operation of power plants including contribution to community development.

Similarly, BPC together with the Norwegian companies Stsrkraft SF, Alstom power and GE energy established Himal power limited in 1993 to develop, build own and operate 60 MW Khimti I Hydropower project. This is the first significant hydropower project fully commercially financed and has major investment from international investors.

BPC was privatized in 2003. With the privatization, the main shareholders of BPC are private shareholders Nepal as (Shangri-la Energy limited and inter kraft Norway) public and the ministry of water recourse of Nepal Government. The shareholders of BPC are; Shangri-la Energy limited with 68.95%, public 10%, Nepal Government 9.09%, Inter kraft Nepal as 6.05%, employees 2% Nepal electricity Authority 1.06% and Nepal industrial Development Corporation 0.06%. This is a very good example of public, private Government and employees' ownership.

With the vision to provide quality and competitive service to its consumers, BPC has the mission of supplying electricity within its distribution are in Nepal and expand its distribution to feasible areas, plan build, acquire own and operate electric power plants as well as purchase electricity meet its electricity needs, make strategic investments to support its interests, supply affordable electricity, and render professional services in its areas of expertise. (Annual report of BPC, 2065/066)

Organizational Chart



(Ackoff, 1970:35)

1.5 Importance of the study

Though various research studies are done under this topic of "Profit Planning of NEA" (Nepal Electricity Authority), but, few of the researchers are research in private

sector Electricity Company. So, this study is focused to study the management of income and expenditure of BPC. From few years NEA is running in loss, where as private sector electricity companies are in profit. So, this study is also helpful to find out the reasons of so vast difference between private and public sectors. This study will be important for the industry involved in electricity generalizes supply as this is focused to find out the profitability management of concerned involved with electricity generation and supply.

1.6 Statement of Problem

Despite of almost guaranteed market for power generated BPC income cannot be justified. It shows that management of income and expenditure is not effective. So in the proposed study management aspects of income and expenditure is going to the analyzed. Furthermore following aspects were given priority.

- Is there budgeting system of income and expenditure?
- How effective is the budget system of BPC?
- Relationship between income and expenditure to control overall performance in the company.
- Tools to support profit generation of BPC.

1.7 Objectives of the Study

The primary objectives of the study, is to study the management side of the financial budget and special emphasis will be given to income and expenditure. Apart from primary objective following are the other objectives of purposed study.

1. To study of sales budget and its achievements of BPC.
2. To analysis on income and expenditure of BPC.
3. To shows the relationship between income and expenditure with profit.
4. To recommendation and suggestion for improving the profit plan.

1.8 Focus of the Study

This study is designed so as to give more consideration in management aspect of income and expenditure of the BPC. Those points will be specially analyzed which are;

- Sales or revenue Budget
- Overhead expenses Budget
- Administrative cost Budget
- Selling & Distribution Cost Budget
- Income and Expenditure relationship
- Sources of income and weight of expenditures
- Net profit of the company

1.9 Limitations of the Study

This study has the following limitations.

- It was concerned only on income and expenditure of BPC.
- The time period selected for this study is five fiscal years.
- All details records for the study were collected covering in the form of primary and secondary data from the central office of BPC.

1.10 Organization of the Study

This study is organized into five chapters considering the format designed by Tribhuvan University to make the study more systematic and authentic. They are as follows: -

Chapter 1, Introduction: This chapter consisted background of the study, focus of the study, statement of the problem, research question, Objectives of the study, scope of the study, limitations of the study and organization of the study.

Chapter 2, Conceptual Framework and Review of Literature: This chapter included conceptual and theoretical review of related literature and studies.

Chapter 3, Research Design: This chapter included research design, population and sample to be studied, data collection procedures, data analysis tools and chapter plan.

Chapter 4, Data Presentation and Analysis: This chapter dealt with the presentation and analysis of secondary data as well as survey data.

Chapter 5, Summary, conclusion and recommendation: This chapter contained summary, conclusion and possible recommendation of the study.

CHAPTER II

REVIEW OF LITERATURE

2.1 Conceptual Frame Work

The purpose of including this chapter is to clarify the concept of income and expenditure of BPC. Sales budget, overhead budget, BEP analysis and its effect on profit has been reviewed with the help of related text books, reference book, articles etc.

2.1.1 Introduction of Profit Planning and Control

Profit planning is the key point of management. Without proper planning profits will not just happen. So every enterprise should systematically plans for profit in a proper way. Various functional budgets are the basic tools for proper profit planning and control.

Profit planning is comprehensive statement for the operation of both short and long period. It is a plan of the firm's expectation and is used as a basis for measuring the actual performance of managers and their units. Profit plan has immense value of management; it helps in planning and co-ordination if used appropriately but not a replacement for management.

"Profit planning is a comprehensive and co-ordinate plan expressed in financial terms for the operations and resources if an enterprise for some specific period in the future". (Frengen, 1973:144)

"Profit planning is predetermined detailed plan of action developed and distributed as a guide to current operations and as a partial for the sub segment evaluation of performance. Thus, it can say that profit planning is tool which may be used by management in planning the future courses of action and controlling the actual performance". (Gupta, 1992:521)

“Profit planning is one of the more important approaches that have been developed to facilitate effective performance of the management process. The concepts and techniques of profit planning have wide application in individual business enterprises, governmental units, charitable organizations and virtually and all groups endeavors". (Welsch, Gleen, Hitten, Ronald and Gorden, Paul, 1990:30-31).

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

The managers are efficient if it is able to accomplish the objective of the enterprise. It is effective, when it accomplishes the objectives with minimum effect and cost. In order to attain longer-rang efficiency and effectiveness, management must chart out its course of action in advance. A systematic approach that facilitates effective management performance is profit planning and control of budgeting. Budgeting is there fore an integral part of management. In a way, a budgetary control system has been described as a historical combination of a goal-setting machine for increasing an enterprises profit and goal achieving machine for facilitating organizational co-ordination and planning while achieving the budgeted targets.

Profit is an ultimate goal of every business house. They involve in business for making profit. Profit cannot be achieved easily. It should be managed well with better managerial skills. So, profit is the planed and controlled output of management. By element, profit is the difference of revenue and costs. Profit plan, thus refers to the planning of revenue and planning of costs.

Comprehensive profit planning and control is a new term in the literature of business. Though it is a new, it is not a new concept in management. The other terms, which can be used in same context, are comprehensive budgeting managerial budgeting and simply budgeting. The profit planning and control can be defined as process/techniques of management that enhances the efficiency of management. Profit planning and control involves development and application of followings:

- Broad and long range objectives for the enterprises,
- Specification of goals,
- Long range profit plan in broad terms,
- Tactical short range profit plan detailed by assigned responsibilities (division, department, project).
- A system of periodic performance reports detailed by assigned responsibilities.
- Control system,
- Follow of procedures. (Welsch, Gleen, Hitten, Ronald and Gorden, Paul, 1990:33).

2.1.2 Concept of Management

Management skills and competencies are keys to organizational success. Managers play a significant role in facilitating organizational effectiveness. Thus organizations need managers who have both the insight to see and understand the nature of organizational problem and the skill and ability to develop strategies for their survival and growth in the present competitive word. Through their works managers not only make their organization more, effective and competitive but also contribute to national economic development and prosperity. The job of managers is undoubtedly very challenging.

Management principle can be applied at all organization and at all level of an organization. It is a common mistake to regard management as a function to be carried out only in business, commercial or profit making enterprises. For the nation to prosper, good management is necessary in all organization operating in the society. Managing well makes work easier, it improves relation with fellow workers, it improves the service of organization provides to other and it makes life and work more rewarding managing well leads to harmonious work, it lessens the irritation and frustrations that arise from the confusion and bad organization. Managing well improves the quality of work and makes working life more pleasant and meaningful. Good management is to an organization what health is to the body: the smooth efficient functioning of all its parts.

The effectiveness with which an entity is managed is usually organized as the single most important factor in its long term success. Success is measures in term of accomplishment of the entity's goals. Management can be defined as the process of defining entity goals and implementing activities to attain those goals by efficient use of human, material and capital resources. The management process is a set of interdependent activities used by the management of an organization to perform the function of management, planning, organizing, staffing, leading and controlling.

2.1.3 Concept of Income

It is very difficult to define the word income, although people readily understand what it means. A simple definition of income is to state it is increase in the net worth of a business arising out of operation on the other hand, any loss incurred by the business will result in a decrease of a net worth of a business that is why one of the accepted methods of measuring net income by comparing the net worth of business as on two dates. However, this definition is too simple and services as a basis to expand and give a more scientific definition. According to Water, Meigs and others "Business income might be describe as the maximum amount of resources that could be distributed to the owners over a given period of time and leave the business as well off at the end of that period as it was at the beginning"(Walter, Meigs and Others, 1991:90). The word 'as well off ' are very important in this definition and point to the important of keeping the capital intact in the measurement of income. In practices how difficult it is to measure income this way will be discussed as a later stage. According to Eric L. Kohler income may be defined as "Money or money equivalent earned or accrued during an accounting period, increasing the total previously existing net assets and arising from sales and rentals of any types of goods or services, communication, interest, gifts, recoveries from damage and wind falls from any outside sources" (Kohler, 1994:68). This is an elaboration of the simple definition with the discussion was started.

Another way to look at income is to state it as the excess of revenue over costs. We will later see that the problem of determination of revenue and the associated costs is not so simple income determination is the most complicated job of any accountant of

an any figure of income arrived at can best only can be estimate. Although income measurement is the most important objective of the accounting process, the fact remains that the measurement of income bristles with many difficulties. There can be no certainty of a figure given as the income of a given period. It is best an estimate made by the accounting and different from one accountant to another depending on the policies adopted by each of them.

2.1.4 Concept of Expenditure

"The term expenditure is useful only for the current year. In other word, no use can be derived out of it in the future period. If it is found that a portion of an item can be use in the future period then to that extent it is not treated as expenditure. This means that the term expenditure has been used in the same sense in which we have so for use the term expenditures" (Gupta and Radhaswamy, 1999:422).

Expenditures are of two types.

Capital expenditure: Capital expenditure is an expenditure intended to benefit future periods, in contrast to a revenue expenditure, which benefit a current period; an addition to a capital asset. The term is generally restricted to expenditures that add fixed assets units or that has the effect of inversing the capacity, efficiency, life span or economy of operation of an existing fixed asset.

From the above definition it follows that capital expenditure is one which result in:

I) Increase in quantity of fixed assets.

II) Increase in quality of fixed assets.

III) The replacement of fixed assets.

Revenue Expenditure: Expenditure charged against operation a term used to contrast with capital expenditure. While capital expenditure is any expenditure benefiting a future period, revenue expenditure is intended to benefit the current period. Examples are:

I) Expenses incurred in the normal course of business, e.g. expenses of administration, expenses incurred in manufacturing and selling products.

II) Expenses incurred to maintain the business, e.g. replacement for maintaining the existing permanent assets: cost of stores consumed in the course of manufacturing, e.g. oil, cotton waste.

III) Cost of goods purchased for resale.

IV) Depreciation on fixed assets, interest on loan of business, loan from sale of fixed assets.

V) Obsolescence cost

(Gupta and Radhaswamy, 1991:424).

2.1.5 Objective of Budgeting

The main purpose of budget is to ensure the planned profit of the enterprise. So, it is considered as a tool of planning and controlling the profit. On of the primary objective of an annual budget is to measure the profit expectation for the next financial year with regarded to all the circumstances favorable and unfavorable that can influence the trading prospect. (Regineld and frention, 1982:17)

The main purposes of budgeting are:

1 To help provide direction for choosing from among many future alternatives.

2 To help identify potential problem of achieving the specified goals and objectives.

3 To communicate objectives, constraints and expectation of budget to people throughout an organization (Munakarami, 2002:215- 216).

The main objective of budgeting may summarized as follows.

1) It is a plan, which reflects the policy of a business in financial terms.

2) It is a plan of action and services as a declaration of policies.

3) It is a control document by which management can monitor actual performance.

4) It is the plan to forecast for future to avoid losses and to maximize profits, i.e. to help in planning.

5) It is a plan to state the firm's expectations (goals) is clear, formal terms to avoid confusion and to facilities their attainability.
6) It defies the objective for the entire executive's communication.
7) It is a plan to bring about co ordination between different functions of an enterprise i.e. to help in co ordination.
8) It is a plan to communicate expectations to all concerned with the management of the firm so that they are understood, supported and implemented.
9) It acts as a motivator of employees.
10) It provides a means of coordination and communication.
11) It is a measure against which to evaluate the quality of management.
12) Budget facilitates centralized control with delegated authority and responsibility. (Rathnam, 1974:2)

2.1.6 Characteristics of Good Budgeting

The characteristics of good budgeting are as follows.

1) Budget may be formulated for the organization as a whole or for any sub- unit.
2) A good system of accounting is also essential to make the budgeting useful.
3) A budget is a qualitative expression of a plan of action and aid to coordination and implementation.
4) A good budgeting system should involved persons at different levels while preparing the budgets the subordinates should not feel only imposition on term.

“Budgets are designed to carry out a verity of functions planning, evaluating activities and implementation of plans” (Rathnam, 1974:21-22)

Classification of Budgets

Budgets may be classified from various viewpoints depending upon various bases adopted for such classification. The following bases of classification are generally in use:

1. On the basis of time.
2. On the basis of function.
3. On the basis of flexibility
4. On the basis of nature of business activity

I On the Basis of Time

On the basis of time, there are three types of budgets. They are:

a. Long Term Budget

These budgets normally cover of a firm over a prospective of five to ten years.

b. Short Term Budget

These budgets are usually prepared for one to two years. These are always prepared of production plan in monetary terms.

c. Current Budgets

These budgets are usually prepared for one to twelve months and are the short term budgets adjusted to current conditions or prevailing circumstances.

II On the Basis of Function

Those budgets whose number depends on the size and nature of the business are called functional budget. Normally the following are the types of functional budget.

a. Sales Budget

It is primary budget of PPC. This is a forecast of total sales classified according to groups of products, salesman and geographical.

b. Production Budget

Production budget is transformation process of sales budget. It is a forecast based on sales, productive capacity and requirement of inventories.

c. Direct Material Budget

Direct material budget can also be classified into two types:

- **Direct Material Usage Budget**

Material budget is prepared after the determination of production need. Material consumption budget is depended upon production volume. Material consumption per unit of output helps to prepare material use budget for different of materials to be consumed by output. Budgeted production volume multiply by material per unit of output gives the budgeted consumption of materials.

- **Direct Material Purchase Budget**

Manufacturing company purchases raw materials for its products to be produced. The quantity of materials to be purchase is determined by both production volume and inventory requirement. Purchase budget helps to determine the quantity and volume of materials required to be maintained (Munakarmi, 2002:220)

d. Direct Labor Cost budget

Labor cost budget is calculated on the basis of labors for budgeted production volume and labor hour related for each type of labor force. Given budgeted production, the engineering and personnel department can work together to determine the necessary labor requirement for the production department. Labor requirements are stated in total number of workers, specific number of skilled and unskilled workers and production hour need for given production volume. Labor cost computation includes monetary cost and fringe benefits given to labor force. (Munakarmi, 2002:222)

e. Overhead Budget

Overheads, here are classified as factory overhead, administrative overhead and selling overhead. Factory overhead is also known as manufacturing or works overhead. It is aggregate of indirect expenses of factory department. It includes both variables and fixed overhead and including following expenses: factory rent and rates, lighting and heating, factory power, fuel and insurance, factory salaries, indirect wages and pension, factory stationary and printing, canteen, medical, educational and entertainment facilities to the factory workers repair and maintenance expenses, depreciation etc.

f. Cost of Production Budget

Budgeted production cost is known as cost of production budget. It is the aggregate of budget material cost, budgeted direct labor cost and budgeted factory overhead.

g. Selling and Administrative Expenses Budget

Selling and administrative expenses include both fixed and variable expenses. Administrative expenses include critical wages and executive salaries, supplies, postage and telephone etc. Likewise selling and distribution expenses include sales commission and salaries, advertising and sales services expenses, traveling expenses, carriage and freight on sales, packing cost etc.

h. Cash Budget

Cash budget is the planning of cash flows and cash requirement for the budgeted period.

- **Capital Budget**

Capital budget involves the entire process of planning expenditures with returns that are expected to extend beyond one year. The choice of one year is arbitrary, of course, but it is a convenient cut off point for distinguishing between kinds of expenditures. Obvious example of capital outlays are expenditures for land, buildings and equipment and for permanent additions to working capital associated with sales growth.

III On the Basis of Flexibility

On the basis of flexibility, budget may be classified into two types**.**

a. Static Budget

It shows only one active level at once. They don't change in the volume of activity. Such budgets are usually prepared from one to three months in advance of the fiscal year to which they are applicable.

b. Flexible Budget

It shows the series of activity level. The main objective of flexible budget is to select least cost combination for the firm. In case of such budgets, revenue and cost targets are set in respect of different level of activity even from zero to hundred percent of production volume.

IV On the Basis of Nature of Business Activity

Budgeted may also be classified on the basis of nature of business activity. They are:

a. Capital Expenditure Budget

Capital expenditure budget is needed to compute or plan the cost of capital and appraise the project. Such budgets assume more significance in the case of large and progressive manufacturing concerns.

b. Operating Expenditure Budgets

Operating budgets deal with the plan for routine activities. These budgets are based on forecast like sales, reproduction costs, revenue etc.

2.1.7 Budgetary Control

Budgetary control is a system of controlling cost, which includes the preparation of budgets coordinating the departments and establishing responsibilities, comparing actual performance with the budgeted and outline upon results to achieve maximum profitability.

Budgetary control involves the following process:

- Preparing budgets sets.
- The actual figure is recorded.
- The budgeted and actual figure is compared for studying the performance of different cost centers.
- If actual performance is less than budgeted norms, a remedial action is taken immediately.
- The business is divided into various responsibility centers for preparing various budgets. (Munakarmi, 2002:223)

2.1.8 Problems and Limitations of Budgeting.

Budgeting is not fast proof; it can suffer from certain problems and limitations.
The major problems of budgeting system are as follows:

1) Developing meaningful forecast and plans specially the sales plan.
2) Seeking the support and involvement of all level of management.
3) Establishing realistic objectives, policies, procedures and standards of desired performance.
4) Maintaining effective follow up procedures and adopting the budgeting system wherever the circumstance changes.
5) Applying the budgeting system in a flexible manner.
6) Educating all individuals to be involved in the budgeting process and joining their full participation. (Welsch, Hilton and Gordon, 2000:56).

The following are the limitations of budgeting system;

1) Budgeting is not an exact science it success hinges upon the precision of estimates.
2) The installation of a perfect system of budgeting is not possible in a short period. Budgeting has to a continuous exercise. It is a dynamic process.
3) The success of the budgetary program is to understand by all and that managers and subordinates put concerned effort for accomplishing the budget goals.
4) Budgeting will be ineffective and expensive if unnecessarily detailed a complicated. It should be flexible and rigid in applications.
5) The presence of a budgeting system should not make management complacent. To get the best results of management, management should use budgeting with intelligence and foresight. Budgeting cannot replace management.
6) The purpose of budgeting will be defeated if carelessly budget goals are determined as the conflict with enterprise objectives.
7) Budgeting will hide in efficiencies if a proper evaluation system lacks. It should be re-examined regularly.

8) Budgeting will lower rural and productivity if unrealistic targets are gets and if it is used as pressure tactic. (Welsch, Hilton and Gordon, 2000:57).

2.1.9 Development of Various Functional Budgets

2.1.9.1 Sales Budget or Sales Plan

The sales budget provides an estimate of goods to be sold and revenue to be derived from sales. It is a starting point in the budgeting procedure. That is, budgeting exercise usually commences with the preparation of the sales budget because the customer's demand is usually the key factor for the most organization. Sales budget in one of the functional budgets and are essentially, a forecast of sales to be effected in a budget period. It defines the quantities and values of expected sales in total as well as product-wise and area-wise during definite future period (Munakarmi, 2002:217).

The sales planning process is a necessary part of PPC because (a) it provides for the basic management decisions about marketing and (b) based on those decisions it is an organized approach for developing a comprehensive sales plan. If the sales are not realistic, most if not all of the other parts of the overall profit plans also are not realistic (Welsch, Hilton and Gordon, 2000:171).

Preparation of sales budget is the starting point for the development of profit plan. After having the planning premises of the organization the sales plan is developed. Sales plan is the station point in the preparation of the comprehensive profit planning and control. All the other plans and budgets are depended upon the sales budget. The budget is usually presented both in units and rupees of the sales revenue or sales volume. The preparation of sales plan is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period.

The primary purposes of sales plan are;

1) To reduce uncertainty about future revenues.
2) To in corporate management judgments and decisions in to the planning process.
3) To provide necessary information for developing other elements of two comprehensive profit plans.

4) To facilitate management control of sales activities (Welsch, Hilton and Gordon, 2000; 172).

Strategic and Tactical Sales plan

Strategic sales plan is the long range sales plan of an enterprise. Usually, it is of 5 to 10 years. It is broad and general. It is usually developed by year and annual amount. It is prepared by considering future market potentials, population changes, stage of economy, and long-term strategies because they affect in such areas as pricing developing of new product line, innovation of product, expansion or distribution channels cost pattern etc.

Tactical sales plan is a short-range sales plan. It is developed for a short period of time usually a years, initially by quarters and by month for the first quarter. The tactical sales plan includes a detailed plan for each major product and for groupings of minor products. Tactical sales plan are usually developed in terms of physical units and in sales rupees.

For planning and controlling purpose, the short term sales plans must be developed by sales responsibility and end of each month or quarter throughout the years, the sales plan is restudied and revised by adding period in the future and by dropping the period just ended. Hence, tactical plans are usually reviewed and revised on quarterly basis. It is also necessary for completing other components of annual profit plan. (Gautam, Bhattarai & Goet, 2063: 2.3- 2.4).

2.1.9.2 Material Purchase and Usages Budget

A comprehensive budget includes planning and controlling of raw materials and components/parts used in the manufacturing of finished products. Planning and controlling purchases and material usages is the plan to maintain coordination for raw materials,

A) Factory requirements for raw materials

B) Raw materials inventory levels

C) Purchase of raw materials

Sufficient raw materials will have been available to meet production need to provide for the desired ending raw materials inventory. However, some quantity of materials requirement will already exist in the form of beginning raw materials inventory. The remainder will have to be purchased from a supplier.

To assure that right amounts of raw materials will be on hand at the time required and to plan for the costs of such materials. It is essential that the tactical short-term profit plan include (1) detailed budget specifying quantity and cost of materials required and (2) a related budget for raw material purchase (Gautam, Bhattarai & Goet, 2063: 40).

Components of Material Budget

The following are the main components of material budget:

- **Material Consumption Budget**

Once production needs are determined, a direct material budget is prepared to show the material that will be required in the production process. The budget specifies the planned quantities of each raw material required for production of finished goods, by the time, by product and by responsibility. The material consumption is computed as

Planned material consumptions = Planned production units x Standard Raw Material usage per unit of output.

- **Cost of Material used Budget:**

The budget specified the estimated cost of the material that will be used in the production process. Note that, this budget cannot be completed until the planned cost of purchase is developed. The cost of material is computed as;

Cost of material used = Budgeted production units x Standard material usages per unit x price per unit of raw material

- **Material purchase Budget**

Direct materials are essential for production and must be purchased in each period in sufficient qualitative to meet production needs and to confirm to the company's ending inventory policies. The materials budget specifies the quantities and timing of each raw material we need. The purchase budget specifies the estimated qualitative to be purchases and the estimated cost for each row material and required delivery dates. It is computed as:

Planned purchases units = planned material consumption +Desired Ending Inventory of raw material – Beginning inventory of Raw materials.

- **Material inventory Budget**

This budget specifies the planned levels of raw material inventory in terms of quantities and cost for each product and in total.

2.1.9.3 Direct Labor cost Budget

The direct labor budget includes the planned direct labor requirement necessary to produce the types and quantities of outputs and planned in the production budget. The primary reasons for using a separate direct labor budget are providing planning data about the amount of direct labor required, number of direct labor employees needed, labor cost of each product unit, and cash flow requirements. Another purpose of the direct labor budget is to establish a basic for control of direct labor.

The direct labor must be in harmony with the structure of the annual profit plan. Therefore it should show planned direct labors hours and cost by responsibility by time (month or quarter) and by product when standard labors times and average wage rates are developed on a sound function of realistic policies and plans, development of the direct labor budget poses few problems. It is usually preferable to develop a separate direct labor budget for each department that encompasses two sub budget, one specifying hours only and the other specifying direct labor costs. (Welsch, Hilton and Gordon, 2000: 287)

Components of Direct Labors Budget

Basically, there are three components of direct labor budget.

- **Direct Labor Hour Budget**.

Direct labor hour budget estimates the total direct labor hours required for each product by time and responsibility. It is computed as,

Total Direct Labors Hours Required = Planned Production x Standard Time Required per unit of Output

- **Manpower Budget**

Man power budget estimates the number of each kind of man power by department and time.

Number of labor = Total Labor hours required ÷ Working hours per persons per Month

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

- **Direct Labor Cost Budget**

Direct labor cost budget estimates the total direct labor costs by product, time and responsibility. To get direct labor costs budget, first estimate the average wage rates by department, cost center or operation, then multiplication of the standard time per unit of product by the average wage rates gives the labors cost per unit of production for the department, cost center, or operation. The multiplication of the departments, cost censure's or operation's total units by the unit labors cost rate gives the total direct labor costs for each product.

2.1.9.4 Overhead Budget

All indirect cost of the firms is known as overhead. Overhead budget is prepared on the basis of the chart of account, which properly classifieds expenses accounts and detail the various cost centers expenses can be grouped in several ways.

1 Manufacturing expanses classification, such as indirect materials and supplies, indirect labor, power and so forth.
2 Departmental or functional classification, which divides or determines the expenses in term of the department or cost centers that incurred or originated the expanses.
3 Division of expenses according to variability i.e. variable and fixed (Aokolf, 1970:69).

Types of overhead Budget

A. Manufacturing Overhead Budget

Manufacturing overhead is that part of total production cost not directly identifiable with specific products. Manufacturing overhead consists of;

Indirect Material, Indirect labor and other miscellaneous factory expanses such as taxes, insurance, deprecation, supplies utilities and repairs etc.

The main purpose of manufacturing overhead is to transfer the manufacturing overhead in to cost of production and prepare overhead unit rate for further budgeting and control. It includes many dissimilar expanses therefore it causes problems in the allocation of their costs of products.

Steps of developing manufacturing overhead budget

Manufacturing overhead budget can be developed with the following steps.

1 Selection of activities base (i.e. unit or standard of measurement) for department to plan the budget.
2 Defining relevant range i.e. the range of limit of activities up to which the cost trend to remain unchanged or same.
3 Computation of annual or periodic activates for each department.
4 Computation of overhead cost for the products.
5 Computation the cost of goods manufactured.

B. Selling and Distribution Expanses Budget

Distribution expenses are not product cost and are not allocated to specific products. A separate distribution expanses plan should be developed for each responsibility center in the distribution function. Typically, this would encompass "home-office" centers and "field" centers. The top marketing executive has the overall responsibility for developing the distribution expanses plans or budget. Following the principle of participation, the manager of each responsibility center should be assigned direct responsibility for that department's distribution expanses plan. The distribution expanses budget should separately identify controllable and non-controllable expanses and these budgets should be detailed by interim time period. The distribution expanses budgets prepared by the sales manager should be based on a planned value of activity or output. (Welsch, Hilton and Gordon, 2000:314).

Selling and distribution expenses include all costs related to selling, distribution and delivery of products to customer. In many companies, this cost is significant percent of total expenses. There is careful planning of such expenses effect the profit portion of the firm.

C. Administrative Expenses Budget;

Administrative expenses include those expenses other than manufacturing and selling and distribution. They are incurred in the responsibility centers that provide supervision of and service to all functions of the enterprise, rather than in the performance of any one function. Because a large portion of administrative expenses are fixed rather than variable the notion persists that they cannot be controlled. Besides from certain top management salaries, most administrative expenses are determined by management decision. It is advisable to bad budgeted administrative expenses on specific plans and programs.

Administrative expenses budget can be computed in the following process;

A) Collection of historical data (overhead budgets).

B) Analysis of ongoing change in policy, economy etc.

C) Preparation of budget for budgeted year as per responsibility centers.

D) Preparation of total budget of the organization.

2.1.9.5 Capital Expenditure Budget.

Capital expenditure planning often called capital budgeting is the process of planning and controlling the strategic and tactical expenditure for expansion and contraction of operating assets. Capital budgeting decisions may be defined as the firms decision to invest its current funds must efficiently in long run activities in anticipation of an expected flow of future benefit over a series of years.

"Capital budgeting may be defined as the decision making processes by which firms evaluate the purchases of major fixed assets including buildings, machinery and equipment" (Hampton, 1994: 299).

Capital budgeting involves the entire process of planning and controlling the expenditures for extension and contraction of investment in operating (fixed) assists with return that are expected to extend beyond one year. A capital expenditure is the use of fund to obtain operational assets that will help:

- Earn future revenue or
- Reduce future costs.

Capital expenditures include such fixed (i.e. operational) assets as properly, plant, equipment, major involutions and patents. Typically, capital expenditure projects involve large amounts of cash, other resources and debt that are tied up for relatively long period of time. Capital expenditures are investments because they require the commitment of resources to day to receive higher economic benefits (i.e. profits) in the future 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 saving. Therefore, capital expenditure involves two planning and controlling phases;

- Investment and
- Expanses

The following process should be taken in mind while planning and controlling capital expenditure.

Phase 1: Identify and generate capital additions projects and other needs.
Phase 2: Develop and define capital additions proposal.
Phase 3: Analyze and evaluate all capital additions proposal and alternatives.
Phase 4: Make capital expenditure decisions to accept the best alternative.
Phase 5: Develop the capital expenditure budget.
Phase 6: Establish control of capital expenditure during the budget year by using periodic and special performance report by responsibility centers.
Phase 7: Conduct post complication audits and follow-up evaluation of the actual results from capital expenditure in period after completion (Welsch, Hilton and Gordon, 2000; 401).

Evaluation of Alternative Ranking Methods

The point of capital budgeting indeed, the point of all financial analysis is to make decisions that will maximize the value of the firm. The capital budgeting process is designed to answer two questions; (1) which among mutually investments should be select? (2) How many projects, in today should be accepted? (Weston and Copeland, 1991: 364).
There are numbers of evaluating techniques/methods of investment decisions. The main methods are as follows:

1) Trading methods.

A) Payback period.
B) Average rate of return or accounting rate of return.

2) Discounted Cash flow methods.

A) Net present value.
B) Profitability index.
C) Internal rate of return.

1) Traditional Method

The oldest and simplest method is traditional method. But it is not so useful method. It does not consider time value of money. It assumes that present value is equal to future value.

There are many methods under it.

I) Payback Period

This method computes the payback period of investment. In this period, the smallest period is acceptable. Thus it considers liquidity but it ignores time value of money so it can be called as one sided method. The mathematical expression is;

$$\text{Payback Period (PBP)} = \frac{\text{Net Cash Investment}}{\text{Annual Net Cassh Inflow}}$$

II) Average Rate of Return or Accounting Rate of Return

It is the method represents the ratio of the average annual profits to investment is projects. In this method, the projects are ranked in order to earning project which yields the higher return are selected here and ruled out.

$$\text{Average Rate of Return} = \frac{\text{Average Income}}{\text{Average Investment}}$$

2) Discounted Cash Flow Method

Discounted cash flow method provides more objectives basis for evaluating and selecting investment projects comparing of investment worth by discounting the future earning in to present value. There are three different methods under discounted cash flow method.

I) Net Present Value

It is also known as net gain method. Comparison is made of investment worth by discounting the future earning in to present value. The different between the present value of the project cash flows and outflows discounted at the cost of capital is known as net present value.

The formula to calculate NPV is:

$$NPV = \sum_{t_0}^{n} \frac{CFAT_t}{(1+k_r)^t} - NCO$$

Where,

NPV = Net Present Value

CFAT = Cash Flow after Tax

K_r = Cost of Capital

T = Years

NCO = Net Cash Outlay

II) Profitability Index or Benefit Cost Ratio

Profitability index is sometimes refers to benefits cost ratio and excess present value index. It is calculated dividing the PV of future cash inflow after tax by PV of cash outlay. It is the ratio of present value of net cash benefits to the present value of net cash outlay. "PI is a ratio of the present value of future cash benefit, at the required rate of return, to the initials cash outflow of the investment". PI may be gross or net. Gross PI is calculated as follows:

$$\text{Gross PI} = \frac{\text{PV of future cash inflows after tax}}{\text{PV of initial cash outlay}}$$

III) Internal Rate of Return (IRR)

The internal rate of return (IRR) is defined as the interest rate that equates the present value of the expected future cash flows or receipts, to the initial cost outlay. The equation for calculating the internal rate of return is given below;

$$IRR = \frac{CF_1}{(1+IRR)^1} + \frac{CF_2}{(1+IRR)^2} + \text{----------} + \frac{CF_n}{(1+IRR)^n} - I_0 = 0$$

$$IRR = \sum_{T=1}^{n} \frac{CFn}{(1+IRR)^t} - I_0 = 0$$

(Weston and Copland, 1991; 311).

IRR is the rate of return that an investment project earns. It is that rate which gives the projects NPV zero. It is used when the cost of the projects and annual cash inflows are given or known but unknown rate of earning is to be determined. It is discounted. It is a discount rate that makes the PV of future cash inflows the project equal to the cost of project.

2.1.9.6 Flexible Expenses Budget

The fundamental concept of flexible budgets for expenses is that all expenses are incurred because of

(a) The passage of time,

(b) Output of productive activity

(c) A combination of time and output or activity.

If this premise is reasonable in a business (or any other entity), the expenses can be given mathematical formulation from which expanses plan can be computed for planning and control. Application for this concept means that:

1. Expenses must be identified as to their fixed and variable components when related to output or productive activity.
2. Expenses must be reasonably related to output or productive activity.
3. Output or productive activity must be reliably measurable.
4. Flexible budget formulas for each expense must be for a specified time period and for a specified relevant range of output or productive activity.
5. For planning and control purposes, flexible budget formulas must be developed for each expense in each responsibility center is an enterprise. (Welsch, Hilton and Gordon, 2000:343-344)

Procedure of preparing Flexible Expenses Budget.

a) Identification of Cost Behavior

Identification of cost behavior is the determination of relationship between cost and activity. For this purpose cost estimation /cost segregation is done. Cost estimation

ascertains the cost into variable and fixed nature so that the behavior of cost can be identified for the purpose of flexible expenses budget.

b) Selection of Activity Base

A primary problem in planning and controlling expenses is the selection of appropriate measures of output or activity for each responsibility center. The measures of output or activity selected are called the activity base

.

c) Defining Relevant Range

The relevant range concept is important in planning and controlling expenses in a responsibility center. There are not separate relevant ranges for each expense in the center.

d) Selection of Format

In order to prepare flexible budget an appropriate format should be selected. The widely used formats are:

- Table Format
- Formula Format
- Graphical Format

2.1.9.7 Planning Cash Flows

Cash is a necessary for any business. Without cash business cannot be survived. So, cash budget is one of the most important schedules prepared during the budgeting process. A cash budget is developed after all the operating budgets and capital expenditure outlays have been accomplished. A cash budget shows the planned cash inflows, outflows, and ending position by interim period for a specific time span. Most companies should develop both long term and short term plans about their cash flows. The short term budget is includes in the annual profit plan. A cash budget basically, includes two parts (1) the planned cash receipts (2) the planned cash disbursement planning cash inflow and outflow given the planned beginning and cash position for the budget period. Planning the cash inflow and outflow will includes (1)

the need for financing probable cash deficit or (2) the need for investment planning to put excess profitable use. The primary purposes of cash budget are:-

- Providing managers with advance notices of the resources at their disposal and the result they are expected to achieve.
- Providing targets useful in evaluating departmental performance.
- Providing warning of potential cash shortages by time period.
- Establishing the need for financing and the ability of idea cash for investment.
- Forcing managers to plan and coordinate cash with (a) total working capital, (b) sales revenue, (c) expenses , (d) investment and (e) liabilities.
- Establishing the sound basis for continuous monitoring of the cash position. (Welsch, Hilton and Gordon, 2000:346)

Technique for Improving Cash flows

Planning and cash flows of a company should include consideration of how to improve cash flow. Improving cash flow basically involves increasing the amount of available cash on a day to day basis. Some of the way often used to improving the efficiency of the cash collection process is as follows:

1. Review of lag from the date of sales of goods and services on credit to the mailing of (a) invoice of and (b) the first billing. To extent 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.
2. If cash discount are given to customers for early payment, review their effect on early cash collection and whether the discount policy is being violated in company (i.e. allowing the discount after its expiration date) alternatively, if discount are not given, does inflow is company assess an interest penalty for late payments? How much cash inflow is lost by not charging for late payment?
3. Review the credit granting process to determine whether bad credit risks and collection screened out. Also, are delinquent receivable being identified early and collection action taken before the receivable becomes an uncollectible (i.e. a bad debt).

4. 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. The float lag can be minimized by techniques such the following:

A. Use lockbox system the purpose of lockbox system is to reduce the float time of cash from the customer to the company.
B. Establish bank accounts in outlying areas where a designated company employee receives the customer's payments and immediately deposits the checks in the bank account.
C. Decrease the check processing time within the company and make daily night deposit of all cash checks received during the day.
D. Promoter timely and frequent billing on all receivable. Do not use month end billing, bill immediately sales.

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

1. Make all payment on the latest no penalty day. Do not pay early.
2. Make all payment by check, preferable on Friday to maximize float in favor of the company. Does not use wire transfer unless it is necessary less frequent mailing enhances cash flow and reduces clerical effort.
3. Take all cash discounts allow for early payment.
4. Establish a policy of no cash advance.
5. Establish a policy, and a payment process, to minimize the possibility of fraudulent payments by company employees.

"A company should develop a specific policy about the investment of temporarily 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". (Welsch, Hilton and Gordon, 2000:348)

2.1.9.8 Completion and Application of the Managerial Budgeting

- **Completion of Managerial Budgeting**

The development of an annual profit plan ends with the planned income statement the planned balance sheet and the planned statement of cash flows. These three statements summarized and integrate the detail plans developed by management for the planning period. At this point of profit planning, the budget director has an important responsibility. Besides from designing and improving the overall system, the budget director has been described as adviser each responsibility center. Now the several parts must be assembled into a complete profit plan.

Prior distributing the completed profit plan, it is generally desirable to restate certain budget schedules, so that technical accounting mechanisms, computations and jargon can be avoided as much as possible. The redesigned budget schedule should be assembled in a logical order, reproduce and distribution before the first day of the planned budget period. When assembled, the completed plan is variously referred to as the profit plan, the forecast budget, the financial budget, the operation plan, or the plan of operation. In arranging the schedule to be included in the final profit plan, the budget director should consider management preferences as well as the principal of the effective communication no one arrangement are best in all situations. As a general rule, however it is preferable to place planned financial statement before the supporting sub budgets, such as the sales, expenses, cash and capital addition budgets. The budget director should have a limited number of copies of the entire profit plan to control its distribution of specific schedules. It may be desirable to be loose leaf bindings becomes the revise as circumstance warrant. Revise may involve one or more sub budgets, depending on the extent of the revision.

"The profit plan completion date is important; issuance of a profit plan after the beginning of the budget period is on sure way to destroy much of the budgets potential". (Welsch, Hilton and Gorden, 2001:466-467).

- **Implementing the Managerial Budgeting or Profit Planning**

The ultimate test of whether the effort and cost of developing a profit plan are worth whole is its usefulness to management; this is a cost benefit test. We have emphasized

that a profit plan should represent potentially attainable goals, yet the goals should present challenges to the enterprise. The plan should be developed with conviction that the enterprise is going to meet or exceed all major objectives.

After approval of profit planning the next step is its distribution to the centre managers in the enterprise. Distribution instructions were illustrated as an important part of the budget manual. Recall that a limited number of copies of the plan should be prepared. Complete profit plan should be distributed to the vice-president and to the heads of certain staff groups. The guiding principle in establishing the distribution policy might be to provide one copy to each number of the management team according to his or her overall responsibilities while taking into account the problem of security.

"After distribution of the profit plan, a series of profit conferences should be held. The top executives comprehensively discuss the plans, expectation, and step in implementation. At this top level meeting, the important action flexibility and continuous control should be emphasized. In particular, each manager must understand that the budget is a tool. The profit plan provides the manager is each responsibility centre with this plan, the advertising function. Similarly the finance executive has information about such thing as expected cash receipt, cash payment and capital expenditure. Thus the planning budget becomes the basis for current operations and exerts important coordination and control effects". (Welch, Hilton and Gordon, 2001:472)

2.1.9.9 Cost Volume Profit Analysis

Cost volume profit analysis is management tool to show the relationship between the elements of profit planning. Profit planning is the function of the selling price of product, demand, variable costs, fixed costs and taxes. The whole picture of profit planning is associated with cost volume profit inter relationship. CVP analysis assume that under constant underlying conditions, CVP analysis can be used for the analysis of break even volume, break even analysis and contribution margin analysis for profit planning. The assumptions of constant underlying condition and short term

relationship have been criticized by the many all thorns of financial management and accounting. With the help of CVP management require careful analysis of cost behaviors in relationship to output volume.

"CVP analysis for short, this technique summarizes the efforts of changes in an organizations volume of activity on its costs, revenue and profit. CVP analysis can be extended to cover the effects on profit of changes in selling prices, services, fees, costs, income tax rates, and the organization mix of product on services. In short, CVP analysis provides management with a comprehensive overview of the effects on revenue and costs of all kinds of short run financial changes. Although the word profit appears in the term, cost volume profit analysis is not confined to profit seeking enterprise. Manager in nonprofit organization also routinely use CVP analysis to examine the effects of activity and other shot run changes on revenue and costs". (Hilton, 1997:349-350).

"CVP analysis examines the behaviors of total revenue, total costs, and operating income as changes occur in the output level, the selling price, and the variable cost per unit, and or the fixed costs of a product". (Horngren, Datar and Foster, 2003:89).

- **Break-even-point Analysis**

Breakeven point analysis is widely used technique to study cost-volume-profit relationship. The narrower interpretation of the term break even analysis refers to a system of determination of that level of activity where total cost equals total selling price the broader interpretation refers to that system of analysis which determines probable profit at any level of activity. It portrays the relationship between cost of production, volume of production and the sales volume CVP.

Breakeven point is that point which break the total cost and the selling price evenly to show the level of output or sales at which there shall be neither profit or loss, is regard as breakeven point. At this point, the income of the business exactly equals its expenditure. It can be determine by three techniques. They are as follows:-

1. Equation technique
2. Contribution margin technique
3. Graphic technique

In equation technique uses an algebraic equation to calculate the BEP. This is most general form of analysis which can be applied to any CVP situation. The approach of finding out the BEP is based on the profit equations.

Sales Revenue =Fixed costs + Variable costs + Profit

Contribution margin is the difference between the sales revenue and variable cost of production. Contribution margin consist fixed cost and profit.

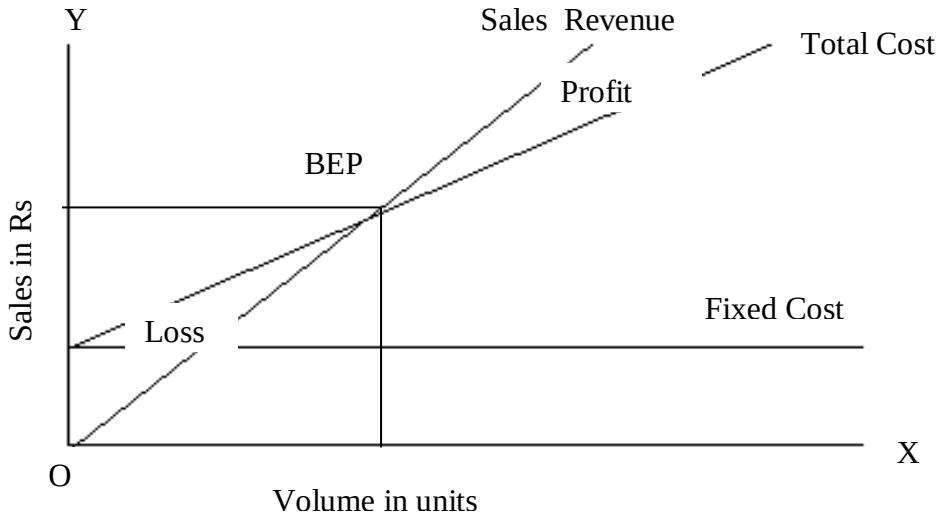
$$\textbf{BEP (in units)} = \frac{Fixed\ Cost}{C.M.P.U.}$$

$$\textbf{BEP (in Rs.)} = \frac{Fixed\ Cost}{C.M.Ratio}$$

To depict the relationship between profit and volume of activity, a cost volume profit graph is commonly used. Graphical presentation of CVP is preferred:-

1) Where a simple overview is sufficient,
2) Where there is a need to avoid a detailed, of numerical approach avocation of numerical approach is specially required if, the recipients of the information have no accounting back ground. (Munankarmi, 2002:144).

Figure 2.1



In this figure fixed costs remain constant within the relevant range; the fixed cost curve is parallel to OX axis. Variable costs slope upward from the origin to right but the slope upward from the origin to right but the slope depends on variable cost ratio. The total costs curve parallels the variable cost curve.

- **Application of Break Even Analysis in Managerial Budgeting**

Break even concept can be used to formulate different policies in the business enterprises some of these applications are as follows:-

- Determination of profit at different levels of sales and margin of safety.
- To find the level of output to get the desired profit.
- Effect of price reduction on sales volume and changes in sales mix.
- Selection of most profitable alternative and make or buy decision and drop and or add decision.

2.2 REVIEW OF THE PREVIOUS THESIS

A. Mr. Madhan Bahadur Babu

Mr. Madhan Bahadur Babu (1995) has made a research on "Profit Planning in DDC." an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. He has pointed the main findings and recommendations are as follows:

Findings

1. DDC has practiced short term planning rather than long term planning. The time covered by interim period and by product.
2. Production and sales on DDC is increasing year to year. The rate or growth is not fixed.
3. The corporation has no proper practice of segregation cost into fixed and variable.

4. The corporation fails to maintain its periodic performance report systematically.
5. The top level executive are only involved in planning and decision making and lower level participation is not encouraged.
6. There is not separate planning department and expert planner. Plan is prepared on traditional and ad-hoc basis.
7. There is no co-ordination between government sector and non government sector.
8. The DDC has no loan flow to farmer in time.

Recommendations

1. DDC should develop its specific goal for the coming budget. Such goals may be net profit on sales, net profit on capital employed sales revenue etc. Without such goals the operation of the company may not be effective.
2. The planning committee of the company has prepared production sales budget as ad-hoc basis, so that they must be analyzing relevant internal and external variables and their possible impact in future production and sales.
3. The management of the company needs to increase in production and sales volume for the utilization for available capacity.
4. Profit planning manuals should be communicated from top of lower levels. All personnel should be participated on decision making and planning process.
5. The DDC should maintain proper co-ordination within the organization.
6. DDC should decide to develop effective programs expand growth rate.
7. Sales budget should be prepared on the realistic ground.
8. It should make sales promotion by different Medias in Nepal.

B. Mrs. Radha Devi Ghimire

Mrs. Radha Devi Ghimire has made a research on "Profit Planning, A case study of Harisiddhi Brick and Tiles Factory Limited.", an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. In the study, she has pointed out some features and problems of profit planning, prevailing practices and premises for implementing profit planning in HBTF.

The basic objectives of her research work were:

1. To examine how far the HBTF has applied profit planning system in their organization.
2. To analyze the trend of profit over the period under cover from the FY 2046/47 to 2053/54.
3. To analyze the various functional budgets adopted by this enterprise.
4. To analyze the variance between budgeted and actual achievements.
5. To point out suitable suggestions and recommendations.

Mrs. Ghimire research work concludes that HBTF has been suffered from a number of internal problems in formulating and implementing profit plan. She has pointed out various findings and recommendations, among the few major findings and recommendations are as follows:

Findings:

1. Role conflict and lack of co-ordination among departments.
2. Inadequate evaluation of relevant internal and external market variables.
3. Unrealistic sales forecasts.
4. Lack of optimum capacity utilization, loss is increasing trend each year.
5. Lack of dynamic and effective cost control program.
6. Inadequate planning due to lack of planning experts.
7. Completely ignored to variance analysis.
8. Lack of entrepreneurship and commercial concepts in overall operation of the enterprises.

Recommendations:

1 The Factory should be identified and evaluated external and internal variables that influences the company and should have in depth analysis of the weakness.

2 HBTF should clearly define its broad objectives because objectives are the basic guidelines and these create and maintain optimum enterprises environment that maximize the interest and motivation of all employees.

3 Profit planning manuals should be communicated from top to low level.

4 Company should have to utilize its capacity to meet the target production, which will provide encouragement to get profit.

5 For the proper co-ordination within organization line and staff, authorities and responsibilities should be clearly defined. This will considerably help to solve the problem of conflicts between departmental managers.

6 Sales forecasting should be made on the realistic ground. Forecast should include strategic and tactical forecasts that are consist with the time dimensions used in the comprehensive level.

7 Volume of inventories should be reduced to optimum level.

8 Costs reduction program should be formulated and applied and present cost capacity structure should be changed, efforts to reduce fixed cost should be made.

9 System of periodical performance reports should be strictly followed to be conscious about poor performance and to take corrective action timely.

10 A systematic approach to comprehensive profit planning is essential to adopt in the factory.

C. Mr. Joginadar Goet

Mr. Joginadar Goet (1999) had conducted a research on the topic of "Revenue Planning Management in Nepal: A case study of Nepal Electricity Authority." an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. Some remarkable findings pointed out by Mr. Joginadar Goet are as follows:

Findings

1. NEA has not considered major demand determinants of electricity such as family income, price of electricity, connection charges, cost of alternative, and cost of auto generation and reliability of NEA's services.
2. No plan and program have been made about possible consumption of electricity in agricultural sector.
3. Target growth is sales revenue was never achieved except in the year 1995/96. This shows that NEA has failed to convert sales unit into sales revenue.

4. There is absence of actual meter reading by dint of which, the charged bills are very low and non reconciliations have been made between units and units billed as well.
5. Revenue and not recognized on accrual basis.

Recommendations

1. NEA should consider demand determinants such as family income, price of electricity, connection charges, cost of alternative available, cost of self generating of electricity and reliability of NEA service while forecasting demand.
2. NEA should prepare programs and plans for agricultural sector which is capable of massive consumption of electricity.
3. NEA should introduce programs and action plan for the reduction of transmission loss, both technical and non technical. NEA can improve its efficiency in the meter device instantly either by changing old meters or utilizing only efficient matter readers or by improving its transmission system. Non technical loss can be reduced by adopting effective managerial, social, legal and others measures.
4. Billing should be based an actual matter reading or reasonable estimates of past consumption in the absence of actual meter reading.
5. Revenue should be recognized an accrual basis to comply with present accounting manual.

E. Mr. Dilli Raj Sharma

Mr. Dilli Raj Sharma (2000) has conducted a research on "Revenue collection of NEA" an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. He has pointed out the following findings and recommendations:

Findings

1. The revenue of NEA is increasing yearly.
2. There has been fluctuating trend of revenue in NEA
3. The revenue from industrial sector is more fluctuating.

4. There is no important in the revenue collection of NEA despite the government efforts in this field.

Recommendations

1. To improve revenue collection of NEA, the government should issue circular to all officers to pay their outstanding bill to time.
2. Adequate counter facility is necessary for revenue collection.
3. Payment facility is also a factor it saves the customers' time and transportation cost, NEA should make necessary arrangement for payment of bill through bank.
4. Leakage should be controlled for the improvement of the revenue.
5. Line connecter producer should be made shorter.
6. Assessment of electricity tariffs should be specified.
7. Line disconnection should be properly managed.

F. Mr. Ghana Shyam Thapa

Mr. Ghana Shyam Thapa (2004) has submitted his research work on the topic of "Profit Planning in Nepalese public enterprises: A case study of NEA." an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. He has tried to analyze and evaluate the financial performance of NEA in terms of profitability and rate of return on the basis of selective financial tools. He has concluded some objectives, findings and recommendation as under.

Objectives

1. To examine the present profit planning premises adopted by the NEA.
2. To highlight the various functional budgets of NEA.
3. To evaluate the variances between planned and actual performance of NEA.
4. To provide the valuable suggestion and recommendations on the basis of study.

Findings

1. NEA prepares both tactical and strategic profit plan but strategic plan is confined only to the top level executive.

2. NEA's actual sales revenue budgeted and actual production unit and amount of overhead are in increasing trend.
3. Achievement of capital expenditure is satisfactory.
4. Present power distribution system of NEA is not sufficiently efficient.
5. NEA has huge amount of long term liability.
6. NEA has not utilized its available capacity satisfactorily.
7. NEA has not maintained sound liquidity.
8. NEA's financial performance is not satisfactory because its return on investment is negative or very poor.
9. NEA has not prepared plan and program for the agriculture sector's consumption of electricity.
10. There is lack of proper co-ordination between various directors in regard of the goals, objectives and strategies.

Recommendation

1. To improve revenue collection of NEA, the government should issue circular to all officers to pay their outstanding bill to time.
2. Adequate counter facility is necessary for revenue collection.
3. Payment facility is also a factor it saves the consumers' time and transportation cost, NEA should make necessary arrangement for payment of bill through bank.
4. Leakage should be controlled for the improvement of the revenue.
5. Line connecter producer should be made shorter.
6. Assessment of electricity tariffs should be specified.
7. Line disconnected should be properly managed.

F. Mr. Kiran Dangol

Mr. Kiran Dangol (2006) has conducted a research on the topic "A case study on production planning of Royal Drugs Limited." an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. Mr. Dangol has tried to present the effectiveness of production planning of Royal Drugs Limited. The main objectives and findings of this study are as follows.

Objectives

1. Presenting the profile of RDL.
2. To examine the production planning system of RDL.
3. To evaluate the variance of budgeted and actual achievement of production of RDL.
4. To examine the interrelationship between profit and production budget of RDL.
5. To provide the suitable suggestion and recommendation for improvement of the production planning system of the RDL.

Findings

1 The overall responsibility of preparing production budget of RDL is under planning department.

2 RDL has a lack of adequate knowledge of planning.

3 The trend value of sales profit and loss are decreasing trend.

4 There is highly positive correction between production target and production achievement.

5 The RDL has not applied specific inventory policy so the inventory of the RDL is very fluctuating.

6 There is direct relationship between production and profit and loss.

7 Financial ratios are decreasing trend which indicates RDL is preparing very poor.

8 Employees of RDL are not responsible, sensitive about their job.

Recommendations

1 RDL needs to develop clear objective to achieve its mission by formulating and implementation production planning.

2 RDL has to develop the efficient and management team.

3 RDL should introduce budgeting technique to effectively manage the sales, production, cost and profit.

4 RDL has not been able to utilize all capacity available in the company. So RDL should greater all inputs to make full capacity utilization.

5 RDL should analysis its strength, weakness, opportunities and threats.

6 RDL need to clear classification of costs into fixed, variable, and semi-variable cost for controlling the cost efficiency.

7 Periodic performance report should be strictly prepared which can make conscious towards the poor performance. It can make easily to take correction.

G. Ms. Geeta Pokhrel

Ms. Geeta Pokhrel (2011) has conducted a research on the topic "An Evaluation of Financial Performance of Butwal Power Company and Himal Power Limited" an unpublished master level thesis submitted to Shanker Dev Campus, Faculty of Management, Tribhuwan University. The main objectives and findings of this study are as follows.

Objectives

1. To analyze the financial performance of BPC and HPL.
2. To sketch the strength and weakness of BPC and HPL.
3. To examine the present trend of financial performance of BPC and HPL.
4. To provide appropriate suggestions and recommendations.

Findings

1. Current ratio of BPC is stable throughout the study period however current ratio of HPL is in fluctuating trend.
2. The CV of HPL for quick ratio is greater than CV of BPC which shows more fluctuating in quick position.
3. The CV of HPL is greater than CV of BPC, which means that HPL is more successful in maintaining the liquidity position.
4. Mean ratio of fixed assets turnover ratio of BPC is higher than of HPL. It indicates that BPC has efficient utilization of fixed assets. But CV of BPC is higher than that of CV of HPL because of its higher fluctuating turnover ratio.
5. The total assets turnover ratios of both companies in the study period are not good.
6. Dividend payout ratio of both companies seem to be in fluctuating trend

Recommendations

1. BPC should cut off current liabilities to maintain a proper liquidity position.
2. Fixed assets turnover ratio of BPC is satisfactory but total assets need to be managed more effectively. Similarly both fixed assets and total assets should be managed more effectively in HPL. BPC needs to find better ways to control and improve its receivable.
3. The profitability position of both companies is satisfactory. However HPL can do much more to increase the net profit margin. And BPC can do much more to increase ROE and ROTA by better utilization of its assets. BPC needs an effective production management to control operating cost.
4. Despite the availability of lucrative investment opportunities, shareholders need to be satisfied with dividends. HPL should adopt a more liberal dividend payout policy, as the earning per share is healthy to support such policy.
5. The hydropower sector should maintain research budgets to study the new hydroelectric projects across the country. These should be proper cost control on maintenance activities.
6. The hydropower sector should introduce SWOT analysis to improve their capability of dealing with external forces and managing internal issues of strengths and weakness.

2.3 Research Gap

I could not find any research about the particular topic i.e., "A Study on Revenue Management of Butwal Power Company." All the studies mentioned about the profit planning and control or sales or production is basically related to Nepalese Public Enterprises (NEA, RDL). Those studies have pointed out the similar findings and conclusions.

This study tries to find sources of income and expenditure of BPC and how to manage it effectively. Therefore this study is designated to highlight the income and expenditure of BPC and its management.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This study attempted to analyze and evaluate the budgeting procedure in the process of measuring analysis are closely related with various functional budget.

This study is based on secondary data. The secondary data will descriptive and explorative in nature. The analysis is completed using all the access data, regarding the management of profit planning and control.

3.2 Data Collection Procedures

Data may be information, statistics, facts, figures, charts etc. for the successful analysis and to draw meaningful conclusion, collection of data is the most important part of any research. Data are of two types' i.e., primary data and secondary data. As primary data are to be collected from the source through direct interview, questionnaire, dialogue, discussion etc. they are raw and need to be processed which is time consuming and tedious as well considering this fact, secondary data are used here for this research which can be collected through the management, budgeting section and different publications. The data have been collected from the following sources:-

a. Published and unpublished articles.

b. Annual Reports of BPC.

c. Newsletter of BPC.

d. Previous studies made in this field.

3.3 Period Covered

This research study covers the time of five years .i.e., from F/Y 2061/62 to 2065/66. Data are collected from BPC and it assumed that they are true and correct.

Research Variables

Sales, expenditure, material cost budget, labor, overhead, administrative, selling and distribution, income statement and balance sheet of BPC are the research variables of the present study.

3.4 Tools of Analysis

As the data used for this research study is secondary data, they are managed in proper table, format, and charts for meaningful interpretation. Various statistical, financial as well as mathematical tools are used as per need in order to come in conclusion. The tools that are used to in this study are:

1. Arithmetic mean
2. Standard deviation
3. Co-efficient variables
4. Percentage
5. Graph and diagrams
6. Regression analysis
7. Variable analysis
8. Multiple correlations etc.

3.5 Research procedure

The following procedures have been followed for this study:

a. Useful secondary data are used.

b. Data are described in the light of theoretical basis.

c. The collected data are presented and arrangement in the tabulation from and analysis on the basis of statistical and managerial tools.

d. On the basis of the study, conclusions have been drawn and suitable recommendations have also suggested based on the study.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Sales Budget of BPC

Sales budget is the starting point in the preparation the overall budget procedure. Rest of the other plans and budgets will be prepared as the basis of the sales budget. The budget is usually presented both in units and Rs. of the sales revenue or sales volumes. The preparation of a sales budget in based upon the sales forecast. The overall responsibility or preparing sales budget rest upon the sales manager although chief executive will also have to be involved himself in such activities. BPC's sales budget and production budget is stable. Sales budget prepared by BPC is on the basis of production capacity. BPC sales products to NEA and local households.

The table 4.1 presents the sales budget and actual sales achievement in units (kwh) and in Rs. from the fiscal year 2061/62 to 2065/66.

Table No. 4.1

Sales Budget and Achievement

From the FY 2061/62 to 2065/66

FY	KWh			Rs. (000)		
	Budgeted	Actual	Achievement (%)	Budgeted	Actual	Achievement (%)
2061/62	101,000	80,946	80.15	298,000	236,279	79.28
2062/63	40,000	36,708	91.77	101,400	96,364	95.03
2063/64	101,000	86,839	85.98	334,950	283,167	84.54
2064/65	101,000	94,307	93.37	353,450	323,134	84.69
2065/66	101,000	97,057	96.09	374,480	358,419	88.66

Source: Annual Report of BPC 2065/66

Table 4.1 shows in the FY 2061/62, 2063/64, 2064/65 and 2065/66 the budgeted sales are equal or 101,000, KWh because the production policy of BPC is always stable. So, sales budget of BPC in units is always fixed. But, in the FY 2062/63 Jhimruk Hydropower plant was not in operation because of the political situation of Nepal. So, in the FY 2062/63 budgeted sales were 40,000 KWh.

In order to find out the nature of variability of planned and actual sales of different years, it is calculated the arithmetic mean, standard deviation and coefficient of variation of the budgeted and actual figure of five years from the FY 2058/59 to 2062/63. The detail calculations of these statistical tools are presented in Appendix (1). The summarized results are given below:

Table No. 4.2

Budgeted and Actual sales Relationship

Particular	Budgeted sales (X) (units / KWh)	Actual sales (Y) (units / KWh)
Mean	88,800	79,171
S.D.	24,400	21,979
C.V.	27.48%	27.76%

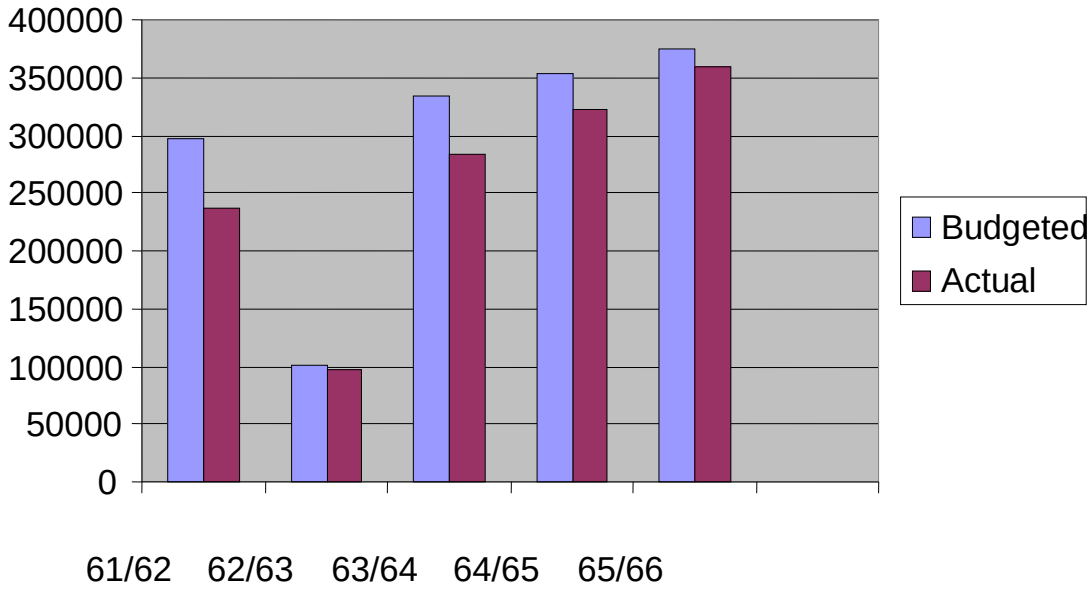
Source: Appendix -1

Table 4.2 shows the result of calculated statistical tools. According to the calculation mean of actual sales is lower than budgeted sales i.e. 79,171 KWh and 88,800 KWh respectively. The standard deviation of actual sales is lower than budgeted sales. Coefficient of variance of actual sales is 27.76 percent and budgeted sales are 27.48 percent. It indicates that a budgeted sale is less variable than actual sales during the study period.

Figure No. 4.1

Budgeted and Actual Sales Revenue of BPC (in Rs. 000)

From the FY 2061/62 to 2065/66



The graphical presentation shows the increasing trend between budgeted and actual sales besides FY 2062/63 during the study period.

Another statistical tool, correlation of coefficient can be used to analyze the relationship between budgeted sales and actual sales. There should be positive correlation between budgeted sales and achievements. To find out the correlation between budgeted figures and actual figures, it can be taken the help of Karl Pearsons coefficient of correlation and it is denoted by (r). After calculation the (r), it can be examined whether there is positive correlation between budgeted sales and actual sales or not. To calculate the value of (r), the budgeted sales has assumed as independent variable X and actual sales as dependent variable Y. For this purpose, the calculated value of (r) is 0.96 (see appendix-1). The value of (r) shows that there is highly positive correlation between the budgeted and actual sales. After examining the relationship between the variables it can be examined the significance of (r) and it can be tested by the help of probable error. If correlation coefficient (r) is greater than probable error the value of r will be significant and vice versa. The calculated probable error of (PEr) = 0.024 (see appendix-1). There, it can be said that value of r is significant or there is perfect positive correlation between budgeted and actual sales.

A regression line also can be calculated to show the degree of relationship between the budgeted and actual sales and to estimate the possible actual sales for coming year with given planned sales for the year. It is assumed that actual sales are dependent variable which is denoted by Y whereas budgeted sales are denoted by X. Then the regression line of actual sales on budgeted sales or Y on X, will be as follows.

$$(Y-\bar{y}) = \frac{\lambda \sigma y\,(x-\bar{x})}{\sigma x}$$

Where,

$\bar{x}$ = 88.800(KWh in 1,000)

$\bar{y}$ = 79.171(KWh in 1,000)

σx = 24.400(KWh in 1,000)

σy = 21.979(KWh in 1,000)

$\gamma \times y = 0.96$

$$\text{Or, } Y - 79.171 = \frac{0.96 \times 21.979\,(X - 88.800)}{24.400}$$

Or, Y – 79.171 = 0.87 X - 77.256

Or, Y = 0.87 X – 77.256+ 79.171

Y = 0.87 X + 1.915

By the help of the regression equation, it can be estimated the expected sales achievement with given value of budgeted sales (X). The budgeted sales (X) for the FY 2066/67 i.e., 101,000 KWh sales achievement will be as follows.

The expected value of sales achievement

(y) = 0.87 X + 2.146

= 0.87 × 101 + 1.915

= 89758

Or, 89758 KWh

If the relationship between budgeted and actual sales remains same as previous year the actual sales for FY 2066/67 will be 89,758 KWh as stated by the above regression equation.

4.2 Source of Income

The electricity is the main sales of BPC to generate income. Electricity service, consultancy service and others are the supporting sources of BPC to generate overall income of the Company. The sources of income includes many activities to support income generation. Electricity services includes fee and charges, sale of meter/cutout and accessories, service line charges and tayari wiring, consultancy services includes cast net fish monitoring, Khare khola small HP, Khimti II fish monitoring and other publications and other sources of incomes includes interest from deposit/investment, foreign currency exchange gain, dividend received, gain on sales of assets and scrap materials etc. The past five fiscal years actual income from electricity services, consultancy services and other sources of BPC is presented in the following table.

Table No. 4.3

Actual Income

From the FY 2061/62 to 2065/66 (Rs in '000')

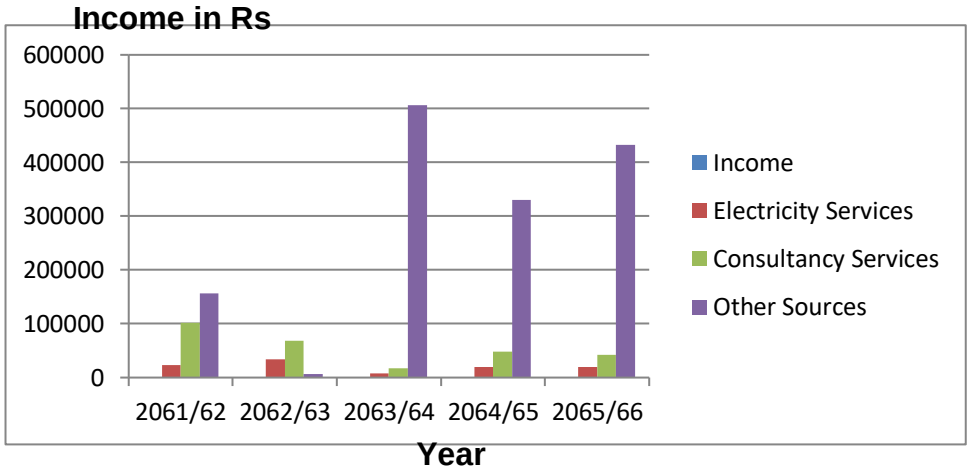
Income	2061/62	2062/63	2063/64	2064/65	2065/66
Electricity Services	23,185	33,654	7,444	19,338	19,534
Consultancy Services	102,303	67,955	17,572	48,392	41,959
Other Sources	156,033	6,535	506,595	329,982	432,217
Total	**281,521**	**108,144**	**531,611**	**397,712**	**493,710**

Sources: Annual Report of BPC 2065/66,

Figure No. 4.2

Actual Income

From the FY 2061/62 to 2065/66



With the reference of above table and figure, the amount of income generation is varying in different headings. The figure shows that in every fiscal year other sources income remained more than electricity and consultancy services sources. In the FY 2063/64 the total income of company from other sources rather than electricity services and consultancy services due to dividend received from extra investment in other sectors.

4.3 Expenditure Budget

Expenditure budgeting involves the entire process of profit planning. Expenditures can be divided into two parts capital and revenue expenditure. It plays important role

to improving profit. BPC has not systematically prepared the expenditure budget. The expenditure budget includes (1) power plant expenses (2) Distribution expenses (3) consultancy services (4) Administrative expenses (5) Other expenses. The other expenses include loss on fixed assets/scrap material, KHP back end, force majeure payment, Depreciation, Staff bonus.

BPC does not prepare the separate budget like manufacturing overhead, administrative overhead and selling and distribution overhead budget. So, there is difficult to analyses it's separately.

The past five year actual expenditure budget of BPC is presented in the following table.

Table No. 4.4

Actual Expenditure of BPC

From the FY 2061/62 to 2065/66

(Rs.in 000)

FY / Expenditure	2061/62	2062/63	2063/64	2064/65	2065/66
Power plant expenses	39,836	43,702	47,369	59,600	57,727
Distribution expenses	29,673	27,170	27,170	30,296	31,125
Consultancy services	19,794	14,984	10,946	14,903	13,692
Administrative expenses	15,249	25,066	38,371	41,201	36,438
Others expenses	48,067	42,166	155,515	51,459	62,840
Total Expenditure	152,619	153,088	279,371	197,459	201,822

Source: Annual Report of BPC 2065/66.

The Table 4.4 shows the actual expenditure in different head of BPC. This table analysis shows that the BPC is paying huge amount in expenditure. In the FY 2063/64 the BPC incurred the highest expenditure amounting Rs. 279,371 in thousand. In the FY 2061/62 it incurred Rs. 152,619 in thousand where the highest expenditure is declined in the FY 2065/66 to Rs. 201,822 in thousand.

The Table 4.4 can be presented in diagram as follows.

Figure No. 4.3

Actual Expenditure of BPC

From the FY 2061/62 to 2065/66

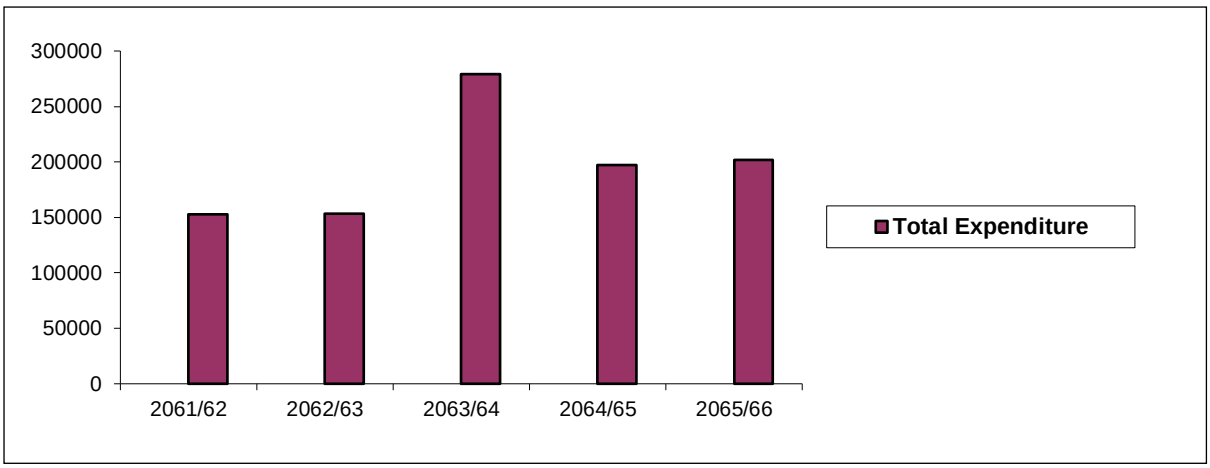
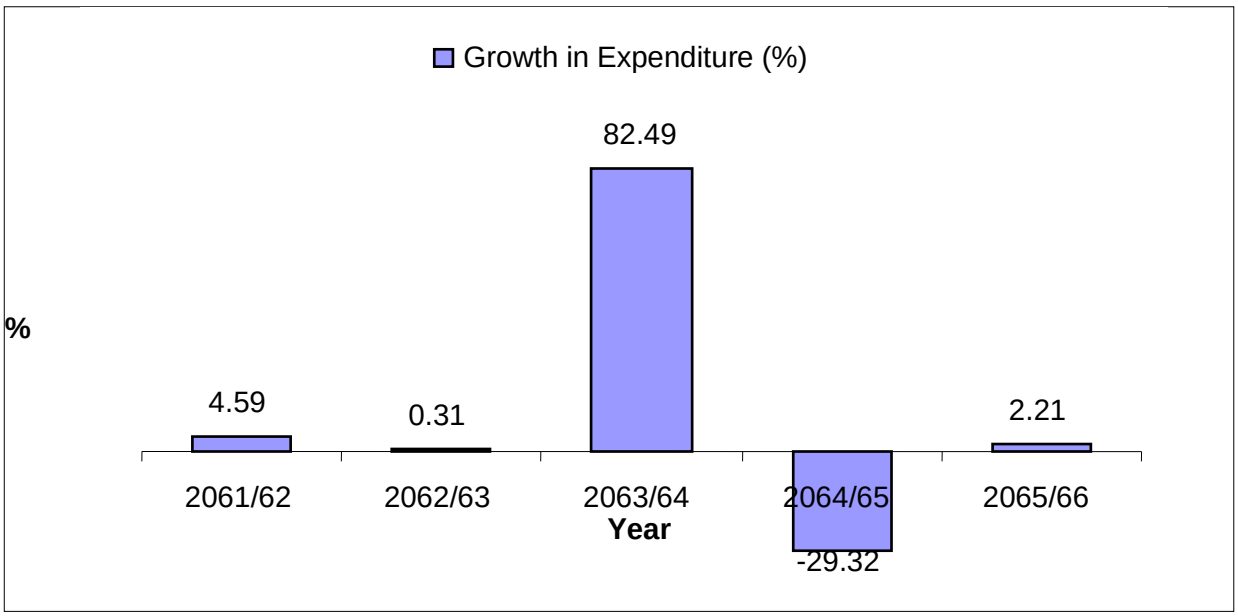


Figure 4.4 shows overhead expenditure trend from the FY 2061/62 to 2065/66. As per figure the aggregative overhead expenditure is in fluctuation trend. In the FY 2063/64 is higher than other FY.

Figure No. 4.4

Growth in Total Expenditure



Source: Table No.4.4

The total expenditure of the company occurring is very fluctuation. Figure 4.3 shows that in 2061/62 growth rate of total expenditure were 4.59% then previous year. In 2062/63 the rate was decreased and only shows 0.31% growth rate but next year

2063/64 total expenditure highly increased and reached 82.49%. This statistics shows due to the payment of KHp Back End, Force Majeure. In 2064/65 total expenditure growth rate is declined by 29.32% and next year 2065/66 it again going to increased by 2.21%. So, from above figure we can conclude that total expenditure of the company is highly fluctuated due to various reasons.

4.3.1 Administrative Expenses Budget

An administrative expense includes those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provide supervision of and service of all functions of the company. The administrative expenses budget of BPC divided two groups. (1) Staffs cost (2) office overhead. The staff costs includes the all expenses related to staff such as salary, allowance provident fund, paid leave, daily wage gratuity, insurance etc and office overhead includes office rent, electricity, water, housekeeping, furniture, repair and maintenance, transportation, meeting expenses and other all related to office expenses.

The table 4.5 presents the actual administrative expenses from the FY2061/62 to 2065/66.

Table No. 4.5

Actual Administrative Expenses

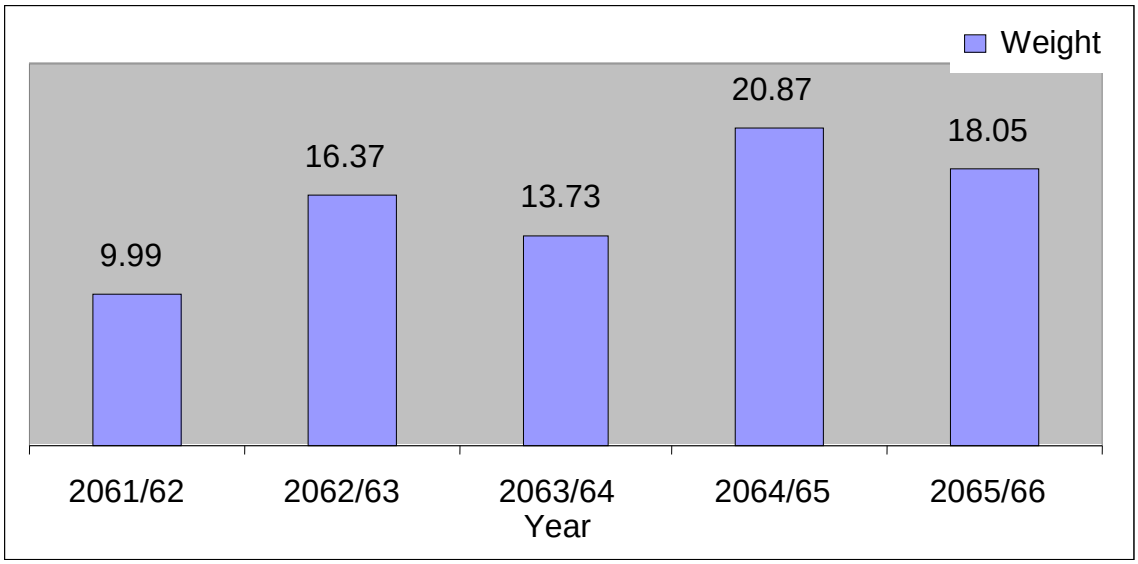
From the FY 2061/62 to 2065/66

Year	Total Expenses	Administrative Expenses	Weight
2061/62	152,619	15,249	9.99
2062/63	153,088	25,066	16.37
2063/64	279,371	38,371	13.73
2064/65	197,459	41,201	20.87
2065/66	201,822	36,438	18.05

Source: Annual Report of BPC 2065/66

Figure No. 4.5

Weight of Administrative Expenses in Total Expenditure



Above figure show that the weight of the Administrative expenses in total expenses of BPC in various five years. Form above figure the weight under this heading showing 9.99%, 16.37%, 13.73%, 20.87% and 18.05% within this tenure 2061 to 2065 respectively.

4.3.2 Selling and Distribution Budget

A Selling and Distribution expense includes all the cost related to selling, distribution and delivery of product or service to customers. In BPC it includes personnel cost, vehicle, royalty, repair and maintenance etc.

The table 4.6 shows the actual selling and distribution expenses of BPC from the FY 2061/62 to 2065/66.

Table No. 4.6

Actual selling and Distribution Expenses

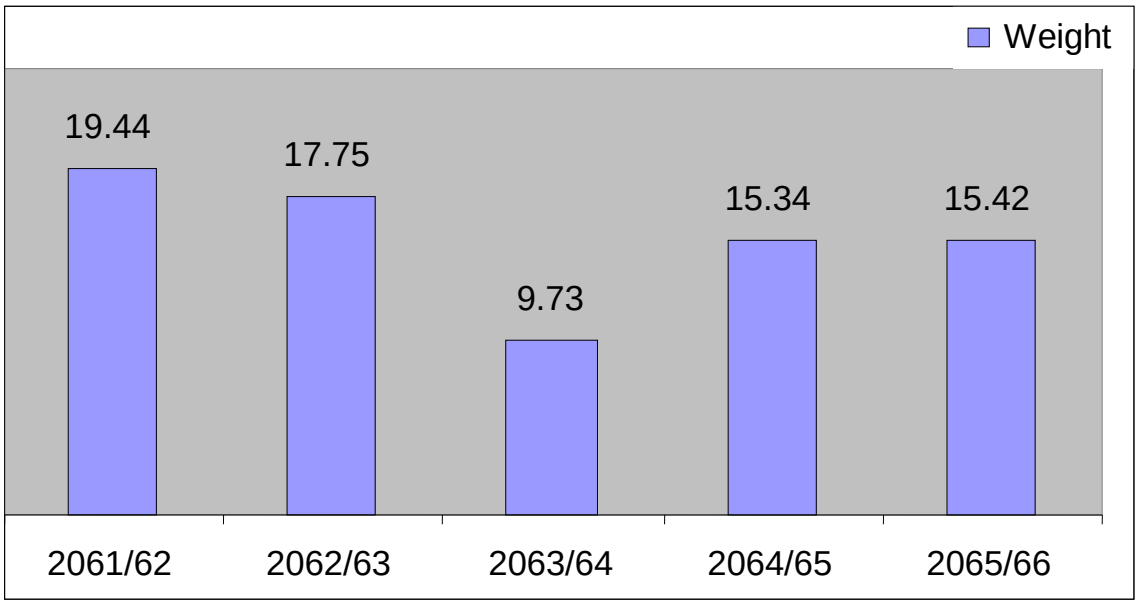
From the FY 2061/62 to 2065/66

Year	Total Expenses	S & D Expenses	Weight
2061/62	152,619	29,673	19.44
2062/63	153,088	27,170	17.75
2063/64	279,371	27,170	9.73
2064/65	197,459	30,296	15.34
2065/66	201,822	31,125	15.42

Source: Annual Report of BPC 2065/66

Figure No. 4.6

Weight of Selling and Distribution Expenses in Total Expenditure



Above figure show that the weight of the Selling and distribution expenses in total expenses of BPC in various five years. Form above figure the weight of selling and distribution expenses showing 19.44%, 17.75%, 9.73%, 15.34% and 15.42% within this period from the FY 2061 to 2065 respectively.

4.3.3 Power plant Expenditure

The power plant expenditure includes electricity purchase personnel cost, office overhead, vehicle operation and maintenance, power plant operation and insurance, power plant maintenance, royalty, transmission line repairs, maintenance expenses written off etc. The table 4.7 shows the actual power plant expenses of BPC from the FY 2061/62 to 2065/66 and its weight in total expenditure.

Table No. 4.7

Actual Power plant Expenditure

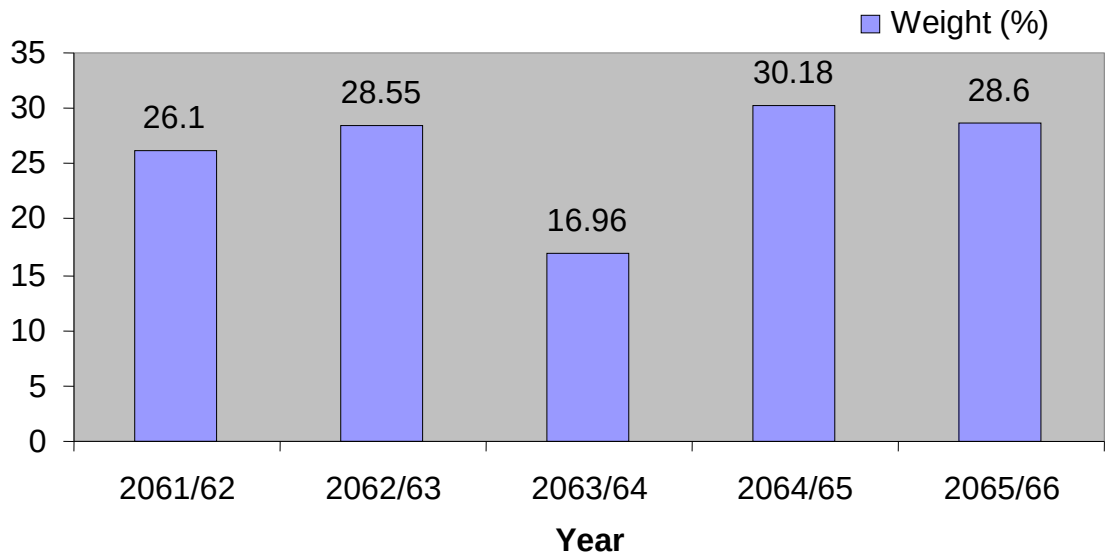
From the FY 2061/62 to 2065/66

Year	Total Expenses	Power plant Expenses	Weight (%)
2061/62	152,619	39,836	26.10
2062/63	153,088	43,702	28.55
2063/64	279,371	47,369	16.96
2064/65	197,459	59,600	30.18
2065/66	201,822	57,727	28.60

Source: Annual Report of BPC 2065/66

Figure No. 4.7

Weight of Power plant expenses in total Expenditure



In the total expenses of the company power plant expenditures are also playing remarkable role. Above figure shows the weight of power plant expenses in total overall expenses of the company. In the FY 2063/64 the weight of power plant expenses is 16.96% in total expenditure which is comparatively less then other years.

4.3.4 Consultancy Services Expenditure

Consultancy services expenditure includes cast net fish monitoring, khare khola SHP, khudi detail design and support, engineering overhead, marketing and publications, khimti II fish monitoring, ISO related activities, capacity building training etc. The

table 4.8 shows the actual consultancy services expenditure and its weight in total expenditure of the company from the FY 2061/62 to 2065/66.

Table No. 4.8

Consultancy Services Expenditure

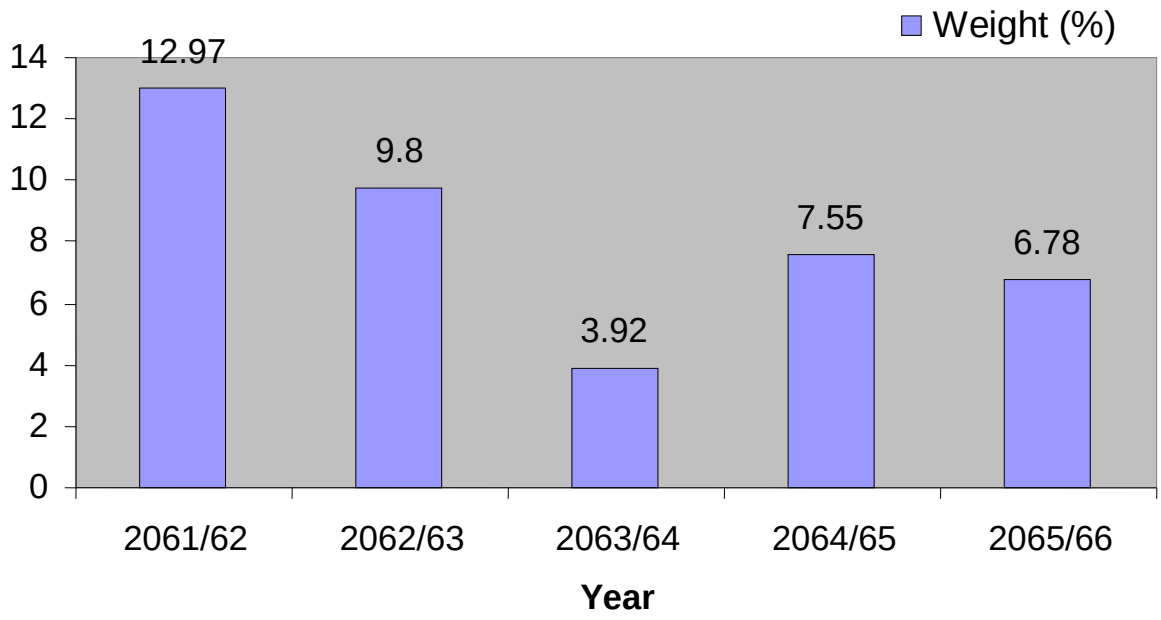
From the FY 2061/62 to 2065/66

Year	Total Expenses	Consultancy Services Expenses	Weight (%)
2061/62	152,619	19,794	12.97
2062/63	153,088	14,984	9.8
2063/64	279,371	10,946	3.92
2064/65	197,459	14,903	7.55
2065/66	201,822	13,692	6.78

Source: Annual Report of BPC 2065/66

Figure No. 4.8

Weight of Consultancy Services Expenditure in Total Expenditure



Above figure shows that the weight of consultancy services expenditure in total expenditure of the company. It shows 12.97, 9.8, 3.92, 7.55 and 6.78 percent respectively in the FY 2061/62 to 2065/66. In the FY 2060/61 the share of expenses from consultancy heading is less than other years and FY 2061/62 indicates the highest expenses score in total expenses by this heading.

4.3.5 Others Expenditure

Other expenditure of BPC includes loss on fixed assets/scrap materials, KHP back end, force majeure payment, depreciation, staff bonus etc which are small expenses. The table 4.9 shows the actual other expenditure and its weight in total expenditure of the company from the FY 2061/62 to 2065/66.

Table No. 4.9

Others Expenditure

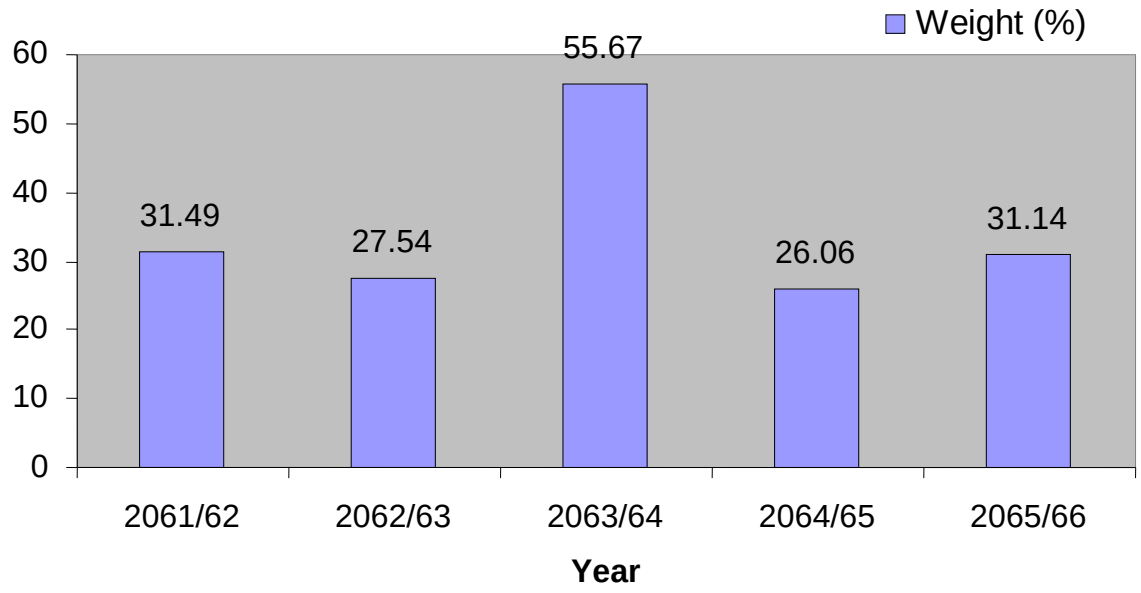
From the FY 2061/62 to 2065/66

Year	Total Expenses	Others Expenses	Weight (%)
2061/62	152,619	48,067	31.49
2062/63	153,088	42,166	27.54
2063/64	279,371	155,515	55.67
2064/65	197,459	51,459	26.06
2065/66	201,822	62,840	31.14

Source: Annual Report of BPC 2065/66

Figure No. 4.9

Weight of Other Expenditure in Total Expenditure



Above figure shows that the weight of others expenditure in total expenditure of the company. It shows 31.49, 27.54, 55.67, 26.06 and 31.14 percent respectively in the FY 2061/62 to 2065/66. In the FY 2060/61, the share of others expenses is higher

than other years and FY 2061/62 indicates the lowest expenses score in total expenses by this heading.

4.4 Profit Planning with Cost-Volume Profit Analysis

The relationship between Cost, Volume and Profit is known as Cost-Volume-Profit analysis. Now-a-days, Cost-Volume-Profit analysis has become a powerful instrument in management decision-making, especially cost control and profit planning. CVP analysis helps to determine the minimum sales volume to avoid losses and the sales volume at which the profit goal of the company will be achieved.

4.4.1 Identification of Cost Behavior

According to the cost behavior, cost can be classified into two categories. First is fixed cost and second is variable cost. Fixed costs thus remain constant whether the activity increases or decreases within the relevant range. The cost which changes in total directly with the change in output but remains constraint in per unit basis is regarded as variable cost. The expenses that are neither fixed nor variable in nature are known as semi-variable costs.

Classification of costs into fixed and variables plays vital role in profit planning and control. It helps to determine the volume of operation desired to maintain the authority profitable; however, BPC has not set the clear cut criteria about costs classification. The classification of expenses in fixed and variable components is as under.

Table No. 4.10
Classification of Expenses into Fixed and Variable
For the 2065/66

S.N.	Expenses	Cost behavior	Fixed cost	Variable cost
1	Power plant expenses	Fixed	57,727	-
2	Distribution expenses	Variable	-	31,125
3	Consultancy services	Variable	-	13,692
4	Administrative expenses	Variable	-	36,438
5	Los on fixed assets	Fixed	6,090	-
6	Depreciation	Fixed	49,959	-
7	Staff bonus	Variable	-	6,791
	Total		113,776	88,046

Source: Annual Report of BPC 2065/66

According to table 4.10, the cost is classified in fixed and variable expenses. But the BPC has not adopted clear cut vision for the classification of costs. They are categorized Administrative expenses and Consultancy services into in variable cost. The above classification is made for the purpose of analyzing cost-volume profit of BPC. For the very purpose of above mentioned, the costs of FY 2065/66 are taken into consideration.

4.4.2 Cost Volume Profit Analysis

The analysis of relationship among the cost-volume-profit is crucial for profit planning purpose. Cost-volume-profit analysis is an analytical management accounting tool for studying the relationship among cost volume and profit.

Cost-volume-profit analysis includes both contribution analysis and break-even analysis. BEP analyses emphasize the level of output at which sales revenue is exactly equal to total cost.

CVP analysis of BPC is based on certain assumptions which are as follows:

1. Cost-volume analysis is based on the accounting data of FY 2065/66.
2. Activity base is selected in terms of sales in thousand.
3. Selling price, variable cost per unit and fixed cost per annum are assumed to be constant for the whole year.
4. Inventory of electricity is not assumed.

For the CVP analysis of BPC, the data of FY 2065/66 are presented data for FY 2065/66 in KWh and Rs. in thousand.

- Sales = 92,214 KWh
- Sales = Rs. 493710 in thousand
- Total variable cost = Rs. 1,13,776 in thousand
- Total fixed cost = Rs. 88,046 in thousand

Table No. 4.11

Income Statement with the Change of Fixed Cost Value

For the Year 2065/66

(in 000)

Particular	10% increasing in Fixed Cost	Original Value	10% decrease in Fixed Cost
Sales Revenue	493,710	493,710	493,710
Less: Variable Cost	88,046	88,046	88,046
Contribution Margin	405,664	405,664	405,664
Less: Fixed Cost	125,153	113,776	102,399
Net Profit	280,511	291,888	303,265
PV Ratio(CM/Sales)	0.82	0.82	0.82
BEP (FC/PV Ratio)	152,625	138,751	124,876

Source: Annual Report of BPC 2065/66

The above table showed that when fixed cost was increased by 10 percent in the FY 2065/66, net profit was decrease to Rs 280,511 in thousand from Rs. 291,888 in thousand and the BEP amount increase to Rs. 152,625 in thousand from Rs 138,751 in thousand. When the fixed cost was decreased by 10 percent in profit was increased to 303,265 in thousand and BEP amount was decreased to Rs. 124,876 in thousand from original net profit and BEP.

Table No. 4.12

Income Statement with the change of Variable Cost Value

For the Year 2065/66

(in 000)

Particular	10% increasing in Variable Cost	Original Value	10% decrease in Variable Cost
Sales Revenue	493,710	493,710	493,710
Less: Variable Cost	96,850	88,046	79,242
Contribution Margin	396,860	405,664	414,468
Less: Fixed Cost	113,776	113,776	113,776
Net Profit	283,084	291,888	300,692
PV Ratio(CM/Sales)	0.80	0.82	0.84
BEP (FC/PV Ratio)	142,220	138,751	135,447

Resource: Annual Report of BPC 2065/66

The above table showed that when variable cost was increased by 10 percent net profit decreased Rs.283,084 in thousand from Rs. 291,888 in thousand. Similarly,

profit volume ratio was decrease to 0.80 from 0.82 and the breakeven amount increased to Rs.142,220 in thousand from Rs 138,751 in thousand. There was decreased to contribution margin to Rs. 396,860 in thousand from in original Rs. 405,664 in thousand when the variable cost was decreased by 10% net profit was increased to Rs.300,692 in thousand from original profit. P/V ratio was increased to 0.84 from original ratio, BEP amount was decreased to Rs. 135,447 in thousand from 138,751.

4.5 Relation of Income and Expenditure

Income is most important things of profit oriented organization. The definition of income encompasses both revenue and gains. BPC is also profit oriented organization to provide good service and with consumer satisfaction. Mainly BPC's income sources are sale electricity services, consultancy services and other interest from deposit, depreciation being revenue portion, gain on sale of assets and scrap material etc. The expenditure which generates revenue or income called capital expenditure. It is incurred either for buying permanent assets or for improving their existing working capacity. Any expenditure incurred in connection with the operation and administration of daily activities of the business is called revenue expenditure. It is incurred for maintaining earning capacity and working efficiency of fixed assets. The main expenditure of BPC is power plant expenses, distribution expenses, consultancy services, administrative expenses, loss on fixed assets, depreciation, staff bonus etc.

The table 4.13 presents the actual income and expenditure of BPC Rs. in thousand from the fiscal year 2061/62 to 2065/66.

Table No. 4.13

Total Income and Expenditure

From the FY 2061/62 to 2065/66

Rs in 'ooo'

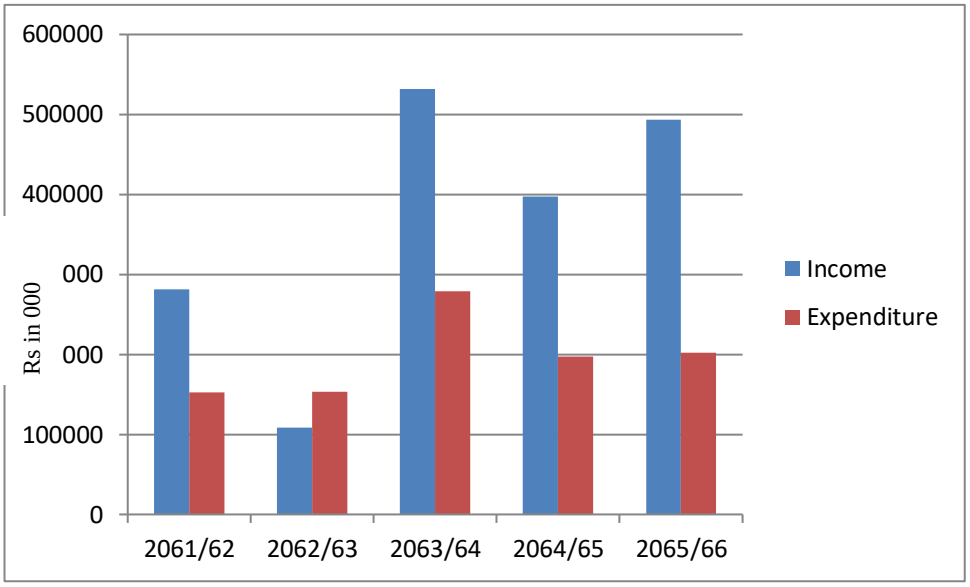
Year	Income	Expenditure
2061/62	281,521	152,619
2059/60	108,144	153,088
2060/61	531,611	279,371
2061/62	397,712	197,459
2065/66	493,710	201,822

Source: Annual Report of BPC 2065/66

Figure No. 4.10

Income and Expenditure of BPC (Rs. In 000)

From the FY 2061/62 to 2065/66



In most of the year Income is leading in the relation between income and expenditure. The graphical presentation shows the fluctuation trend in every fiscal year income and expenditure during the study period, in order to find out the nature of variability of income and expenditure of different years. It is calculated the arithmetic mean, standard deviation and coefficient of variation of the income and expenditure of five years from the FY 2061/62 to 2065/66. The detail calculations of these statistical tools are presented in Appendix-2. The summarized results are given below:

Table No. 4.14

Income and Expenditure Relationship

Rs in 'ooo'

Particular	Income (x) in thousand	Expenditure (y) in thousand
Mean ($\bar{x}$)	362,539	196,872
S.D. (σ)	153,821	46,273
C.V.	42.42%	23.50%

Source: appendix – 2

Table 4.14 shows the result of calculated statistical tools. According to calculation mean of income is higher than expenditure i.e. Rs. 362,539 in thousand and Rs 196,872 in thousand respectively. Standard deviation of income and expenditure is

153,821 and 46,273 respectively and coefficient of variation of income and expenditure is 42.42 percent and 23.50 percent respectively.

Another statistical tool, correlation of coefficient can be used to analysis the relationship between income and expenditure. There should be positive correlation between income and expenditure. To find out the correlation between income and expenditure, it can be taken the help of Karl person's coefficients of correlation and it is denoted by (r). After calculating the (r), it can be examined whether there is positive correlation between income and expenditure or not. To calculate the value of (r) the income has assumed X and expenditure has as summed Y.

For this purpose, the calculated value of (r) is 0.82 (see appendix-2). The value of (r) shows that there is highly positive correlation between the income and expenditure. It indicate that expenditure and income change in same direction. After examining the relationship between the variables it can be examined the significance of (r) and it can be tested by the help of probable error. The correlation coefficient (r) is greater than probable error (PEr) = 0.098 (see appendix 2). There, it can be said that value of r is significant or there is perfect positive correlation between income and expenditure.

4.6 Relation of Income and Expenditure with Profit

Maximization the income and minimization the expenditure creates the profit. To make profit, income should be higher than expenditure. The table 4.15 present actual income and expenditure and it's relation with profit.

Table No. 4.15

Actual Income, Expenditure and Profit

From the FY 2061/62 to 2065/66

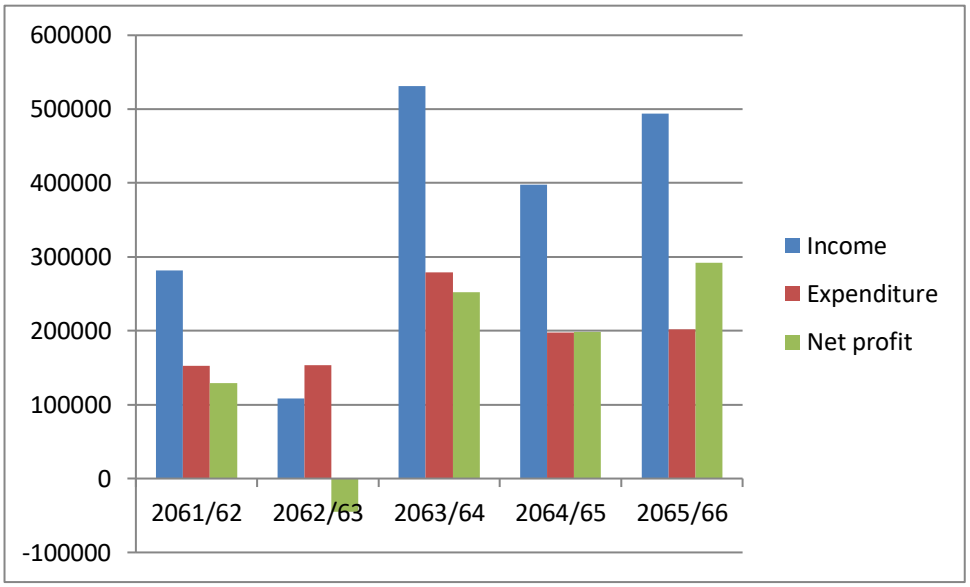
Rs in 'ooo'

Year	Income	Expenditure	Net profit
2061/62	281,521	152,619	128,902
2062/63	108,144	153,088	(44,944)
2063/64	531,611	279,371	252,240
2064/65	397,712	197,459	198,253
2065/66	493,710	201,822	291,888

Source: Annual Report of BPC 2065/66

Figure No. 4.11

Income, Expenditure and Profit



The above graph shows which the income and expenditure and net profit of BPC has earned highest income in the FY 2063/64 but profit is not higher as in the FY 2065/066. We can see from above graph that in the FY 2062/63 income, Expenditure and profit are fluctuating. The BPC's income, expenditure is much lower and profit is in negative due to the political situation of the country.

The study of relationship among the three or more, variables simultaneously is the multiple correlations. In multiple correlation all the given variables are studied a to one time by taking one variable as dependent and all the remaining available as independent and the effect of all the independent variable (or factors) on a dependent variables is studied.

Thus multiple correlation analysis is the measurement of relationship between single dependent variable and a number of independent variables Here, income (X1) and expenditure (X2) are independent variable and profit (X3) is dependent variable we present the relationship between income (X1), expenditure (X2) and profit (X3) by using multiple correlation coefficient during the time form FY 2061/62 to 2065/66 (Appendix -3) base on the no. 4 .10.

The coefficient of multiple correlation is 97% between the three variables income (X1) Expenditure (X2) and Profit (X3). The value of correlation shows that there is highly positive correlation between the income and expenditure with profit.

Coefficient of Multiple Determinations (R^2).

The square of the coefficient of multiple correlations is called coefficient of multiple determination and it is very much useful in interpreting the value of the multiple correlation coefficient. The coefficient of multiple determinations can be obtained by squaring on $R_{3.12}$ $(R_{3.12})^2$ or the square of multiple correlation coefficient is known as coefficient of multiple determination.

Then, coefficient of multiple determinations.

$R^2_{3.12} = 0.972^2$

$= 94\ \%$

This tells us that 94% of the total variation in X3 is due to the variables X1 and X2 and remaining is due to the other factors.

4.7 Income Statement

Income statement shows profit and losses of company or organization. It is calculate by deduction of total expenditure from total revenue. Here, in the table 4.16 showed the income statement of BPC from the Fiscal year 2061/62 to 2065/66.

Table No. 4.16

Income Statement

From the FY 2061/62 to 2065/66

Rs in 'ooo'

Year	Profit
2061/62	128,902
2059/60	(44,944)
2060/61	252,240
2061/62	198,253
2065/66	291,888

Source: Annual Report of BPC 2065/66.

Figure No. 4.12

Profit

From the FY 2061/62 to 2065/66

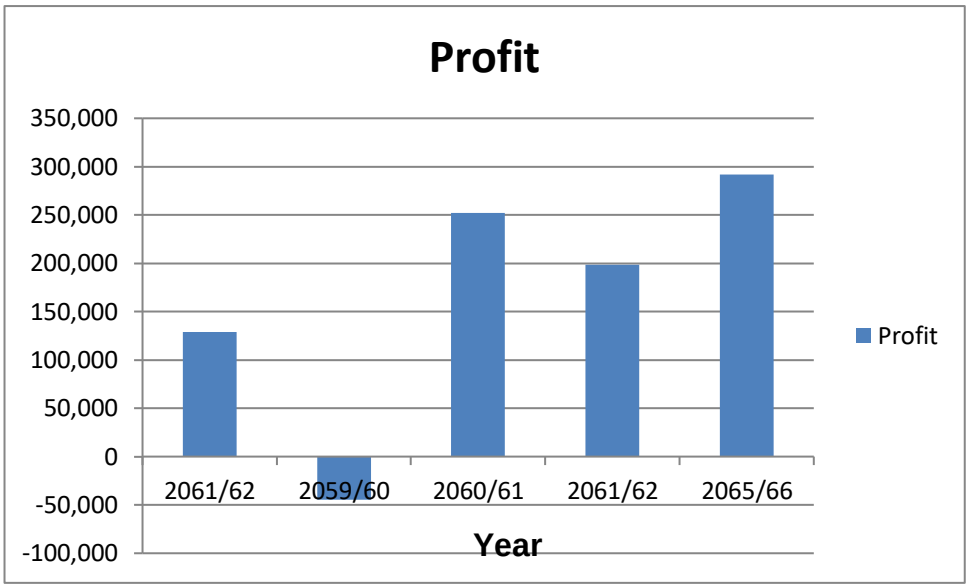


Figure 4.12 shows that the total profit of BPC from the FY 2061/62 to 2065/66. From the above presentation we can say that in the FY 2062/63 the company bears the losses due to adverse effect of political situation of country. And other all year the company gets profit in remarkable level. So the future of the company is very raising pace.

4.8 Major Finding of the study

Butwal Power Company is running at profit. From the power loss situation BPC is unable to achieve its targeted sales. However, BPC get success to earn profit because the good management of the company.

The major findings of the study on the basis of collected and analysis of data are presented as below:-

1. BPC's sales budget is fixed or stable and sales budget and sales performance is satisfactory.
2. The sales achievement percent of amount is 79.2 percent, 95.0 percent, 84.54 percent, 84.69 percent and 96.9 percent in the FY 2061/62, 2062/63, 2063/64,

2064/65 and 2065/66 respectively. The achievement percentage of sales revenue is fluctuating during the study period. BPC did not get achieve the targeted sales due to the leakage and power loss situation.

3. There is positive and perfect correlation between budgeted and actual sales. It means actual sales change in same direction with budgeted sales.
4. BPC's actual sale is increasing trend during study period except n the FY 2062/63. It was Rs.236,279, Rs.96,364, Rs.283,167, Rs.323,134 and Rs.358,419 in thousand in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively.
5. BPC earned more income from other sources rather than electricity and consultancy services sources. In the FY 2063/64, it earned highest amount from other sources rather than electricity and consultancy services sources due to dividend received from extra investment in other sectors.
6. Amount of expenditure of BPC were in fluctuating trend during the study period. It was Rs.152,619, Rs.153,088, Rs.279,371, Rs.197,459 and Rs.201,822 in thousand in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively.
7. Administrative expenses were in fluctuating trend. The administrative expenses was Rs.15,249, Rs.25,066, Rs.38,371, Rs.41,201 and Rs.36,438 in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively.
8. The selling and distribution expenses were in increasing trend but in the FY 2062/63 and 2063/64 it remained the same.
9. The weight of power plant expenses in total expenditure are 26.1, 28.55, 16.96, 30.18 and 28.6 percent in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively.
10. The weight of consultancy services in total expenditure is 12.97, 9.8, 3.92, 7.55 and 6.78 percent respectively in the FY 2061/62 to 2065/66.
11. The weight of other expenditure, in total expenditure is 31.49, 27.54, 55.67, 26.06 and 31.14 percent respectively in the FY 2061/62 to 2065/66.
12. The original BEP is Rs. 138,751 in thousand. If fixed cost is increase than decrease in net profit and increase in BEP, when decrease in variable cost than contribution margin and net profit is decrease and BEP is increase.
13. BPC' income sources are mainly electricity sale and other consultancy services, interest from deposit, gain on sale of assets and scrap materials etc.

14. The main expenditure of BPC is power point expenses, consultancy services, administrative expenses, loss on fixed assets, depreciation, staff bonus etc.

15. The income of BPC is fluctuating during the study period. Income was Rs. 281,521, Rs.108,144, Rs.531,611, Rs.397,712 and Rs. 493,710 in thousand in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively.

16. The expenditure of BPC was Rs. 152,619, Rs.153,088, Rs.279,371, Rs.197,459 and Rs.201,812 in thousand in the FY 2061/62, 2062/63, 2063/64, 2064/65 and 2065/66 respectively. The expenditure is also fluctuating during the study period.

17. The coefficient of variation of income is 42.42 percent, and expenditure is 23.50 percent and there is highly positive correlation between income and expenditure. It means expenditure change in same direction with income.

18. Net profit before tax was Rs. 128,902, Rs.252,240, Rs.198,253, Rs.291,888 in thousand in the FY 2061/62, 2063/64, 2064/65, 2065/66 respectively and in the FY 2062/63 BPC had got loss Rs. 44,944 in thousand.

19. The coefficient of multiple correlations is between three variables income, expenditure and profit. The value of correlation shows that there is highly positive correlation between income and expenditure with profit. It means profit is change same direction with income and expenditure.

20. BPC prepared income statement systematically and net profit after tax was Rs.142,626, Rs. 235,418, Rs.197,761 and Rs.288,419 in thousand in the FY 2061/62, 2063/64, 2064/65, 2065/66 respectively. In the FY 2062/63 had got loss Rs.44,944 in thousand.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Nepal is a small landlocked country with no resources for natural oil and gas as sources of energy but has immense hydropower potential of theoretically 83000 MW in which 43000 MW can be economically exploited. Nepal is a developing country in the world, with the population of approximately 30 million and an historical annual growth rate 2.4% of which majority lives in Hills and Terai. Annual Per Capita income is only about $240 and the corresponding growth rate per capita has remained very low.

Nepal possesses energy sources in the form of hydropower and forest (fuel wood), no other fossil fuel energy resources have been discovered is significant quantities yet. Renewable energy resources including solar and wind power are being developed on a very small scale for isolated villages and bio-gas is utilized in an increasing number of villages throughout the country. Although Nepal possesses huge hydroelectricity potential, only 1% has been developed to date. Now, in this sector, private sector also playing great role at present.

Profit planning is one of the most important management tool used to plan and control business operations. Budgets or plans are financial tool prepared as a guide to and control of future operations. The profit planning and control is not only a technique of improving performance of the enterprise rather it is a long-term policy of enterprise. Without analyzing strengths, weakness, opportunity and threat in the enterprise, it cannot survive for long time. Profit planning and control techniques analyze strengths, weakness, opportunity and threats in the enterprise.

Comprehensive profit planning and control or budgeting continues to be prime importance in virtually all organizations. Profit plan can be broadly divided into two groups as functional plan and financial plan. Functional plan includes sales plan, production plan, row material plan, direct labor plan and expenses plan. Financial plan includes cash flow plan, capital expenditure plan, projected income statement and projected balance sheet.

A hydropower development offers potential for economic growth by providing energy to domestic industry and promotes export business. Hydropower development is

capital intensive and at present more costly than thermal power. Relatively small projects operating as run of river generate power that is relatively expensive for Nepal as a result the electricity tariff is high. Private sector investment in Nepal has been promoted and given favorable condition. Some private investors are interested in building, new plants, both for domestic power consumption and for export. But the access of electricity is restricted to only 20% of the total population.

Butwal Power Company Limited was established in 2022 BS as a private limited Company registered under Company Act 2021 of Nepal by the promoters-United Mission to Nepal, Government of Nepal, NEA and NIDC with an objective to develop the hydropower projects using appropriate training and technology transfer and human resources as well. The company is one of the pioneering hydropower developers in Nepal from private sector. It has developed 1 MW Tinau, 5.1 MW Andhikhola and 12 MW Jhimruk hydropower project. The company was converted in to limited company in 2049 BS and privatized in 2059 BS resulting main shareholders Shagri-la Energy Limited and Interkraft As, Norway.

BPC is one of the examples of Success Company and it provides qualitative service to customer. BPC recognizes that it's HR and its customers are the key factors for future development. The effective management of these vital assets is critical to fulfilling its institution goals and values, whose successful achievement rests directly on the quality of staff performance, good management and accounting system.

Profit is the symbol of success for profit oriented company. The good management of income and expenditure helps to increase the profit. Management can find sources of income and expenditure and it helps increase the sources of income and decrease the sources of expenditure. To achieve the targets, the accounting system should be scientific and systematically.

5.2 Conclusion

Conclusions have derived from this study are enumerated as here under:

BPC is the private profit oriented company. The principal shareholders of the company are Shanggri-la Energy Limited and Interkraft Norway and Ministry of water resources, Nepal Government. BPC has been practicing of preparing budgets or plan since its establishment. It is able to prepare systematic, scientific, and appropriate

budgets by considering relevant factors, polices and ides. Sales and production budget is fixed or stable in this organization. So it is not necessary to make comprehensive sales and production budget. BPC sales achievement has never touched to the planned sales during the study period because of leakage and power loss situation. However, all the sales achievement is satisfactory.

BPC has a high degree of positive correlation coefficient between budgeted sales and actual sales i.e. 0.96. It means actual sales change in same direction of budgeted sales. Selling price per unit is different in Andhikhola centre and Jhimruk centre because the difference of production cost. BPC has selling electricity to NEA and local consumer. The sales share of electricity to NEA is greater than local consumers. Amount of expenditure is systematically kept in different head that is power plant expenses, distribution expenses, consultancy services, administrative expenses, depreciation etc.

BPC administrative expenses were increasing trend till in the FY 2061/62 and in the FY 2065/66 its administrative expenses was decreased. Selling and distribution expenses were in increasing trend in study but in the FY 2062/63 and 2063/64 under this heading remaining same. The share of total expenditure in power plant expenses is 26.1, 28.55, 16.96, 30.18 and 28.6 percent receptively in the FY 2061/62 to 2065/66. The weight in consultancy services in total expenditure is fluctuant in study period. The weight of other expenditure head is 31.49, 27.54, 55.67, 26.06, and 31.14 percent respectively in the FY 2061/62 to 2065/66. Profit planning and control has two side, one is revenue planning and other is cost planning. If these both are planned properly, profit will be automatically planned. In BPC revenue planning and cost planning are systematically and scientifically. BPC financial statements have been prepared in accordance with generally accepted accounting principles, Nepal Accounting standard, Company Act 2063 and Electricity Act 2049 and prevailing rules.

BPC is in more satisfaction position in sales volume because its sales are higher than BEP level. Main income source of BPC is sale to electricity, other consultancy services, gain on sale of assets and scrap materials etc. The main expenditure of BPC is power plant expenses, distribution expenses, consultancy services, and administrative expenses, loss on fixed assets, depreciation, and staff bonus. BPC income and expenditure management is scientific and highly positive correlation between income and expenditure. It means expenditure change in same direction with income. The coefficient of multiple correlations is 97% between incomes, expenditure

with profit. The value of correlation shows that there is highly positive correlation between the income and expenditure with profit.

5.3 Recommendations

Based on the above study, the following suggestions and recommendations can be forwarded to improve the profit of BPC.

- BPC should give emphasis on preparation of realistic budget for budgetary control.
- BPC should try to minimize its overall expenditure to maximize profit
- BPC should clearly classify its costs into fixed, variable and semi-variable to prepare plan for production and its operation.
- BPC should maintain its periodic performance reports systematically and also should take correction action if necessary.
- The management should give training and take carrot and stick strategy for good performance.
- To increase the production of electricity BPC should upgrade the Andhikhola hydropower.
- It is suggested that BPC should invest in other hydro projects to increase the production and profit.
- BPC should control the frequently electricity cut off, irregular supply by using new and modernized machine, plant installations.
- The plan of BPC, should be communicated to lower level management and coordination among them should be established.

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Appendix - 1

Sales Relation Calculation

FY	Budgeted Sales (x)	Actual Sales (y)	$U=\frac{x-\bar{x}}{1000}$	$V=\frac{y-\bar{y}}{1000}$	$U^2 = (x - \bar{x})^2$	$V^2 = (y - \bar{y})^2$	UV
2061/62	101000	80946	12.2	1.775	148.84	3.15	21.655
2062/63	40000	36708	-48.8	-42.463	2381.44	1803.1	2072.194
2063/64	101000	86939	12.2	7.768	148.84	60.34	94.769
2064/65	101000	94,307	12.2	15.136	148.84	229.1	184.659
2065/66	101000	97057	12.2	17.886	148.84	319.91	218.209
	$\Sigma x =$ 444000	$\Sigma y =$ 395855	$\Sigma u =$ 0	$\Sigma v =$ 0	$\Sigma u^2 = 2976.8$	$\Sigma v^2 = 2415.6$	$\Sigma uv =$ 2591.486

Here,

Budgeted sales is assumed = (x)

Actual sales is assumed = (y)

I) Calculation of mean

For budged sales (x) for actual sales (y)

We have,

Mean ($\bar{x}$) $= \frac{\Sigma x}{N}$ Mean ($\bar{y}$) $= \frac{\Sigma y}{N}$

$= \frac{44400}{5}$ $= \frac{395855}{5}$

= 88800 = 79171

II) Calculation

For budged sales (x) For actual sales (y)

We have,

S.D. $(\sigma x) = \sqrt{\frac{1}{n}\Sigma(x-\bar{x})^2}$ S.D. $(\sigma x) = \sqrt{\frac{1}{n}\Sigma(y-\bar{y})^2}$

$= \sqrt{\frac{1}{5} \times 2976.8}$ $= \sqrt{\frac{1}{5} \times 2415.6}$

= 24.4 = 21.979

= 24400.00 = 21979

III) Calculation of coefficient of variation

For budged sales (x) For actual sales (y)

We have,

C.V. x. $= \frac{\sigma x}{x} \times 100$ C.V. y. $= \frac{\sigma y}{y} \times 100$

$= \frac{24400}{88800} \times 100$ $= \frac{27979}{79171}$

= 27.477 % = 27.76%

IV) Calculation of Karl Person's correlation coefficient (r) correlation between x and y.

$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 x \Sigma v^2}}$

$= \frac{2591.486}{\sqrt{2976.8x2415.6}}$

$= \frac{2591.486}{2681.55}$

= 0.96

V) Calculation of probable error

We have

Probable error (PEr) = 0.6745 × S.D. (σ)

And S.D. (σ) $= \frac{1 - r^2}{\sqrt{n}}$

So, P.E. (r) $= 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$

$= 0.6745 \times \frac{1 - 0.96^2}{\sqrt{5}}$

$= \frac{0.0529}{2.236}$

= 0.024

Appendix – 2

Income and expenditure Relation calculation

FY	Income (x)	Expenditure (y)	U = $(x - \bar{x})$	v = $(y - \bar{y})$	U = $(x - \bar{x})^2$	v = $(y - \bar{y})^2$	UV
2061/62	281.521	152.619	-81.018	-44.253	6563.916	1958.328	3585.289
2062/63	108.144	153.088	-254.395	-43.784	64716.816	1917.038	11138.430
2063/64	531.611	279.371	169.072	82.499	28585.341	6806.085	13948.27
2064/65	397.712	197.459	35.199	0.587	1233.344	0.344	20.66
2065/66	493.710	201.822	131.175	4.95	17205.381	24.502	649.296
	Σx = 1812.698	Σy = 984.359	Σu =	Σv =	Σu^2 = 118305.248	Σv^2 = 10706.297	Σuv = 29341.946

Here,

Income is assumed x

Expenditure is assumed y

I) Calculation of mean

For Income (x)

We have,

Mean $(\bar{x}) = \frac{\Sigma x}{N}$

$= \frac{1812.698}{5}$

$= 362.539$

For Expenditure (y)

Mean $(\bar{y}) = \frac{\Sigma y}{N}$

$= \frac{984.359}{5}$

$= 196.872$

II) Calculation of standard deviation

For Income (x)

We have, S.D. $(\sigma x) = \sqrt{\frac{1}{n}\Sigma(x - \bar{x})^2}$

$= \sqrt{\frac{1}{5} \times 118305.248}$

$= 153.821$

$= 153821$

For Expenditure (y)

S.D. $(\sigma y) = \sqrt{\frac{1}{n}\Sigma(y - \bar{y})^2}$

$= \sqrt{\frac{1}{5} \times 10706.297}$

$= 46.273$

$= 46273$

III) Calculation of coefficient of variation

For Income

We have,

$$C.V.\ x. = \frac{\sigma x}{x} \times 100$$

$$= \frac{153.821}{362.539} \times 100$$

$$= 42.42\ \%$$

For Expenditure

$$C.V.\ y. = \frac{\sigma y}{y} \times 100$$

$$= \frac{46.273}{196.872} \times 100$$

$$= 23.50\ \%$$

IV) Calculation of Karl Person's correlation coefficient (r) correlation between x and y.

$$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 x \Sigma v^2}}$$

$$= \frac{29341.946}{\sqrt{118305.248 \times 10706.297}}$$

$$= \frac{29341.946}{35589.48}$$

$$= 0.82$$

V) Calculation of probable error

We have

Probable error (r) = $0.6745 \times$ S.D. (σ)

And S.D. (r) = $\frac{1 - r^2}{\sqrt{n}}$

So, P.E. (r) = $0.6745 \times \frac{1 - r^2}{\sqrt{n}}$

$$= 0.6745 \times \frac{1 - 0.82^2}{\sqrt{5}}$$

$$= \frac{0.2209}{2.236}$$

$$= 0.098$$

Appendix - 3

Relation of Income and Expenditure with Profit

FY	Income (X1)	Expenditure (X2)	Profit (X3)	$d1 = \frac{x1-397712}{10000}$	$d2 = \frac{x2-197459}{10000}$	$d3 = \frac{x3-198253}{10000}$	d_1^2	d_2^2	d_3^2	d1d2	d1d3	d2d3
2061/62	281521	152619	128902	-11.62	-4.48	-6.93	135.02	20.07	48.02	52.06	80.53	31.05
2062/63	108144	153088	-44944	-28.95	-4.44	-24.32	838.10	19.71	591.46	128.54	704.06	107.98
2063/64	531611	279371	252240	13.39	8.19	5.40	179.29	67.07	29.16	109.66	72.31	44.23
2064/65	397712	197459	198253	0	0	0	0	0	0	0	0	0
2065/66	493710	201822	291888	9.60	0.44	9.36	92.16	0.19	87.61	4.22	89.86	4.12
				Σd_1 = 17.58	Σd_2 = 0.29	Σd_3 = 16.49	Σd_1^2 = 1244.57	Σd_2^2 = 107.04	Σd_2^3 = 756.25	Σ d1d2 = 294.48	Σ d1d3 = 946.76	Σ d2d3 = 187.38

Simple correlation coefficient using assume mean and step deviation method.

$$r_{12} = \frac{n\sum d_1 d_2 - (\sum d_1)(\sum d_2)}{\sqrt{n\sum d_1^2 - (\sum d_1)^2}\sqrt{n\sum d_2^{\,2} - (\sum d_2)^2}}$$

$$= \frac{5 \times 294.48 - (-17.58)\,(-0.29)}{\sqrt{5 \times 1244.58 - (-17.58)^2}\ \sqrt{5 \times 107.04 - (0.29)^2}}$$

$$= \frac{1477.50}{\sqrt{6539.96}\,\sqrt{535.12}}$$

$$= \frac{1477.50}{1870.74}$$

$$= 0.80$$

$$r_{13} = \frac{n\sum d_1 d_3 - (\sum d_1)(\sum d_3)}{\sqrt{n\sum d_1^{\,2} - (\sum d_1)^2}\sqrt{n\sum d_3^{\,2} - (\sum d_3)^2}}$$

$$= \frac{5 \times 946.76 - (-17.58)\,(-16.49)}{\sqrt{5 \times 1244.58 - (-17.58)^2}\,\sqrt{5 \times 756.25 - (-16.49)^2}}$$

$$= \frac{4443.90}{\sqrt{5913.79}\,\sqrt{3509.33}}$$

$$= \frac{4443.90}{4555.59}$$

$$= 0.97$$

$$r23 = \frac{n\sum d_1 d_3 - (\sum d_1)(\sum d_3)}{\sqrt{n\sum d_2^2 - (\sum d_2)^2}\sqrt{n\sum d_2^3 - (\sum d_3)^2}}$$

$$= \frac{5 \times 187.38 - (-0.29)(-16.49)}{\sqrt{5 \times 107.04 - (-0.29)^2}\sqrt{5 \times 756.25 - (-16.49)^2}}$$

$$= \frac{932.12}{\sqrt{535.12}\sqrt{3509.33}}$$

$$= \frac{932.12}{1370.37}$$

$$= 0.68$$

R3.12 means multiple correlation coefficients between x3 and combined effect of x1 and x2.

$$R_{3.12} = \sqrt{\frac{r_{13}^2 + r_{23}^2 + 2r_{12}\, r_{13}\, r_{23}}{1-r_{12}^2}}$$

$$= \sqrt{\frac{(0.97)^2 + (0.68)^2 - 2 \times 0.80 \times 0.97 \times 0.68}{1 - (0.80)^2}}$$

$$= 0.97$$

The coefficient of multiple correlations is 97% between the three variables X1, X2 and X3. The income (X1), expenditure (X2) and profit (X3)