CHAPTER - I

INTRODUCTION

1.1 Background

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. The population living below poverty line is 31%. Nepal is an agricultural based country and near about 80% productive people are engaging in this sector but this sector contributed only 34.6% of GDP. There are no two opinions that sustainable growth can be achieved through the development of industrialization. In development 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 used 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, et al., 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 & Radhaswamy, 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 parching, which was established 1911 A.D. (1968 B.S.) with the capacity of 500 KW. Then second project is Sundarijal establish 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 three 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 the 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 the water & 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).

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. Potentiality and installed capacity we can suggest 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 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 in1967 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. BPC has supplied power to the national grid and electrified around 29000 households under its rural electrification programme.

Similarly, BPC together with the Norwegian companies Interkraft 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 Interkraft Norway) public and the ministry of water recourse of Nepal Government. The shareholders to 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. (12th Annual Report of BPC, F/Y 2060/61)

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 control 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 will be give 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 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

1.8 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.

- To study of sales budget and its achievements of BPC.
- To analysis on income and expenditure of BPC.
- To shows the relationship between income and expenditure.

- To recommendation and suggestion for improving the profit plan.

1.9 Limitation of the study

This study has the following limitations.

- It is concerned only in income and expenditure of BPC.
- The time period selected for this study is five years.
- All details records for the study have been received as primary and secondary data relating only to the central office of BPC.
- This study is focused on the format of only MBS thesis reports.
- Time and resources constraint also limited the study.

1.10 Design of the Study

According to study, the research work has been classified into five chapters.

Chapter 1:- Introduction

It is an initial phase of research which is incorporated background, importance of the study, objectives of the study, scope and limitations of the study.

Chapter 2:- Review of literature.

This chapter concern about income and expenditure, sales planning, profit planning and conceptual setting and review of related thesis to highlight the related terms and to present the available information about previous related studies.

Chapter 3:- Research Methodology.

This chapter includes introduction, research design, sources and nature of data, data collection instruments, statistical tools that are used for the study.

Chapter 4:- Data presentation, Analysis, & Interpretation

In this chapter, the data collected are presented, tabulated as required by the research objectives. Data are here interpreted and analyzed with the help of various analytical tools and techniques.

Chapter 5:- Summary, Conclusions and Recommendations

This chapter is the last chapter for this research. In this chapter, summary and conclusion are drawn from the study. It also includes valuable recommendations and suggestions to the company on the basis of the study.

CHAPTER- II

REVIEW OF LITERATURE

Review of literature is a way to discover what other research in the area stated problem has uncovered. It provides foundation for present study, establishes a point of departure for future research, avoids needles duplication of costly effort, and reveals areas of needed research. It enables the researcher to know about what research has been done in the subject, what theories have been advanced the approach taken by other researchers and shows gap to fill through the proposed research.

In this chapter, the focus has been made on the review of literature relating to the income and expenditure of Butwal Power Company Ltd. Every study is very much based on past knowledge which is the key of present knowledge. This chapter helps as adequate feedback to broaden the information and to base the inputs of study. Therefore, the review of literature has its own importance.

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.

2.2.1 Introduction of Profit Planning and Control

2.1.1.1 Profit

In the beginning, business enterprises are established to earn profit and later then, enterprises are operated by the profit to earn the profit, therefore, profit is the prime measure of enterprise success, continuity, self-survival, growth and the degree of theirs goal achievement. General definition of profit is the amount of revenue earned.
Exceeds expenses incurred during an accounting period. Revenues are the values of outputs or services supplied to the customers and the expenses are the cost of earning revenue within an accounting period.

Multiple meaning of the word "profits" have always been some trouble. Economics theories on profits may be put in three groups. The first looks upon profits as there warded for bearing risks and uncertainties, the second views upon profit as the consequences of frictions and imperfections in the competitive adjustment of the economy to dynamic changes; the third sees profits as the reward for success innovation.

A labor leader might say that it is a measure of how efficiency has produced and that provides a base for negotiating a wage increase. An investor will view it as a return on his or her money. An internal revenue agent might regard it as the base for determining income taxes. The accountant will define it simply as the excess of firm's revenue over the expenses of producing revenue in a given fiscal period.

Using accountant's measuring stick, management thinks of profit as:

- A tangible expression of the goals it has set for the firm.
- A measure of the performance toward the achievement of its goals.
- A means of maintaining the health, growth and continuity of economy.

It is the ultimate objectives of management to maximize profit over the long-term consistent with its social responsibility (Lynch and Williamson, 1984: 100).

In the context of profit planning and control, profit denotes the excess of outflow (revenue factors) over the inflows (cost factors). The essential inflows are people capital and materials and they are generally cost incurring factors. On the other hand the planned outflows of products, services and social contributions that the enterprises generate. The planned outflows of products and services generally, are of revenue generating factors. The excess of enterprises revenue earned over its cost spent for producing revenue within a definite accounting period is called profit. In other sense; profit means return on investment.

Profit is an essential fuel to drive business a head and to survive business effectively, efficiently and economically. No business enterprises even public enterprises can self survive in the absence of profit for long time. That's why profit is the prime goals of every type of business enterprises.

2.1.1.2 Planning

Planning is the process of developing enterprises objectives and selecting a future course of action to accomplish them. It includes:-

- Establishing enterprise objectives and goals.
- Developing premises about the environment in which they are to be accomplished.
- Selecting a course of action for accomplishing the objectives and
- Current re-planning to correct current deficiencies.

Planning consist in setting goals for the firm both immediate and long range, considering the various means by which such goals may be achieved, and deciding which of any available alternative, means would be best suited to the attainment of the goals sought under the conditions expected to prevailing. Planning is deciding in advance what to do, how to do it, when to do it and who is to do it. It provides the ends to be achieved.

Management planning involves uncertainty and reliable forecast can help reduce the uncertainty in planning. Planning is the first function of management and is performed continuously because the passage of time demands both re-planning and making new plans. Management planning provides the basis for performing the four other functions (Welsh, et al., 2000:4).

Strategic and functional, short range and long range formal and informal, adhoc and standing planning, administrative and operational planning are the various types of managerial planning. Mainly two types of planning i.e. strategic and tactical are the prime aspects in planning of profit planning and control.

2.1.1.3 Control

Control is a function in the management process and one of the prime parts of profit planning and control. As with planning, controlling is performed continuously. Therefore, there is a control process that should be always operating in a enterprise. Controlling can be defined as a process of measuring and evaluating actual performance of each organization component of an enterprise and initiating corrective action when necessary to ensure efficient accomplishment of enterprise objectives, goals, policies, and standards. Planning establishes the objectives, goals, policies and standards of an enterprise. Control is excused by using personal evaluation, periodic performance reports and special reports. Another view identifies the type of control as follows:

- Preliminary Control (Feed forward): Used prior to action to ensure that resources and personnel are prepared and ready to start activities.

- Concurrent Control (Usually periodic performance reports): Monitoring (by using personal observation and reports) of current activities to ensure that goals are being met and policies and procedures are being followed during action (Adam & Ronald, 1985:552).
- Feedback Control: Expert-action (pre-planning) focusing on past results to control future activities.

Besides these controls, other types of control are internal and external control, formal and informal control, systematic and adhoic control, activities control, Physical and financial control etc (Bhatt, 2062: 338).

Planning and control is the base-camp of profit planning and control system. After defining about profit, planning, and control individually, now, it is going to present holistic theoretical concept of profit planning and control.

2.1.1.4 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 planning of profit and control other them.

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, et al., 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 therefore 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 the 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:

- 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.

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 principal 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.

"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, et al., 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.

"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).

Mainly expenditures are 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:

- Increase in quantity of fixed assets.
- Increase in quality of fixed assets.
- 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:

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

- Cost of goods purchased for resale.
- Depreciation on fixed assets, interest on loan of business, loan from sale of fixed assets.
- 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. One of the primary objectives 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:

- To help provide direction for choosing from among many future alternatives.
- To help identify potential problem of achieving the specified goals and objective.
- To communicate objectives, constraints and expectation of budget to people throughout an organization (Munankarmi, 2002:215- 216).

The main objective of budgeting may summarized as follows:

- It is a plan, which reflects the policy of a business in financial terms.
- It is a plan of action and services as a declaration of policies.
- It is a control document by which management can monitor actual performance.
- It is the plan to forecast for future to avoid losses and to maximize profits, i.e. to help in planning.
- It is a plan to state the firm's expectations (goals) is clear, formal terms to avoid confusion and to facilities their attainability.
- It defies the objective for the entire executive's communication.
- It is a plan to bring about co ordination between different functions of an enterprise i.e. to help in co ordination.

- It is a plan to communicate expectations to all concerned with the management of the firm so that they are understood, supported and implemented.
- It acts as a motivator of employees.
- It provides a means of coordination and communication.
- It is a measure against which to evaluate the quality of management.
- 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.

- Budget may be formulated for the organization as a whole or for any sub- unit.
- A good system of accounting is also essential to make the budgeting useful.
- A budget is a qualitative expression of a plan of action and aid to coordination and implementation.
- 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).

2.1.7 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:

- On the basis of time.
- On the basis of function.
- On the basis of flexibility
- 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:

Long Term Budget

The long term sales plan uses broad groupings of products with separate consideration of major and new products and services. Long term sales plan usually involve in depth analysis of future market potential, which may be build up from a basis foundation. Such as production changes, state of the economy, industry projection, and finally company objectives, long term managerial strategies would affect such areas as long term pricing policy, development of new products and innovations of present products, new direction in marketing efforts, expansion or changes in distribution channels and cost patterns (Welsch, et. al., 2000: 173).

Short Term Budget

The short term sales plan is known as tactical sales plan. Short-term sales plan covers 12 months of period of future are which plan is made by quarterly and monthly. The tactical sales plan is usually subject to review and version on a quarterly basis. The short range sales plan includes a detailed plan for each major product and for grouping of minor products. Short term sales plan must also be structured by marketing responsibility for planning and control proposes. Short term sales plan may involve the application of technical analysis; however managerial judgment plays a large for its determination.

A short range sales plan should include considerable detail, whereas a long range plan should be in broad terms. Besides these, both the strategic and tactical sales plans have three distinct features. They are: (i) the planned volume of sales at the planned sales price per unit for each product. (ii) The sales promotion plan. (iii) The sales expenses plan.

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. The objective of current budget is to assist in systematic planning and controlling the operations of the enterprise.

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.

Sales Budget

Sales are the primary source of revenue. The sales plan is the foundation for periodic planning in the firms because practically all other enterprise planning built on it. All other plans and budgets are depending upon the sales budget. The budget is usually presented both in unit and rupees of the sales revenue or sales volume. The preparation of sales plan is based upon the sales forecast. It is also known as corner stone for all the other budgets. It is only the budget that deals both revenue and cost. It deals with the policy of business expansion or intensification as well.

Generally the sales budget is accompanied by a computation of expected cash receipts for the forth coming budget period. This computation is needed to assists in preparing the cash budget for the year. Expected cash receipts are composed on collections on sales made to customers in prior periods, plus collections on sales made in the current budget period (Garrison, 1976: 253).

Sales plan is the first plan or budget to be prepared. It is an estimate of the goods that are expected to sale. All plans are depended upon sales plan. A sales plan should be realistic. Unless there is a realistic sales plan, practically all other elements of profit plan will be out of kitten with reality, sales plan is the foundation for periodic planning in the firm because practically all other enterprise planning is built on it. So management should develop a realistic sales plan. If the management cannot develop realistic sales plan, it will be little justified.

Production Budget

Production plan is prepared after the sales budget. It is mainly related with the manufacturing organization. Production budget shows the number of units of services or goods that are to be produced during a budget period. In developing production budget, the first step is to formulate policies relative to inventory levels. The next step is to determine the total quantity of each product that is to be manufactured during the budget period. The third step is to schedule this production to interim periods. The

marketing plan specifies the planned volume of each product (or groups of similar products) for each time period through the planning period. The next step in a manufacturing enterprise is to develop a production plan. This entails the development of policies about efficient production levels (finished-goods and work in process inventory). The quantities specified in the marketing plan, adjusted to conform to production and inventory policies, give the volume of goods that must be manufactured by product and by interim time period. Thus, the production budget can be represented in this way: sales volume ± finished goods inventory change = %
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 (Munankarmi, 2002:22).

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 (Munankarmi, 2002:222).

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.

Cost of Production Budget

When the sales plan is completed the next step in building the profit plan is to develop a production plan. The production plan involves determining the number of units of each product that must be manufactured to meet planned sales and maintain the planned inventory levels of finished goods. Planning production requirements necessitates another decision about input that is the management decision about inventory levels of finished goods that are to be planned (Welsch, et al., 1992:136). Production plan is based on estimated sales. Production must be planned follow sufficient time to manufacture the products before the estimated date of sales. It is prepared in the basis of (i) Sales budget (ii) plant capacity (iii) opening inventory of finished goods and (iv) policy of the management. Production budget is divided into monthly budget for the purpose of production planning, in production planning the following factors are determined (i) economic batch quality (ii) delivery schedules (iii) seasonal conditions (iv) optimum utilization of plant capacity (v) optimum utilization of labor without much overtime and idle time (vi) reduction of bottlenecks such as shortage of man, material, etc (vii) work in progress.

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.

Cash Budget

Cash budget generally indicates the cash outflow and inflow. The key point in investment analysis is to focus. Exclusively on difference in expected future cash flows are treated the same whether they arise from operations, purchase or sale of equipment or investment in or recovery of working capital. The opportunity cost and the time value of money are tied to cash flowing in or out of the organization not to the source of the cash (Khan and Jain, 1993:175).

Cash budgets are necessary in business operation. Payments must be made in cash, and receipts are deposited in the case amount. Cash is a “non earning” assets in the sense that, although it is needed to pay for labor and materials, to buy fixed assets, to pay taxes, to service departments and so on. Cash itself earns no interest. Thus, the goal of cash budget is to reduce cash holdings to the minimum necessary to conduct business.

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**.**

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.

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:

Capital Expenditure Budget

Capital expenditure budget involves the planning and control of long term capital investment. It is the process of deciding whether or not to commit resources to a particular long term project whose benefit are to be realized over a period of time, more than a year. A capital expenditure is the use of funds to obtain operational assets that will help earn future revenue or reduce future costs. It includes such fixed assets as property plant, machinery and equipment major renovations etc.

The capital expenditure budget gives an estimate of the amount of capital that may be needed for acquiring the fixed assets required for fulfilling production requirements as specified in the production budget. The budget is prepared after taking into consideration the available productive capacity, probable reallocation of the existing assets and possible improvement in production techniques. Separate budgeting may be prepared for different item of fixed assets such as plant and equipment budget, building budget etc. The capital expenditure budget is an important budget providing for the acquisition of assets necessitated by the following factors.

- Replacement of existing assets.
- Purchase of additional machine to meet a proposed increase in production due to increase in demand.
- Purchase of new assets because of starting up of new lines of production.
- Installation of an improved type of machinery so as to reduce cost of production.

The very nature of capital investments make them important. Capital investments involve relatively large amounts. They represent commitments that extend over long periods of time, and once a capital investment has been made, it is largely irreversible at least it is hard to undo without making a major sacrifice (Handerson, 1984: 118-119).

Thus, the capital expenditure budget enables one to know what new fixed assets are needed and what will be their costs and rates of returns.

2.1.8 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.

2.1.9 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:

- Developing meaningful forecast and plans specially the sales plan.
- Seeking the support and involvement of all level of management.
- Establishing realistic objectives, policies, procedures and standards of desired performance.
- Maintaining effective follow up procedures and adopting the budgeting system wherever the circumstance changes.
- Applying the budgeting system in a flexible manner.

- Educating all individuals to be involved in the budgeting process and joining their full participation (Welsch, et al., 2000:56).

The following are the limitations of budgeting system:

- Budgeting is not an exact science it success hinges upon the precision of estimates.
- 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.
- The success of the budgetary program is to understand by all and that managers and subordinates put concerned effort for accomplishing the budget goals.
- Budgeting will be ineffective and expensive if unnecessarily detailed a complicated. It should be flexible and rigid in applications.
- 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.
- The purpose of budgeting will be defeated if carelessly budget goals are determined as the conflict with enterprise objectives.
- Budgeting will hide in efficiencies if a proper evaluation system lacks. It should be re-examined regularly.
- Budgeting will lower rural and productivity if unrealistic targets are gets and if it is used as pressure tactic (Welsch, et al., 2000:57).

2.1.10 Development of Various Functional Budgets

2.1.10.1 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 (Munankarmi, 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, et al., 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:

- To reduce uncertainty about future revenues.
- To in corporate management judgments and decisions in to the planning process.
- To provide necessary information for developing other elements of two comprehensive profit plans.
- To facilitate management control of sales activities (Welsch, et al., 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 (Goet, et al., 2063: 2.3- 2.4).

2.1.10.2 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,

- Factory requirements for raw materials
- Raw materials inventory levels
- 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 (Goet, et al., 2063; 4.0).

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.

2.1.10.3 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, et al., 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.

2.1.10.4 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.

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

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.

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

B. Selling and Distribution Expenses 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, et al., 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;

- Collection of historical data (overhead budgets).
- Analysis of ongoing change in policy, economy etc.
- Preparation of budget for budgeted year as per responsibility centers.
- Preparation of total budget of the organization.

2.1.10.5 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
- Expenses

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, et al., 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 & Copeland, 1991: 364).

There are numbers of evaluating techniques/methods of investment decisions. The main methods are as follows:

1) Traditional 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.

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:

$$\text{Payback Period (PBP)} = \frac{\text{Net cash investment}}{\text{Annual net cash inflow}}$$

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.

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

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:

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

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:

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

$$\sum_{T-1}^{n} \frac{CF_2}{(1+IRR)^t} - I_{0} = 0$$

(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.

2.1.10.6 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, or (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:

- Expenses must be identified as to their fixed and variable components when related to output or productive activity.
- Expenses must be reasonably related to output or productive activity.
- Output or productive activity must be reliably measurable.
- Flexible budget formulas for each expense must be for a specified time period and for a specified relevant range of output or productive activity.
- For planning and control purposes, flexible budget formulas must be developed for each expense in each responsibility center is an enterprise.

(Welsch, et al., 2000:343-344)

Procedure of preparing Flexible Expenses Budget.

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.

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.

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.

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

2.1.10.7 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 as follows:-

- 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.

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:

- 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.
- 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?

- 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).

- 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:-

- Make all payment on the latest no penalty day. Do not pay early.
- 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.
- Take all cash discounts allow for early payment.
- Establish a policy of no cash advance.
- 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.

2.1.10.8 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 end 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. Aside from designing and improving the overall system, the budget director has been described as adviser each responsibility center. Now the 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, et al., 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 (Welsch, et al., 2001:472)**.**

2.1.10.9 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, et al., 2003:89).

Break Even Point Analysis

Break-even point analysis is widely used technique to study cost-volume-profit relation. 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.

Break- even 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 nor loss, is regard as break- even point. At this point, the income of the business exactly equals its expenditure. It can be determine by three techniques. They are as follows:-

- Algebric equation technique

- Contribution margin technique
- 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.

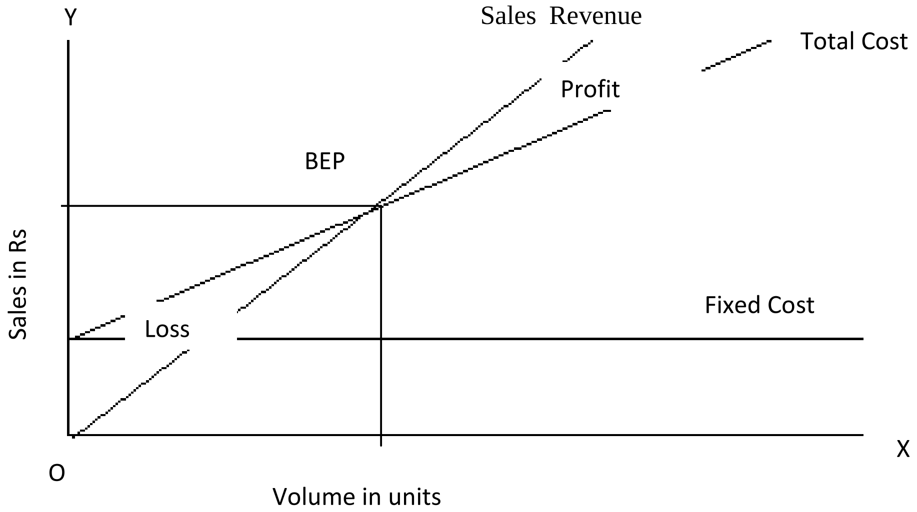
$$\text{BEP (in units)} = \frac{\text{Fixed Cost}}{\text{C. M. P.U}}$$

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

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

- Where a simple overview is sufficient,
- 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 Previous Research Works:

Mr. Dahal (2005) has submitted a research topic on *"Profit Planning System and Financial Condition of Nepal Electricity Authority."*

His Main Objectives:

- To examine the present planning premises adopted by NEA on the basis of budgeting.
- To observe the NEA's profit planning on the basis of overall managerial budgeting.
- To analyze the variances between budgets and actual achievement of the authority.

His Major Findings:

- NEA has a practice of preparing both strategic long range and tactical short range profit plan.
- Actual sales are less than actual productions and it indicated the remarkable loss of power in NEA.
- Overheads are not classified systematically and it creates problem to analyze its expenses properly.

- Total assets turnover ratio, profitability ratio and return on net capital employed ratio are not perfect satisfactory through acid test ratio seems better.

His Major Recommendations:

- The burden of huge amount of interest upon NEA can be minimized by restructuring its capital structure and for this it can issue the shares and can refund the debt.
- NEA should try to increase the sales volume and should reduce the power purchases. It can be done by either reducing leakage, establishing new plants of by increasing the capacity utilization.
- Leakage of the electricity should be controlled by improving meter reading and meter reading system and also by motivating and high moralized the employees or staffs.
- NEA should try to maximize its operating profit by launching cost control program and selecting alternative by re-planning existing system.
- Small hydro-project with low cost should be encouraged. Private sector should be attracted to invest in hydro-projects.

Mr. Pokhrel (2008) has conducted a research on the topic of **"***Revenue Planning & Management of Dabur Nepal Private Limited."*

His Main Objectives:

- To make analysis of sales revenue of Dabur Nepal Pvt. Ltd.
- To make a comparative study of revenue generated by Dabur Nepal Pvt. Ltd.
- To evaluate the deviation between budgeted and actual sales.
- To evaluate the deviation between budgeted and actual sales.

His Major Findings:

- DNPL used to prepare short term budget only.
- The revenue trend showed that the actual sales were in fluctuation but the budgeted sales were increased in each fiscal year.
- DNPL sales forecast depends on export demand & sales trend.
- DNPL could achieved its target sales the sales achievement ranges from 74.73% to 89.15% during F/Y 2000/01 to F/Y 2005/06.

- Mean standard deviation of sales achievement was lower than budgeted sales but there was putative correlation between budgeted & actual sales.

His Major Recommendations:

- DNPL sales forecast should be made on realistic ground. Forecast should include strategic & tactical forecast that are consistent with the time clemencies. The process of developing a realistic sales plan should unique according to requirement of the company.
- DNPL should develop specific goals for the coming budget. Such goals may be return on capital employed, net profit on sales increase in cost effeteness etc. without such goals the DNPL not be effective.
- DNPL should develop the effective pricing policies according to the competitive market situation profit cost volume relationship should be taken into consideration while developing sales plan & pricing policy.
- DNPL should focus promotional tools. Such as advertisement & publishing should be improved.

Mr. Koirala (2009) has submitted a research on the topic of **"***Impact of Budgeting in Profitability of Nepal Water Supply Corporation (NWSC)"*

His Main Objectives:

- To examine the present condition of NWSC relating to Production and distribution of water in the country.
- To analyze the various functional budgets of NWSC.
- To review the financial status of NWSC.
- To point out the major shortcomings and recommend suggestive measures.

His Major Findings:

- There is no proper system of segregation of cost into fixed and variable in NWSC.
- NWSC is suffering more loss due to high fixed costs.
- There is no systematic and scientific way of preparing overhead budget in NWSC. All the expenses of corporation are shown as operating expenses. There is no system of classifying the costs as fixed cost and variable cost.
- Actual sales and actual production are less than budgeted sales and production

His Major Recommendations:

- To bring the effectiveness in corporation, the work performance of the employees needs to be evaluated fairly and increase their efficiency by making the provision of reward and punishment for good and bad performance.
- It should be free from government's interference in setting the strategies and policies to fulfill the objectives. Board of director and manager should be free to take their responsibility and they should be appointed for some long period. A capable person at a right place.
- The duties and responsibilities of the various levels of management should be clearly identified so that the targeted objectives of the corporation can be achieved by the effectiveness of management.

Mr. Bashyal (2010) has submitted his research work on the topic of "*A Profitability Analysis in Relation to Sales, Costs and Profit of Nepal Telecom.*"

His Main Objectives:

- To analysis the existing planning practices of NTC.
- To make analysis of revenue, cost & profit of NTC.
- To provide appropriate suggestions and recommendation for improvement of NTC.

His Major Findings:

- Actual operating income of the NTC is increasing in fluctuating trend. Sales plan of NTC is not systematic. So, it has not achieved its target to increase operating income.
- NTC has not adopted of practice of preparing monthly revenue earning reports.
- The revenue plan prepared by the branches and sub branches were not taken as reference for preparation of central revenue plan.
- Segregation of fixed, variable cost is ignored by this enterprise CVP analysis is not practicing by NTC. No any method has been adopted to segregate cost into fixed and variable.

His Major Recommendations:

- NTC planners should be trained about revenue planning.
- NTC should be considered demand determinants such as family income, price of telephone sets, SIM card and cost alternatives available, cost of self-mobile service such as voice mail cost, massage cost. And reliability of NTC service while forecasting demand.
- NTC should prepare plans and program for consumer and solve network problems.
- To achieve target growth rate in sales revenue NTC should make realistic forecast.

Mr. Pant (2010) has submitted his research work on the topic of "*Sales Budgeting as the Tool of Profit Planning in Public Enterprises: A Case Study of Nepal Electricity Authority.*"

His Main Objectives:

- To analyze the sales budgeting and practices adopted by Nepal Electricity Authority.
- To examine sales trend of Nepal Electricity Authority.
- To analyze the relation between budgeting sales and its effect on profitability of Nepal Electricity Authority.

His Major Findings:

- NEA has a practice of preparing both strategic (long-range) and tactical (short-range) profit plan. But the strategic plan is limited only to the top level executives.
- NEA has its own system and practices of budgeting.
- NEA prepares almost all of the necessary budgets such as operation budget, financial budget, appropriation budget and NEA has been suffering from series of losses since last half decade.
- The actual profit of NEA has also very opposite relation with its target profit due to improper cost and profit budgeting system and policy.
- Power loss in NEA is about one-fourth of its total power available which is about 15% more than normal acceptance.

His Major Recommendations:

- Load shedding is the greatest problem in Nepal so that, the authority should try to avoid this problem by investing huge amount in hydro power. NEA‟s planners should be properly trained about budgeting of cost and revenue or new planners should be hired for adopting the profit planning and control mechanism in a better way.
- There should be effective management in generation and distribution of electricity to meet target sales. Likewise, NEA should prepare realistic sales plan more than now on the basis of realistic forecasting demand determinants, such as family income, price and generation, electricity connection charges, cost of alternative power, cost of auto-generation, damages and reliability of NEA.
- A systematic approach to both comprehensive sales planning and cost/expenses planning are essential. NEA should be able to plan sales and cost by considering relevant factors, policies and ideas which can contribute to remove the loss and generate the profit of NEA.
- The NEA should have deep analysis of its strengths and weaknesses. It should try to overcome the weakness by applying its strengths.

2.3 Research Gap

All the studies mentioned above are concerned with the profit planning and control or sales or production is basically related to Nepalese Public Enterprises. Those studies have pointed out the similar findings and conclusions. The purpose of this research is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to Management of Income and Expenditure of Butwal Power Company.This study tries to find sources of income and expenditure of BPC and how to manage its effectively. Therefore this study is designated to highlight the income and expenditure of BPC and its management.

CHAPTER - III

RESEARCH METHODOLOGY

3.1 General Meaning

Research methodology is the way to solve systematically about the research problem. It may be understood as a science of studying how research is done scientifically. Research methodology refers to the various sequential steps to be adopted by researcher for the study of the related problem with specified objectives in a view. It is systematic and well organized way for solving the research problem. It helps to analyze, examine and interpret various aspects research works, various statistical techniques are applied in the research methodology. In accordance with the basic objectives other subjective are also formulated and research methodology is followed to achieve the objectives of the research paper. The major contents of research methodology followed in this study are as follows.

3.2 Research Design

Research design is a plan or way for the study that give a direction for the collection and analysis of data. In other words, research design is the arrangement of collections and analysis of data in a systematic way. It is concerned with various steps to collect the data for analysis and procedures for acquiring the information including from which sources and by what procedure it is obtained.

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

3.3 Data Collection Procedures

Data are the main arms and weapons for successful analysis. 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:-

- Annual Reports of BPC.
- Published and unpublished articles.
- Magazine of BPC “BPC Newsletter”
- Previous studies made in this field.

3.4 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.

3.5 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.

3.6 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:

- Arithmetic mean
- Standard deviation
- Co-efficient variables
- Percentage
- Graph and diagrams
- Regression analysis

- Variable analysis etc.

3.7 Research procedure

The following procedures have been followed for this study:

- Useful secondary data are used.
- Data are described in the light of theoretical basis.
- The collected data are presented and arrangement in the tabulation from and analysis on the basis of statistical and managerial tools.
- On the basis of the study conclusions has been drawn and suitable recommendations have been also suggested based on the study.

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

Presentation and analysis of data is an important stage of the research study. The main purpose of analyzing the data is to change it from an unprocessed from in an understandable presentation. The analysis of data consists of organizing data by tabulating and then placing that data in presentable form by using figures and tables.

The main objective of the research is to study of sales budget and its achievements of BPC, to analysis on income and expenditure of BPC and shows the relationship between income and expenditure with profit. BPC has been selected form and case study to accomplish these objectives. This chapter of the paper analyzes and presents sales planning of the BPC. It has compare actual and target sales figure and identify related sales variance of the company and analyze the correlation between income and expenditure.

The sales, income, expenditure and other related figure of previous year are presented and analyzed to know the overall economic and financial trend and to estimate the possible future trend of BPC. This study covers the period of 5 years from 2061/62 to 2065/66

4.2 Sales Budget

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 for 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 its 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: 4.1

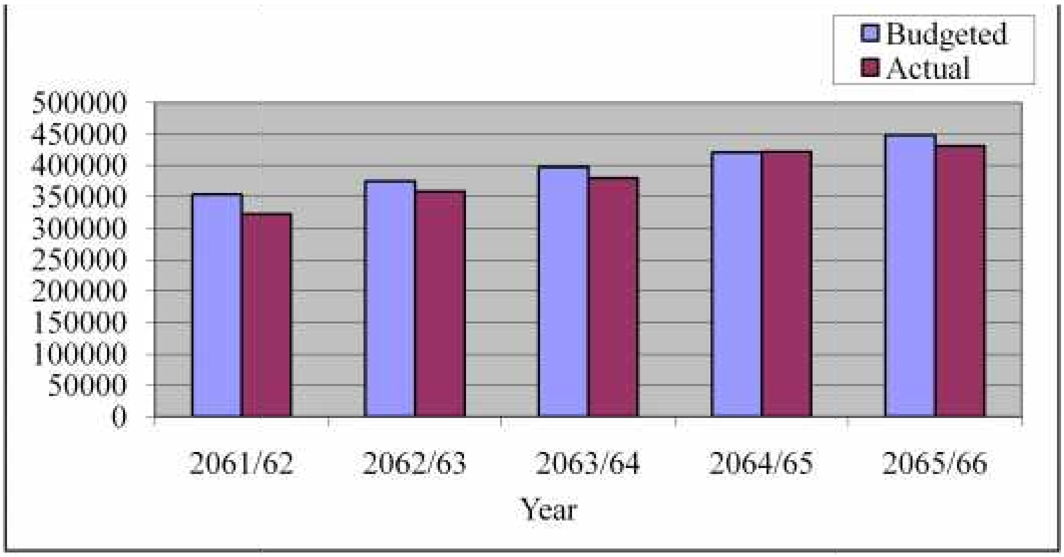
Sales Budget and Achievement

FY	KWh			Rs. '000		
	Budgeted	Actual	Achievement (%)	Budgeted	Actual	Achievement (%)
2061/62	101000	94307	93.37	353450	323134	84.69
2062/63	101000	97057	96.09	374480	358419	88.66
2063/64	101000	98790	97.81	396930	379769	95.67
2064/65	101000	100689	99.69	422660	421687	99.77
2065/66	101000	96339	95.38	448214	430800	96.12

Source: Annual Report of BPC

Figure: 4.1

Budgeted and Actual Sales Revenue of BPC



Above figure shows the increasing trend in budgeted and actual sales besides FY 2061/62 during the study period. The budgeted sales of BPC are equal or 1 01000 KWh because the production policy of BPC is always stable. In unit basis achievements are above 90 percent. The target sales of every fiscal year are higher than actual sales during the study period. BPC is not success to reach the targeted sales due to the leakage and power loss situation. But in F/Y 2064/65, an actual sale in KWh and Rs. was reached near about the target.

In fiscal year 2061/62, the budgeted sales are Rs. 353450 in thousand. It started to increase besides FY 2062/63 and reached Rs. 374480 in thousand. The actual sales of electricity was Rs. 323134 in thousand in FY 2061/62 and it started to increase beside FY 2062/63 and reached Rs. 358419 in thousand in sales budget and achievement.

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 Pearson's 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.

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 FY 2061/62 to 2065/66. The detail calculations of these statistical tools are presented in Appendix (1). The summarized results are given below:

Table: 4.2

Budgeted and Actual sales Relationship

Particular	Budgeted sales (X)	Actual sales (Y)
Mean (in Rs. '000)	399147	382762
S.D.	33651	39940
C.V.	8.43%	10.43%
Correlation coefficient	0.98	
Probable error PE(r)	0.011	

Source: Appendix -1

Above table shows the result of calculated statistical tools. According to the calculation mean of actual sales is lower than budgeted sales i.e. Rs. 399147 in thousand and 382762 in thousand respectively. The standard deviation of actual sales is higher than budgeted sales. It indicates that actual sales are more risky than budgeted sales. Coefficient of variance of actual sales is 8.43 percent and budgeted sales are 10.43 percent. It indicates that a budgeted sale is less variable than actual sales during the study period.

Two variables are said to be correlated in the value of one variable appears to be related or linked with the change in other variable the correlation analysis determines the degree of relationship between two variables. The degree of correlation can be measured by the correlation coefficient the various methods can be used to determine correlation coefficient. Here Karl Pearson's coefficient of correlation a most popular method to determine the coefficient of correlation between the budgeted sales & actual sales. The calculated value of r is 0.98 so that, the value of (r) shows that there is highly positive correlation between the budgeted and actual sales. The probable error can be used to measure the reliability of the calculated value of correlation coefficient. If r < PE it is insignificant so perhaps there is no evidence of correlation r .If r > 6 P.E. it is significant. The calculated value of probable error is 0.011. It is found that the value of correlation r is more than PE (r) i.e. 0.98>0.011 so it can be concluded that calculated value of r is significant, which indicates that the actual sales will go in the same direction of budgeted sales.

It can be estimated the expected sales achievement with given value of budgeted sales for coming year with given planned sales for the year. Here, the straight line trend by the least square trend methods for budgeted sales up on time is expressed by

$$y = a + b x$$

Where,

y = Budgeted sales

x = Time (years)

Table: 4.3

Fitting straight line trend by least square

FY	Actual sales (y) (in Rs. '000)	Year x	x^2	xy
2061/62	323134	-2	4	-646268
2062/63	358419	-1	1	-358419
2063/64	379769	0	0	0
2064/65	421687	1	1	421687
2065/66	430800	2	4	861600
	Σy =1913809	Σx= 0	Σx^2 =10	Σxy=278600

FY 2063/64 is assumed as base years therefore the value of x or mid time is zero, Negative before the base year and positive after the base year.

Substituting the value of in straight line equation

y = a + bx

Where $a = \frac{y}{n} X \frac{1913809}{5}$

a = 382762

$b = \frac{xy}{n}$

$= \frac{278600}{5}$

= 55720

y = 382762+55720x

y = 382762 + 55720 x 3

=549922

The trend line indicators have the positive sales figure for future if the sales trend of previous year continues in the future. The actual sales will be Rs. 549922 in thousand in F/Y 2066/67.

Table : 4.4

Summary of Sales Budget and Achievement of FY 2065/66

Andhikhota center **Rs** in **'000'**

Component	Budgeted			Actual		
	Rate	Units	Amount	Rate	Units	Amount
Sales to NEA	3.550	30000	106500	3.550	23821	84565
Sales to local consumer	3.942	10000	39420	3.942	11189	44108
Total	-	40000	145920	-	35010	128673

Jhimruk center

Component	Budgeted			Actual		
	Rate	Units	Amount	Rate	Units	Amount
Sales to NEA	4.910	55000	270050	4.910	59173	290540
Sales to local consumer	5.374	6000	32244	5.374	2156	11587
Total	-	61000	302294	-	61329	302127

Source: Annual Report of BPC 2065/66.

Above table shows that, there is a gap between the budgeted sales and actual sales. Form Andhikhola Center, in sales to NEA budgeted sales and actual sales are Rs. 106500 in thousand and Rs. 84565 in thousand respectively and sales to local consumer budgeted sales and actual sales are Rs. 39420 in thousand and Rs. 44108 in thousand. From Jhimruk center budgeted and actual sales to NEA are Rs. 2,70,050 in thousand and Rs. 2,90,540 in thousand respectively and sales to budgeted and actual sales are Rs. 32244 in thousand and Rs 11587 in thousand respectively.

To conclude the sales budget of BPC in overall, the following points can be pointed out:

- In normal condition BPC has stable sales budget.
- There is perfect positive correlation between budgeted and achievement and correlation coefficient is highly significant. As (r) = 0.98 probable error (r) = 0.011

- The regression equation shows the positive relationship between budgeted and actual sales and straight line trend shows the positive figure of sales for the FY 2066/67.
- BPC is able to fulfill the consumers demand and its local consumer is increasing trend.

4.3 Source of Income

The electricity is the main sales product of BPC to generate income. Electricity service, consultancy service and others are the supporting sources of BPC to generate overall income of the Company. In the above heading of sources 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 years actual income from electricity sales, electricity services, consultancy services and other sources of BPC is presented in the following table.

Table: 4.5

Source of Income

Rs. in **'000'**

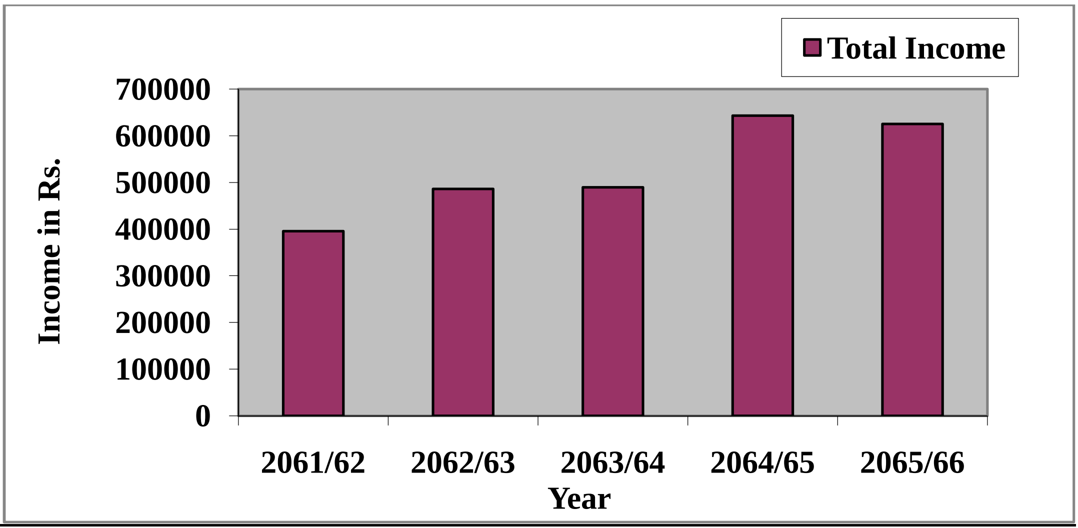
FY / Income	2061/62	2062/63	2063/64	2064/65	2065/66
Electricity sales	323134	358419	379769	421687	430800
Electricity Services	3529	5353	3634	6151	8040
Consultancy services	8831	11498	9535	18894	28108
Others Sources	60218	110819	96403	196464	158134
Total Income	395712	486089	489341	643196	625082

Source: Annual Report of BPC 2065/66.

Above table shows income of BPC from different head from FY 2061/62 to 2065/66. Sale of electricity is the major source of income. Consultancy services, electricity services are also the source of income. Income from sale of Electricity and consultancy services are increasing every year. Consultancy services income is Rs. 8831 in thousand in F/Y 2061/62 and Rs. 28108 in thousand in F/Y 2065/66.

Figure: 4.2

Actual Income of BPC



Above figure shows income of BPC from FY 2061/62 to 2065/66. Income of BPC is in fluctuating trend. BPC has lowest income i.e. Rs.395712 in thousand in FY 2061/62 and highest income Rs. 643196 in thousand in F/Y 2064/65. Income of the F/Y 2064/65 is the highest income of the company in company's history.

4.3.1 Electricity Sales

The main source of income of Butwal Power Company is sale of electricity**.** It supplies electricity to Nepal Electricity Authority (NEA) and its local customer**.** BPC's distribution business spread to four districts, Syangja, Palpa, Pyuthan and Arghakhanchi.

The past five year actual income from Sale of electricity of BPC is presented in the following table.

Table: 4.6

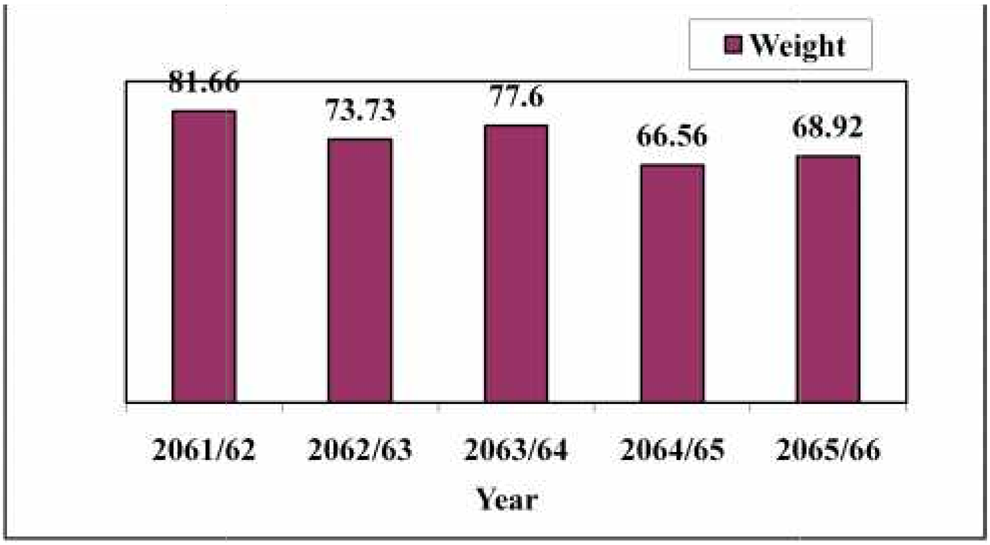
Actual Income from Electricity Sales

Year	Total Income (in Rs. '000)	Electricity Sales (in Rs. '000)	Weight
2061/62	395712	323134	81.66
2062/63	486089	358419	73.73
2063/64	489341	379769	77.60
2064/65	643196	421687	66.56
2065/66	625082	430800	68.92

Source: Annual Report of BPC FY 2065/66.

Figure: 4.3

Weight of Electricity Sales in Total Income



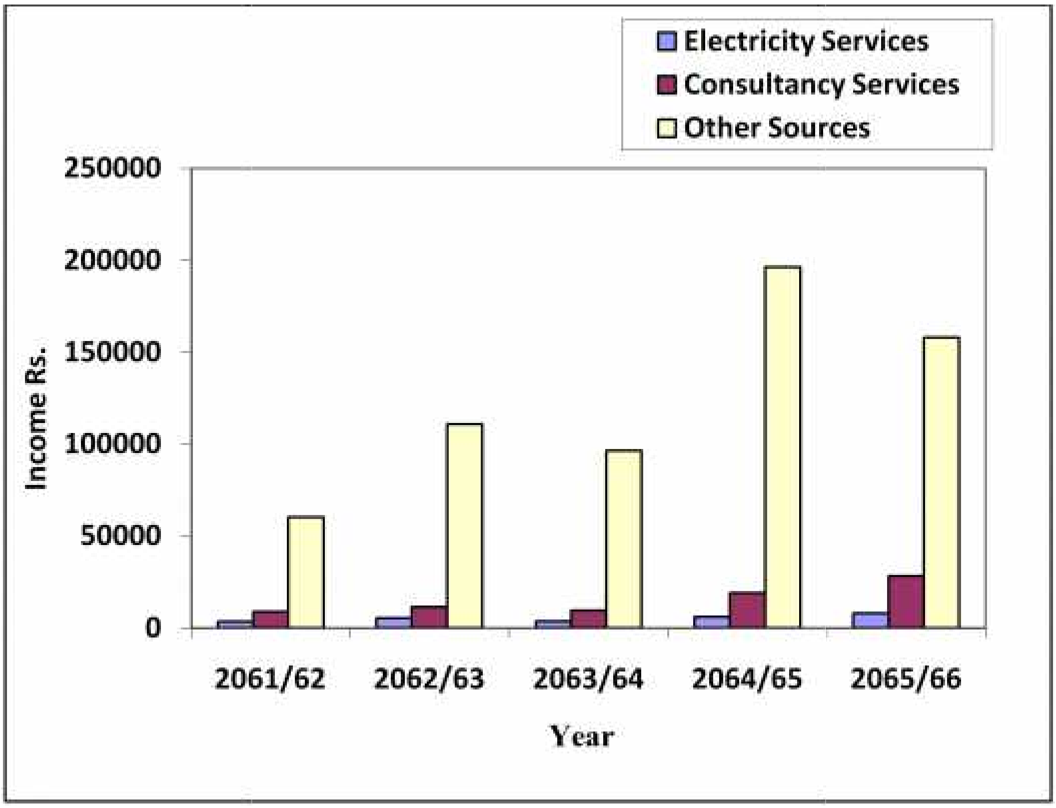
Above figure show that the weight of the electricity sales income in total income of BPC in various 5 years. From above figure the weight under this heading showing 81.66%, 73.73%, 77.60%, 66.56% and 68.92 within this tenure 2061 to 2066 respectively.

4.3.2 Other Sources of Income

Income from other sources includes (i) electricity services income (ii) consultancy services income and (iii) income from other sources. An electricity service includes fee and charges, sale of meter/cutout and accessories, service line charges and wiring charges. BPC Hydro-consult provides engineering and environmental consulting services in the hydropower sector. BPCH's capabilities in the hydropower sector include conducting feasibility studies, making detailed designs, and managing HPs, but it also has experience in tunneling, irrigation, water supply, roads, bridges and rural electrification. Other sources of incomes include interest from deposit/investment, foreign currency exchange gain, dividend received, gain on sales of assets and scrap materials etc. The past five years actual income from electricity services, consultancy services and other sources of BPC is presented in the following table

Figure: 4.4

Actual Income from Other Sources



Above figure shows that the volume of income from different sources are in fluctuating trend. It shows that in every year more space is occupying by other sources rather than electricity and consultancy services sources. In FY 2064/65 is displaying very high space on total income of company by other sources rather than electricity services and consultancy services due to dividend received from extra investment in other sectors. In the same way this category captures its impact on other next years as before in the generation of total income of the company.

4.4 Expenditure Budget

Expenditure budgeting involves the entire process of profit planning. Expenditure divides into two parts capital and revenue nature expenditure. It plays important role to improving profit. BPC has not clearly prepared the expenditure budget. The expenditure budget includes (1) power plant expenses (2) Distribution expenses (3) consultancy services (4) Administrative expenses (5) Other expenses. In other expenses includes loss on fixed assets/scrap material, KHP back end, force majeure payment, Depreciation, Staff bonus etc.

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: 4.7

Actual Expenditure Budget of BPC **Rs.** in **'000'**

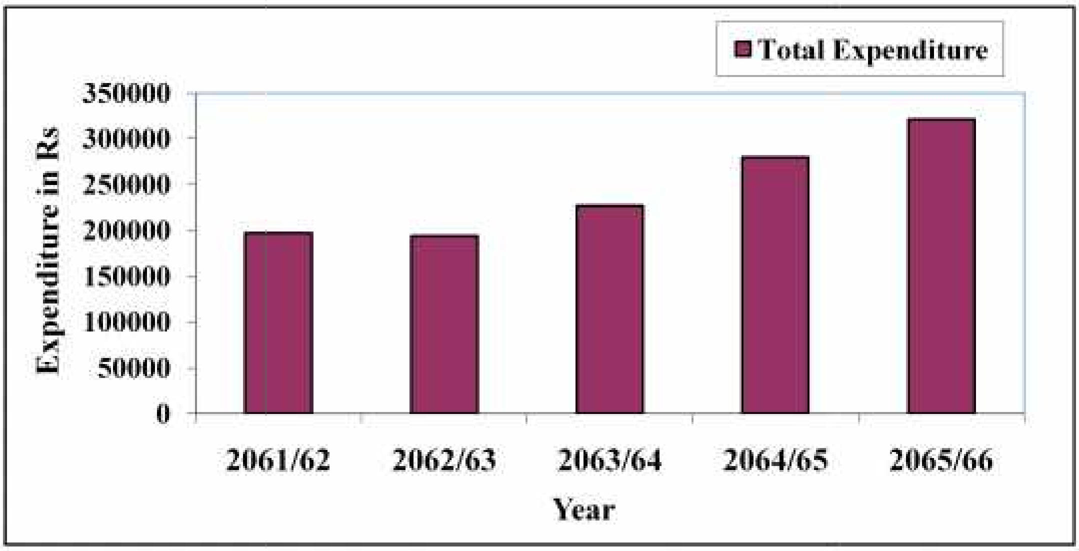
FY / Expenditure	2061/62	2062/63	2063/64	2064/65	2065/66
Power plant expenses	59600	57715	74565	82514	88491
Distribution expenses	30296	31054	33303	48428	48700
Consultancy services	14903	13692	8774	16743	18957
Administrative expenses	41201	34990	37645	53509	64159
Others expenses	51459	56750	72595	78722	100936
Total Expenditure	197459	194201	226882	279916	321243

Source: Annual Report of BPC FY 2065/66.

Table 4.5 shows the actual expenditure or overhead budget in different head of BPC. This table analysis shows that the BPC is paying huge amount in expenditure. In FY 2065/66 is the highest expenditure Rs. 321243 in thousand where the highest expenditure is power plant expenses and depreciation.

Figure: 4.5

Actual Expenditure Budget of BPC



Above figure shows overhead expenditure trend from FY 2061/62 to 2065/66. As per figure the aggregative overhead expenditure is fluctuation trend. In FY 2065/66 total expenses is higher than other FY.

4.4.1 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 4.8 presents the actual administrative budget from the FY 2060/61 to 2065/66.

Table: 4.8

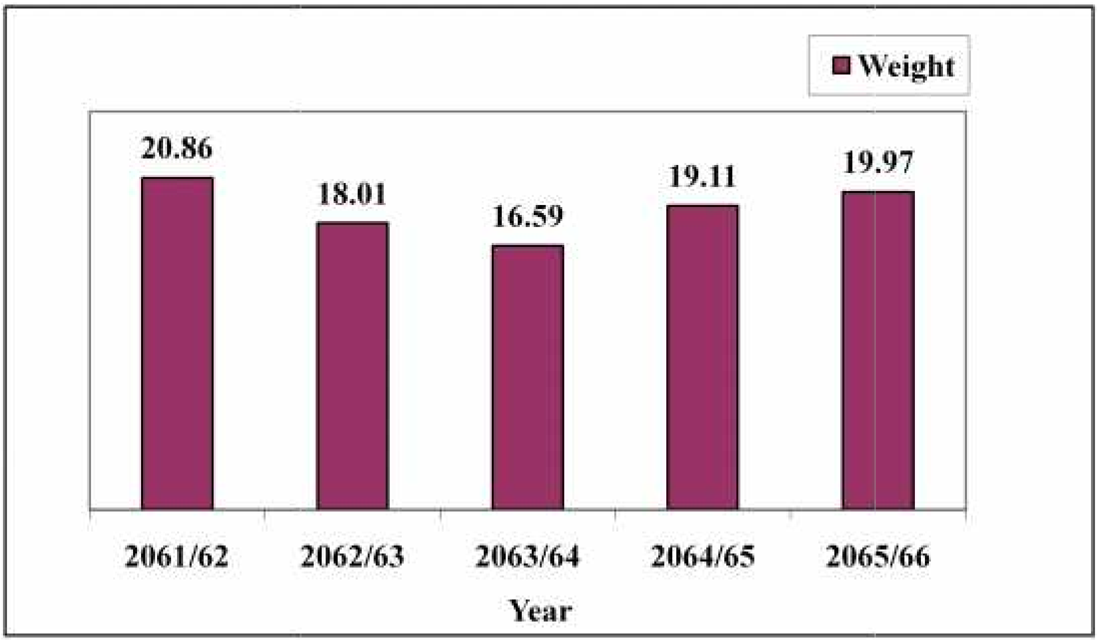
Actual Administrative Expenses Budget **Rs** in **'000'**

Year	Total Expenses	Administrative Expenses	Weight
2061/62	197459	41201	20.86
2062/63	194201	34990	18.01
2063/64	226882	37645	16.59
2064/65	279916	53509	19.11
2065/66	321243	64159	19.97

Source: Annual Report of BPC FY 2065/66.

Figure: 4.6

Weight of Administrative Expenses in Total Expenditure



Above figure show that the weight of the Administrative expenses in total expenses of BPC in various 5 years. From above figure the weight under this heading showing 20.86%, 18.01%, 16.59%, 19.11% and 19.97 within this tenure 2061 to 2066 respectively.

4.4.2 Selling and Distribution Expenses

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

Table: 4.9

Actual Selling and Distribution Expenses

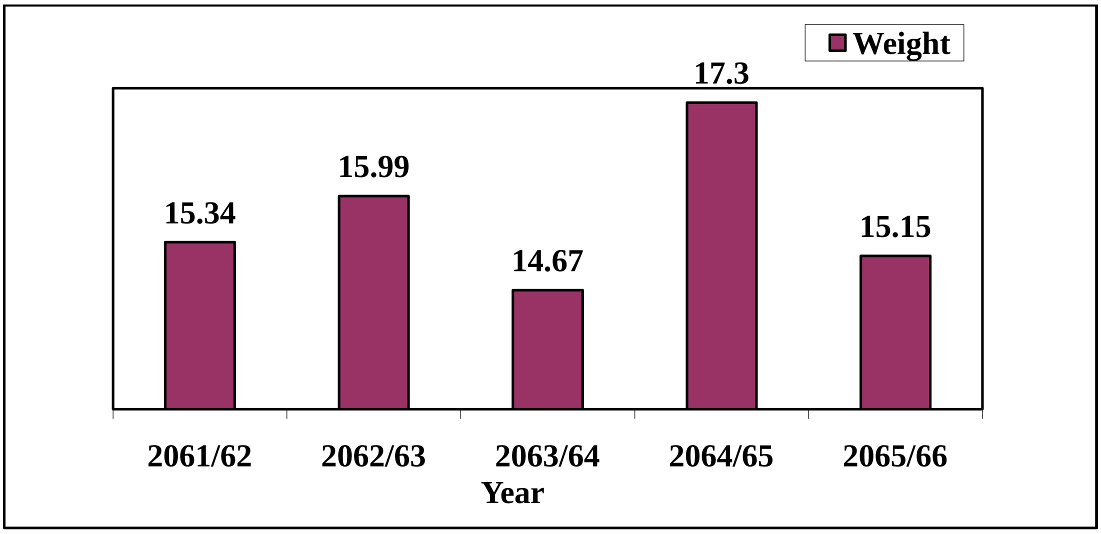
Rs in **'000'**

Year	Total Expenses	S & D Expenses	Weight
2061/62	197459	30296	15.34
2062/63	194201	31054	15.99
2063/64	226882	33303	14.67
2064/65	279916	48428	17.30
2065/66	321243	48700	15.15

Source: Annual Report of BPC 2065/66.

Figure: 4.7

Weight of Selling and Distribution Expenses in Total Expenditure



Above figure shows that the weight of the Selling and distribution expenses in total expenses of BPC in various 5 years. Form above figure the weight of selling and distribution expenses showing 15.34%, 15.99%, 14.67%, 17.30% and 15.15% within this tenure 2061 to 2066 respectively.

4.4.3 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 4.11 shows the actual power plant expenses of BPC from FY 2061/62 to 2065/66 and its weight in total expenditure.

Table: 4.10

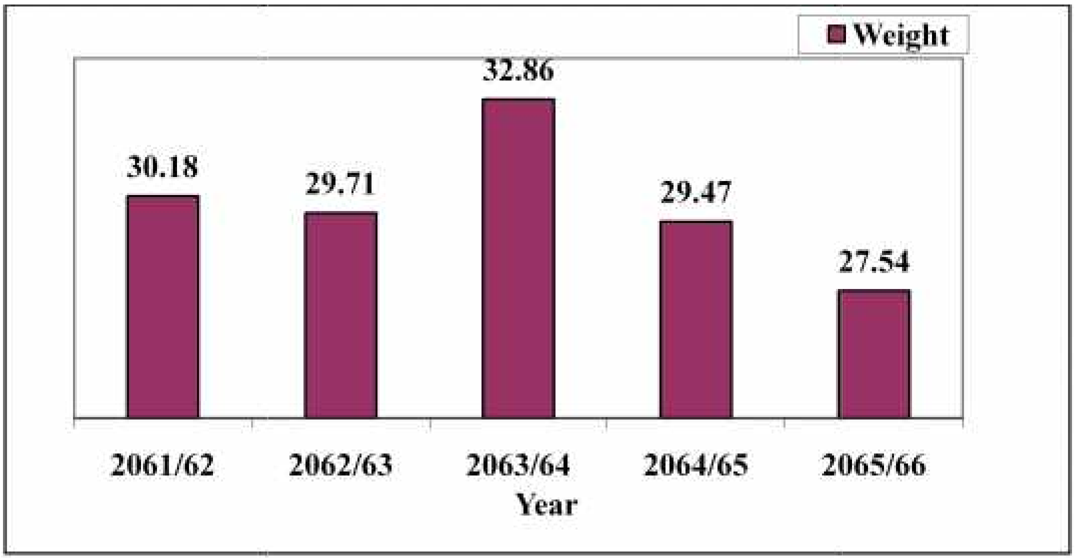
Actual Power plant Expenditure (in Rs. 000)

Year	Total Expenses	Power plant Expenses	Weight (%)
2061/62	197459	59600	30.18
2062/63	194201	57715	29.71
2063/64	226882	74565	32.86
2064/65	279916	82514	29.47
2065/66	321243	88491	27.54

Source: Annual Report of BPC 2065/66

Figure: 4.8

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 FY 2063/64 the weight of power plant expenses is 32.86% in total expenditure which is comparatively higher than other years.

4.4.4 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 actual consultancy services expenditure and its weight in total expenditure of the company in study period are as follows:

Table: 4.11

Consultancy Services Expenditure

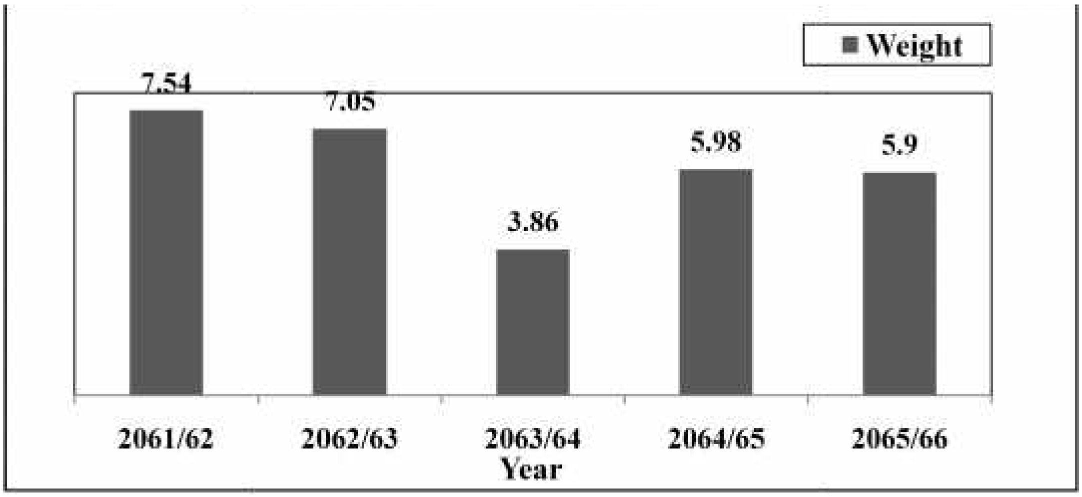
Rs in **'000'**

Year	**Total Expenses**	**Consultancy Services Expenses**	**Weight (%)**
2061/62	197459	14903	7.54
2062/63	194201	13692	7.05
2063/64	226882	8774	3.86
2064/65	279916	16743	5.86
2065/66	321243	18957	5.90

Source: Annual Report of BPC

Figure No. 4.9

Weight of Consultancy Services Expenditure in Total Expenditure



Above figure shows the weight of consultancy services expenditure in total expenditure of the company. It shows 7.54, 7.05, 3.86, 5.98 and 5.90 percent respectively in FY 2061/62 to 2065/66. In FY 2063/64 the share of expenses from consultancy heading is lesser than other years and FY 2061/62 indicates the highest expenses score in total expenses by this heading.

4.4.5 Other 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 actual other expenditure and its weight in total expenditure of the company are tabulated as under:

Table: 4.12

Other Expenditure

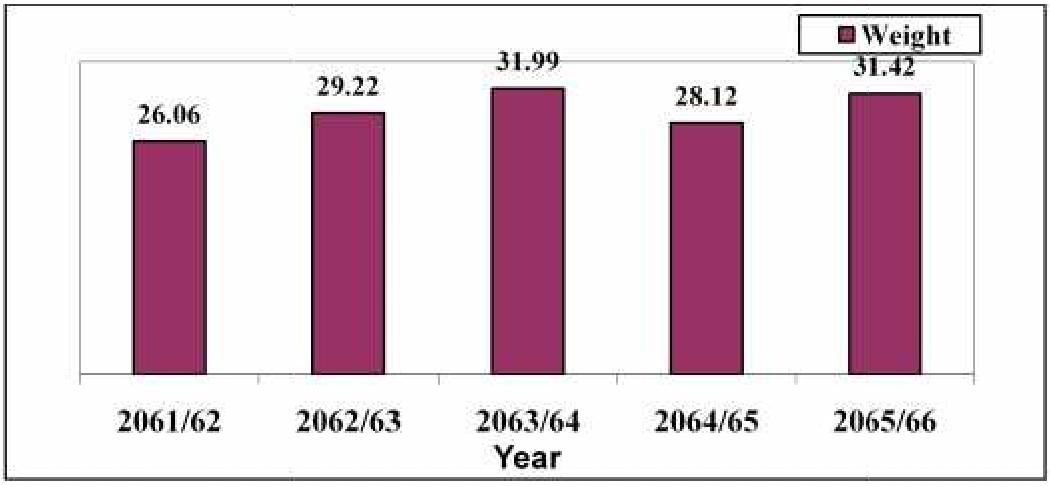
Rs in **'000'**

Year	Total Expenses	Others Expenses	Weight (%)
2061/62	197459	51459	26.06
2062/63	194201	56750	29.22
2063/64	226882	72595	31.99
2064/65	279916	78722	28.12
2065/66	321243	100936	31.42

Source: Annual Report of BPC

Figure: 4.10

Weight of Other Expenditure in Total Expenditure



Above figure shows the weight of other expenditure in total expenditure of the company. It shows 26.06, 29.22, 31.99, 28.12 and 31.42 percent respectively in FY 2061/62 to 2065/66. F/Y 2061/62 indicates the lowest and F/Y 2063/64 indicates highest expenses score in total expenses by this heading.

4.5 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.

4.5.1 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: 4.13

Classification of Expenses into Fixed and Variable

For the Year 2065/66 **Rs** in **'000'**

S.N.	Expenses	Cost behavior	Fixed cost	Variable cost
1	Power plant expenses	Fixed	88491	-
2	Distribution expenses	Variable	-	48700
3	Consultancy services	Variable	-	18957
4	Administrative expenses	Variable	-	64159
5	Provision for loss in investment	Fixed	21491	-
6	Interest	Fixed	7913	-
7	Depreciation	Fixed	61873	-
8	Staff bonus	Variable	-	9659
	Total		179768	141475

Source: Annual report of BPC FY 2065/66

Above table shows 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.

4.5.2 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:

- Cost-volume analysis is based on the accounting data of FY 2064/65.
- Activity base is selected in terms of sales in thousand.
- Selling price, variable cost per unit and fixed cost per annum are assumed to be constant for the whole year.
- 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 = 96339 KWh
- Sales revenue = Rs. 625082 in thousand
- Total fixed cost = Rs. 179768 in thousand
- Total variable cost = Rs. 141475 in thousand

Table: 4.14

Income Statement with the Change of Fixed Cost Value

For the Year 2066/67 **Rs** in **'000'**

Particular	10% increasing in Fixed Cost	Original Value	10% decrease in Fixed Cost
Sales Revenue	625082	625082	625082
Less: Variable Cost	141475	141475	141475
Contribution Margin	483607	483607	483607
Less: Fixed Cost	197745	179768	161791
Net Profit	285862	303839	321816
PV Ratio(CM/Sales)	0.77	0.77	0.77
BEP (FC/PV Ratio)	256812	233465	210118

Source: Annual Report of BPC

Above table shows that when fixed cost was increased by 10 percent in FY 2065/66, net profit was decrease to Rs 285862 in thousand from Rs. 303839 in thousand and the BEP amount increase to Rs. 256812 in thousand from Rs 233465 in thousand. When the fixed cost was decreased by 10 percent in profit was increased to 321816 in thousand and BEP amount was decrease to Rs. 210118 in thousand from original net profit and BEP.

Table: 4.15

Income Statement with the change of Variable Cost Value

For the Year 2066/67

Rs in **'000'**

Particular	10% increasing in Variable Cost	Original Value	10% decrease in Variable Cost
Sales Revenue	625082	625082	625082
Less: Variable Cost	155623	141475	127328
Contribution Margin	469459	483607	497754
Less: Fixed Cost	179768	179768	179768
Net Profit	289691	303839	317986
PV Ratio (CM/Sales)	0.75	0.77	0.79
BEP (FC/PV Ratio)	239690	233465	227554

Resource: Annual Report of BPC

The above table showed that when variable cost was increased by 10 percent net profit decreased Rs. 289691 in thousand from Rs. 303839 in thousand. Similarly, profit volume ratio was decrease to 0.75 from 0.77 and the breakeven amount increased to Rs. 239690 in thousand from Rs 233465 in thousand. There was decreased to contribution margin to Rs. 469459 in thousand from in original Rs. 483607 in thousand when the variable cost was decreased by 10% net profit was increased to Rs. 317986 in thousand from original profit. P/V ratio was increased to 0.79 from original ratio, BEP amount was decreased to Rs. 227554 in thousand from 233465.

4.6 Relation between 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 following table presents the actual income and expenditure of BPC Rs. in thousand from the fiscal year 2061/62 to 2065/66.

Table: 4.16

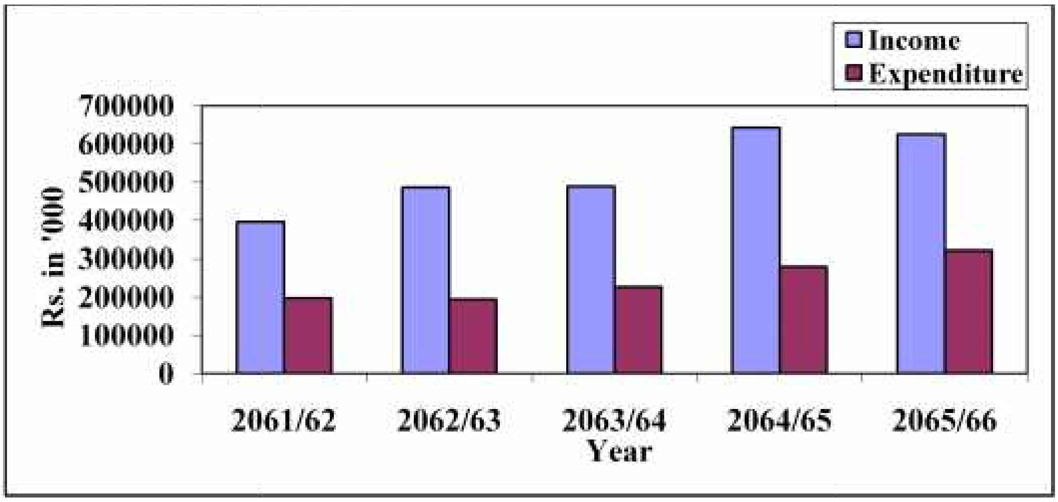
Total Income and Expenditure

Year	**Income (in Rs. 000)**	**Expenditure (in Rs. 000)**	**Weight (%)**
2061/62	395712	197459	49.90
2062/63	486089	194201	39.95
2063/64	489341	226882	46.36
2064/65	643196	279916	43.52
2065/66	625082	321243	51.39

Source: Annual Report of BPC 2065/66.

Figure: 4.11

Income and Expenditure of BPC



Above figure 4.11 shows that all of the year leading in profit direction. 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 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: 4.17

Income and Expenditure Relationship

Particular	**Income** (in Rs '000')	**Expenditure** (in Rs '000')
Mean ($\bar{x}$)	527884	243942
S.D. ($\pm$)	93216	49390
C.V.	17.65%	20.24%
Correlation coefficient (r)	0.89	
Probable error (PEr)	0.062	

Source: appendix – 2

Table 4.16 shows the result of calculated statistical tools. According to calculation mean of income is higher than expenditure i.e. Rs. 527884 in thousand and Rs 243942 in thousand respectively. Standard deviation of income and expenditure is 93216 and 49390 respectively and coefficient of variation of income and expenditure is 17.65 percent and 20.24 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 0.89 (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) = 0.062 (see appendix 2). There, it can be said that value of r is significant or there is perfect positive correlation between income and expenditure.

4.7 Major Findings of the Study

BPC's production capacity is stable and demand of electricity is high in Nepal. Butwal Power Company is running in profit because of the BOD, management and staff of the company of their dedication and contribution to the company. First priority gives BPC to sale electricity to local consumers then remaining sale to NEA. So, BPC is not necessary to make comprehensive sales and production budgets. From the power loss situation BPC is not reach the 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:-

- BPC’s sales budget is fixed or stable and sales budget and sales performance is satisfactory.
- There is positive and perfect correlation between budgeted and actual sales. It means actual sales change in same direction with budgeted sales.
- BPC contributes about 6% in the total energy generated from hydropower with 3.3% share in the hydro-electricity installed capacity of the country.
- Supplies electricity to about 31,000 consumers in the hilly districts of Syangja, Palpa, Pyuthan and Arghakhachi.
- BPC contributes more than NRs. 30 million each year as royalties and taxes to the government.
- The achievement percentage of sales revenue is fluctuating during the study period.
- The sales achievement percent of amount is 84.69 percent in minimum and 99.77 percent in maximum during study period.
- The standard deviation of actual sales is higher than budgeted sales. It indicates that actual sales are more risky than budgeted sales.
- Coefficient of variance of actual sales and budgeted sales are 8.41 percent and 10.43 percent. It indicates that a budgeted sale is less variable than actual sales during the study period.
- Correlation coefficient between actual and budgeted sales is 0.98. It indicates that actual sales will go in the same direction of budgeted sales.
- BPC has suffering from leakage and losses of power.
- BPC’s income sources are electricity sale, income from consultancy services, interest from deposit and gain on sale of assets and scrap materials etc.
- BPC’s actual sale is increasing trend during study period.
- It can conclude that in every year more space is occupying by other sources rather than electricity and consultancy services sources. In FY 2064/65 is displaying very high space on total income of company by other sources rather

than electricity and consultancy services sources due to dividend received from extra investment in other sectors.

- Amount of expenditure is fluctuating during the study period. The main expenditure of BPC is power plant expenses (generation expenses), consultancy services, administrative expenses, loss on fixed assets, depreciation, staff bonus etc.
- The weight of Power Plant expenses in total expenditure are 27.54 percent in minimum and 32.86 percent in maximum during the study period.
- The weight of consultancy services in total expenditure is 3.86 percent to 7.54 percent in study period.
- BPC has not clear criteria to classify the costs in fixed and variable.
- The original BEP is Rs. 233465 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.
- The coefficient of variation of income is 17.65 percent and expenditure is 20.24 percent and there is highly positive correlation between income and expenditure. It means expenditure change in same direction with income.
- There is perfect positive correlation between income and expenditure i.e. 0. 89. It indicates income and expenditure are in same direction.
- BPC has running full capacity but the reason of power loss situation it is unable to meet sales planning.
- BPC provides electricity to costumer in cheap price than Nepal Electricity Authority (NEA).

CHAPTER - V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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 one of the least developed countries in the world, with the population of approximately 2.6 million and an historical annual growth rate 2.4% of which majority lives in Hills and Terai. Annual Per Capita income is only about $320 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, private sector is also playing great role in hydropower sector.

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 2022BS 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 and 4 MW Khudi Hydropower project. The company was converted in to limited company in 2049BS and privatized in 2059BS 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 Conclusions

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, Government of Nepal, United Mission to Nepal and Nepal Electricity Authority etc.
- 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. 0.98. 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's power plant expenses and administrative expenses were fluctuating trend.
- Selling and distribution expenses were in increasing trend in study period.
- The weight in consultancy services in total expenditure is fluctuant in study period.

- 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 systematic and scientific.

- BPC's financial statements have been prepared in accordance with generally accepted accounting principles, Nepal Accounting standard, Company ordinance 2062 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.

5.3 Recommendations

Based on research study on topic of "A Study on Management of Income and Expenditure of Butwal Power Company", the following suggestions and recommendations are outlined to improve the formulation and implementation of profit planning and controlling system.

- Load shedding is being a great problem in Nepal; BPC should invest in other small and medium hydropower project which helps to reduce the load shedding problem.

- BPC should control the leakage of electricity to achievement the sales target.

- Loss of the electricity should be controlled. Meter reading and meter joining system should be improved and transmission and distribution line should be refurbished and modernized to control the leakage.
- BPC should prepared income and expenditure budget to present the actual financial condition of the company.
- BPC should try to minimize its overall expenditure to maximize profit.
- BPC should clearly classify the costs as fixed, variable and semi-variable to assist to plan production and its operation.
- BPC should maintain its periodic performance reports systematically and also should take corrective action if necessary.
- The profit on sales of electricity to local consumer should extent rather than NEA. Because the selling price per unit of local consumer is higher than NEA.
- The management should give training to its employee about the better performance.
- BPC should upgrade the Andhikhola hydropower to increase the production of electricity.
- It is suggested that BPC should invest in other hydro projects to increase the production and profit.
- BPC should controlled the frequently line cut off used by new and modernized machine.
- In BPC, planning should be communicated to lower level management and coordination among them should be established.

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	353450	323134	-45.69	-59.31	2088.21	3555.50	2769.78
2062/63	374480	358419	-24.66	-24.34	608.46	592.58	600.46
2063/64	396930	379769	-2.21	-2.99	4.91	8.96	6.63
2064/65	422660	421687	23.51	38.92	552.90	1515.16	915.28
2065/66	448214	430800	49.06	48.03	2407.57	2307.65	2357.08
	ϕx = 1995734	ϕy = 1913809	$\phi U = 0$	$\phi V = 0$	ϕU^2 = 5662.06	ϕV^2 = 7979.85	ϕUV = 6649.25

Here,

Budgeted sales is assumed =(x)

Actual sales is assumed = (y)

I) Calculation of mean

For budged sales (x)

We have,

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

$= \frac{1995734}{5}$

= 399147

for actual sales (y)

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

$= \frac{1913809}{5}$

= 382762

II) Calculation

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

We have,

S.D. $(\exists x) = \sqrt{\frac{1}{n}\phi(x-\overline{x})^2}$

$= \sqrt{\frac{1}{5} | 5662.06}$

$= 33.6513$

$= 33651.3$

S.D. $(\exists y) = \sqrt{\frac{1}{n}\phi(y-\overline{y})^2}$

$= \sqrt{\frac{1}{5} | 7979.85}$

$= 39.9400$

III) Calculation of coefficient of variation

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

We have,

C.V. x. $= \frac{\pm x}{\overline{\overline{X}}} \times 100$

$= \frac{33651.3}{399147} | 100$

$=8.43\%$

C.V. y. $= \frac{\pm y}{\overline{\overline{Y}}} \times 100$

$= \frac{39940}{382762} | 100$

$= 10.43\%$

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

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

$$= \frac{6649.25}{\sqrt{5662.06 | 7979.85}}$$

$$= \frac{6649.28}{6721.78}$$

$$= 0.98$$

V) Calculation of probable error

We have,

Probable error (PEr) = 0.6745 × S.D. $(\exists)$

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

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

$$= 0.6745 \times \frac{1 - 0.98^2}{\sqrt{5}}$$

$$= \frac{0.0267}{2.2360}$$

= 0.011

Here, r>6 P.E., the value of r is significant

i.e. 0.98>0.066 (r is significant)

Here, the conclusion is correct.

Appendix - 2

Income and exp[illegible]on calculation

FY	Income (x) '000	Expenditure (y) '000	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
061/62	395712	197459	-132.17	-46.48	17469.43	2160.66	6143.75
062/63	486089	194201	-41.79	-49.74	1746.822	2474.167	2078.92
063/64	489341	226882	-38.54	-17.06	1485.56	291.044	657.543
064/65	643196	279916	115.31	35.97	13296.857	1294.128	4148.234
065/66	625082	321253	97.19	77.31	9447.45	5976.99	7514.47
	ϕx = 2639420	ϕy = 1219711	ϕu = 0	ϕv = 0	ϕu^2 = 43446.13	ϕv^2 = 12197	ϕuv = 20542.93

Here,

Income is assumed x

Expenditure is assumed y

I) Calculation of mean

For Income (x)

We have,

Mean ($\overline{x}$) $= \frac{\phi x}{N}$

$= \frac{2639420}{5}$

=527884

For Expenditure (y)

Mean ($\overline{y}$) $= \frac{\phi y}{N}$

$= \frac{1219711}{5}$

= 243942

II) Calculation of standard deviation

For Income (x)

We have, S.D. $(\exists x) = \sqrt{\frac{1}{n}\phi(x-\overline{x})^2}$

$= \sqrt{\frac{1}{5} | 43446.13}$

= 93.216

=93216

For Expenditure (y)

S.D. $(\exists y) = \sqrt{\frac{1}{n}\phi(y-\overline{y})^2}$

$= \sqrt{\frac{1}{5} | 12197}$

= 49.390

=49390

III) Calculation of coefficient of variation

For Income

We have,

C.V. x. = $\frac{\pm x}{\overline{\overline{X}}} \times 100$

diture

C.V. y. = $\frac{\pm y}{\overline{\overline{Y}}} \times 100$

$= \dfrac{93216}{527881} \times 100$ $= \dfrac{49390}{243942} \times 100$

= 17.65% = 20.24 %

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

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

$$= \frac{20542.93}{\sqrt{43446.13 \mid 12197}}$$

$$= \frac{20542.93}{23019.82}$$

= 0.89

V) Calculation of probable error

We have

Probable error (r) = 0.6745 × S.D. (∃)

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

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

$$= 0.6745 \times \frac{1 Z 0.89^2}{\sqrt{5}}$$

$$= \frac{0.1402}{2.2360}$$

= 0.062

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